



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**REPORT OF THE TWELFTH MEETING OF THE
MIDANPIRG ATM/SAR/AIS SUB-GROUP**

ATM/SAR/AIS SG/12

(Cairo, Egypt, 21 – 24 November 2011)

The views expressed in this Report should be taken as those of the ATM/SAR/AIS 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.

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ATM/SAR/AIS SG/12
History of the Meeting

PART I – HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Twelfth Meeting of the MIDANPIRG ATM/SAR/AIS Sub-Group (ATM/SAR/AIS SG/12) was held at the Meeting Room of the ICAO Middle East Regional Office in Cairo, Egypt, from 21 to 24 November 2011.

2. OPENING

2.1 The Meeting was opened by Mr. Jehad Faqir, ICAO Deputy Regional Director, Middle East Office, Cairo who extended a warm welcome to all participants to the ATM/SAR/AIS SG/12 meeting and wished them a successful meeting and pleasant stay in Cairo.

2.2 Mr. Faqir emphasized on the fact that the meetings organized by the ICAO MID Regional Office are for States and concerned international organizations and as such, he urged them to contribute to the proceedings of the meeting. He highlighted that air operators are under significant operational pressure due to the high cost of fuel, and increasing concerns on the environmental impact of air transport operations. He indicated that ICAO is taking necessary efforts to address this situation and underlined the role of the Sub-Group and the States in this regard. He invited the participants' attention to several developments in the ATM, SAR and AIM fields which required decisive action by the Sub-Group. Finally, Mr. Faqir urged the participants to work as ATM, SAR and AIM experts in the interest of the Region and wished the meeting fruitful deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of forty nine (49) participants from nine (9) States (Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia and UAE) and three (3) International Organizations/Agencies (IATA, MIDRMA and AVITECH). The list of participants is at **Attachment A** to the Report.

4. OFFICERS AND SECRETARIAT

4.1 In the absence of Mr. Aon Abdullah Al-Garni, Head of ATM, General Authority of Civil Aviation (GACA), Saudi Arabia, Chairperson of the ATM/SAR/AIS Sub-Group, Mr. Saleem Mohamed Hassan, Chief Air Traffic Management, Civil Aviation Affairs-Bahrain and Vice-Chairperson of the ATM/SAR/AIS Sub-Group, chaired the meeting.

4.2 Mr. Mohamed Smaoui, Regional Officer ANS/AIM and Mr. Saud Al Adhoobi, Regional Officer ATM/SAR were the Secretaries of the meeting.

5. LANGUAGE

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

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History of the Meeting

6. AGENDA

6.1 The following Agenda was adopted:

- Agenda Item 1: Adoption of provisional agenda
- Agenda Item 2: Follow-up on MIDANPIRG/12 and DGCA-MID/1 Conclusions and Decisions relevant to the ATM/SAR and AIM fields
- Agenda Item 3: Improvement of the MID ATS Route Network
- Agenda Item 4: Improvement of the ATM Operations in the MID Region
- Agenda Item 5: RVSM Operations and Monitoring activities in the MID Region
- Agenda Item 6: SSR Code Allocation Plan (CAP) for the MID Region
- Agenda Item 7: ATS Safety Management
- Agenda Item 8: Contingency Plans
- Agenda Item 9: Search and Rescue (SAR) and Civil/Military Coordination
- Agenda Item 10: AIM issues
- Agenda Item 11: Review of Air Navigation deficiencies in the ATM/SAR and AIS/MAP fields
- Agenda Item 12: Review of the ATM and AIM Parts of the MID Air Navigation Plan (ANP)
- Agenda Item 13: MID Region ATM and AIM Performance Objectives
- Agenda Item 14: Future Work Programme
- Agenda Item 15: 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

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History of the Meeting

8. LIST OF CONCLUSIONS AND DECISIONS

<i>DRAFT CONCLUSION 12/1:</i>	<i>PROPOSAL FOR AMENDMENT TO THE MID BASIC ANP ATS-I TABLE</i>
<i>DRAFT CONCLUSION 12/2:</i>	<i>IMPLEMENTATION OF A REDUCED RADAR LONGITUDINAL SEPARATION IN THE MID REGION</i>
<i>DRAFT CONCLUSION 12/3:</i>	<i>REVIEW OF THE DRAFT MID RVSM SMR 2012</i>
<i>DRAFT CONCLUSION 12/4:</i>	<i>BAGHDAD FIR POST RVSM IMPLEMENTATION SPECIAL COORDINATION MEETING</i>
<i>DRAFT DECISION 12/5:</i>	<i>MID STRATEGY ON SSR CODE ALLOCATION</i>
<i>DRAFT CONCLUSION 12/6:</i>	<i>DRAFT MID CODE MANAGEMENT PLAN (CMP)</i>
<i>DRAFT DECISION 12/7:</i>	<i>DISSOLUTION OF THE SSRCA SG</i>
<i>DRAFT CONCLUSION 12/8:</i>	<i>MID REGIONAL CONTINGENCY PLAN</i>
<i>DRAFT CONCLUSION 12/9:</i>	<i>MEANS OF DISSEMINATION OF THE LIST OF VALID NOTAM</i>
<i>DRAFT CONCLUSION 12/10:</i>	<i>AVOIDANCE OF THE AIRAC DATE 15 NOVEMBER 2012</i>
<i>DRAFT DECISION 12/11:</i>	<i>DISSOLUTION OF THE QMS ACTION GROUP</i>
<i>DRAFT CONCLUSION 12/12:</i>	<i>QMS IMPLEMENTATION</i>
<i>DRAFT CONCLUSION 12/13:</i>	<i>CERTIFICATION OF THE AIM SERVICES</i>
<i>DRAFT DECISION 12/14:</i>	<i>ESTABLISHMENT OF THE MIDAD STUDY GROUP</i>
<i>DRAFT DECISION 12/15:</i>	<i>DISSOLUTION OF THE AIS AUTOMATION ACTION GROUP</i>
<i>DRAFT DECISION 12/16:</i>	<i>TERMS OF REFERENCE OF THE AIM TASK FORCE</i>
<i>DRAFT DECISION 12/17:</i>	<i>REVISED TOR OF THE ATM/AIM/SAR SUB-GROUP</i>

ATM/SAR/AIS SG/12
Report on Agenda Item 1

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF PROVISIONAL AGENDA

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

ATM/SAR/AIS SG/12
Report on Agenda Item 2

**REPORT ON AGENDA ITEM 2: FOLLOW-UP ON MIDANPIRG/12 CONCLUSIONS AND DECISIONS
RELEVANT TO THE ATM, SAR AND AIM FIELDS**

2.1 The meeting noted the status of relevant MIDANPIRG/12 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/13 appropriate follow-up action.

ATM/SAR/AIS SG/12
Appendix 2A to the Report on Agenda Item 2

FOLLOW-UP ACTION PLAN ON MIDANPIRG/12 CONCLUSIONS AND DECISIONS

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>CONC. 12/2: INCREASING THE EFFICIENCY OF THE MIDANPIRG SUBSIDIARY BODIES</p> <p>That, with a view to maintain the continuity in the activity of the MIDANPIRG subsidiary bodies and increase their efficiency:</p> <p>a) States be invited to nominate for each MIDANPIRG subsidiary body Experts/Specialists as Members of the body concerned to fully contribute to the work of this body; and</p> <p>b) the specialists nominated for membership in a MIDANPIRG subsidiary body, act as focal points within their Civil Aviation Administration for all issues and follow-up activities related to the Work Programme of that body.</p>	Implementation of the Conclusion	ICAO States	State Letter Nomination of Experts/Specialist	January 2011	Ongoing SL Ref.: ME 3/56 - 11/041 dated 7 March 2011 4 States replied
<p>CONC. 12/8: QUALITY OF AERODROME AERONAUTICAL DATA AND COORDINATION BETWEEN AERODROME OPERATORS AND AIS</p> <p>That,</p> <p>a) ICAO to consider development of additional guidance on the implementation of quality requirements for protection and reporting aerodrome-related aeronautical data in accordance with the SARPs contained in Annex 14, Volume I; and</p> <p>b) MID States to ensure proper coordination with the Aeronautical Information Services and aerodrome authorities/operators for the timely transfer of aerodrome operational data through Service Level Agreements (SLA), worldwide best practices, etc.</p>	Implementation of the Conclusion	ICAO States	AIM Quality Manual State Letter	2011	Actioned (To be closed)
<p>CONC. 12/9: RNAV 5 IMPLEMENTATION IN THE MID REGION</p> <p>That, States that have not yet done so, be urged to:</p>	Implementation of the	ICAO	State Letter	January 2011	Actioned SL Ref.: AN 6/29 –

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APPENDIX 2A

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
a) update their AIP to change RNP 5 to RNAV 5; and b) take necessary measures to implement RNAV 5 area in the level band FL 160 - FL460 (inclusive).	Conclusion	States	update AIP Implement RNAV 5 (FL 160-FL460)		10/432 dated 16 December 2010 AN 6/29 – 11/141 7 June 2011 (re-iterated)
CONC. 12/10: ALLOCATION OF FIVE-LETTER-NAME CODES IN THE MID REGION That, prior to 31 March 2011, States that have not yet done so: a) assign ICARD ATS Route Planners, in order to make use of the ICARD system and improve the process of allocation of 5LNCs; b) take necessary action in order for their designated ICARD Route Planner(s) to register to the ICAO ICARD 5LNC web-based System; c) review their list of allocated 5LNCs and identify the non-used, duplicate and non-ICAO 5LNCs, and inform the ICAO MID Regional Office accordingly for necessary action; d) release those allocated 5LNCs which were replaced and/or are no longer used; and e) update the ICARD database by adding the missing information (missing latitude and longitude coordinates, etc).	Implement the Conclusion	ICAO States	State Letter Assign ATS Route Planner. Register to ICAO ICARD Update ICARD	January 2011 March 2011	Actioned SL Ref.: AN 8/15.2 – 10/444 dated 22 December 2010 (To be closed)
CONC. 12/11: MEMBERSHIP OF THE MIDRMA That, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Syria, UAE and Yemen committed themselves to participate in the MIDRMA project, through the signature of the Memorandum of Agreement (MOA).	Implement the Conclusion	MIDANPIRG/12	Signature of MOA MIDRMA Board/10 Report	October 2010	Completed
CONC. 12/12: MIDRMA FUNDING MECHANISM That, a) the activities of the MIDRMA be ensured through contributions	MIDRMA Board and	MIDANPIRG	Updated funding	October 2010	Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>from all MIDRMA Member States, which could be recovered in accordance with ICAO Policies on charges for Airports and Air Navigation Services (Doc 9082), in coordination with IATA;</p> <p>b) the MIDRMA Member States pay their contributions on a yearly basis not later than 1 November of each year based on the invoices issued by ICAO;</p> <p>c) ICAO ensure that the year of contribution is clearly indicated in the invoices related to the MIDRMA Project;</p> <p>d) The annual amounts to be paid by the MIDRMA Member States are, as follows:</p> <p>i) Bahrain, Egypt, Iran, Oman and Saudi Arabia annual contribution is US\$ 30,000 each; and</p> <p>ii) Iraq, Jordan, Kuwait, Lebanon, Syria and Yemen annual contribution is US\$ 10,000 each;</p> <p>e) UAE is exempted from the payment of contributions to the MIDRMA for the first ten (10) years of operation (up-to end of 2015);</p> <p>f) the MIDRMA Member States comply with the payment instructions contained in the invoices sent by ICAO HQ (Project code, fund number, invoice number, Bank information, etc);</p> <p>g) the budget estimate for the MIDRMA operation for each year be prepared/approved by the MIDRMA Board before 31 May of previous year;</p> <p>h) in case a MIDRMA Member State does not pay the contribution to the MIDRMA Project in a timely manner, the MIDRMA Board might consider to take penalty measures against this State (exclusion from the MID RVSM Safety Monitoring Report, review of the Membership, etc);</p>	<p>ICAO to Follow-up implementation with concerned States</p>		<p>mechanism approved by MIDANPIRG/12</p>		

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>i) the MIDRMA Board Chairman, in compliance with the Custodian Agreement and based on the agreed funding mechanism and the estimation of the yearly operating budget of the MIDRMA, be delegated the authority to certify on behalf of the MIDRMA Member States the requests for advance payment from the MIDRMA account managed by ICAO HQ to the MIDRMA Bank account in Bahrain, as decided by the MIDRMA Board;</p> <p>j) the bills related to the MIDRMA expenses be certified by the MIDRMA Board Chairman and reviewed by the MIDRMA Board at each of its meetings;</p> <p>k) the MIDRMA funding mechanism be revised by the MIDRMA Board when necessary.</p>					
<p>CONC. 12/13: MIDRMA STAFFING</p> <p>That, in accordance with the MIDRMA Memorandum of Agreement (MOA):</p> <p>a) the MIDRMA staff is composed of local personnel provided by Bahrain, as follows:</p> <p> i) MIDRMA Manager/Team Leader (Part Time)</p> <p> ii) MIDRMA Officer (Full Time)</p> <p>b) the salaries of the MIDRMA staff are paid as monthly lump sums as follows:</p> <p> i) MIDRMA Manager/Team Leader (Part Time) (500 BD)</p> <p> ii) MIDRMA Officer (Full Time) (1,500 BD)</p> <p>c) the MIDRMA staff salaries be revised by the MIDRMA Board when necessary and as appropriate; and</p> <p>d) Bahrain is responsible of all administrative issues related to the MIDRMA staff, in coordination with the MIDRMA Board Chairman</p>	<p>Bahrain and the MIDRMA Board to follow up implementation of the Conclusion</p>	<p>MIDANPIRG</p>	<p>MIDRMA staffing approved by MIDANPIRG/12</p>	<p>October 2010</p>	<p>Completed</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>DEC. 12/14: MID RVSM SCRUTINY GROUP</p> <p>That, the MID RVSM Scrutiny Group is established with Terms of Reference (TOR) as at Appendix 5.2C to the Report on Agenda Item 5.2</p>	<p>MIDRMA to organize Scrutiny Group meetings</p>	<p>MIDANPIRG</p>	<p>Establishment of the Scrutiny Group approved by MIDANPIRG/12</p>	<p>October 2010</p>	<p>Completed</p>
<p>CONC. 12/15: AIRCRAFT WITHOUT CONFIRMED RVSM APPROVAL STATUS</p> <p>That,</p> <p>a) States and the MIDRMA be invited to take necessary measures to ban any aircraft without confirmed RVSM approval status from entering the RVSM airspace;</p> <p>b) States be urged to report any case of handover at an RVSM Flight Level of an aircraft without confirmed RVSM approval status from adjacent ACCs to the ICAO MID Regional Office and the MIDRMA; and</p> <p>c) the MID RVSM Programme Managers monitor and follow up this subject at the national level, in order to ensure the efficient implementation of a) and b) above.</p>	<p>Implement the Conclusion</p>	<p>ICAO MIDRMA States</p>	<p>State Letter Report aircraft with non confirmed RVSM approval status</p>	<p>January 2011 Ongoing</p>	<p>Completed</p> <p>SL Ref.: AN 6/5.10.15A – 11/086 dated 12 April 2011 (To be replaced and superseded by MIDRMA Board/11 Draft Conc. 11/9)</p>
<p>CONC. 12/16: MID RVSM SAFETY OBJECTIVES</p> <p>That, the safety assessment of RVSM operations in the MID Region be based on the following safety objectives:</p> <p>a) Safety Objective 1: The risk of collision in the MID RVSM airspace due solely to technical height-keeping performance meets the ICAO Target Level of Safety (TLS) of 2.5×10^{-9} fatal accidents per flight hour;</p> <p>b) 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 MID RVSM airspace meets the ICAO overall TLS of 5×10^{-9} fatal accidents per flight hour; and</p> <p>c) Safety Objective 3: address any safety-related issues raised in</p>	<p>Follow up the implementation of the safety objectives</p>	<p>MIDRMA MIDANPIRG</p>	<p>SMR 2012</p>	<p>November 2011</p>	<p>Completed</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
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.					
CONC. 12/17: MID REGION HEIGHT-KEEPING MONITORING STRATEGY That, the MID Region height-keeping monitoring Strategy is adopted as at Appendix 5.2D to the Report on Agenda Item 5.2.	The MIDRMA Board and the ATM/SAR/AIS SG to follow up Implementation of the Strategy	MIDANPIRG	Strategy approved by MIDANPIRG/12	October 2010	Completed (To be replaced and superseded by MIDRMA Board/11 Draft Conc. 11/10)
CONC. 12/18: MID RVSM SMR 2012 That, a) the FPL/traffic data for the period 1-31 January 2011 be used for the development of the MID RVSM Safety Monitoring Report (SMR 2012); b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA; and c) the draft version of the MID RVSM SMR 2012 be ready before 30 September 2011 for review by the ATM/SAR/AIS SG/12 meeting.	Implement the Conclusion	ICAO MIDRMA	State Letter Draft SMR	December 2010 September 2011	Actioned SL Ref.: AN 6/5.10.15A – 10/437 dated 19 December 2010 (To be closed)
DEC. 12/19: RVSM IMPLEMENTATION WITHIN BAGHDAD FIR That, the Baghdad FIR RVSM Implementation Working Group (BFRI WG) is delegated the authority to take the Go/No-Go Decision for RVSM implementation within Baghdad FIR.	Implement the Decision	BFRI WG	BFRI WG/2 Report Go/No-Go decision	January 2011	Completed
CONC. 12/20: FDPS SSRCA REQUIRED FUNCTIONALITY					Actioned

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
That, MID States be encouraged to consider the upgrade of their FDPSs to include the directional assignment capability in conjunction with ICAO New Flight Plan (INFPL) upgrade.	Implement the Conclusion	States	Upgrade of FDPS	November 2012	(To be closed)
<p>CONC. 12/21: MID STRATEGY ON SSR CODE ALLOCATION ISSUES</p> <p>That, MID States adopt the MID strategy in order to improve the MID SSR Code Allocation System as at Appendix 5.2H to the Report on Agenda Item 5.2.</p>	Implement the Conclusion	SSRCA SG	SSRCA SG/4 Report	September 2011	<p>Actioned</p> <p>SLs dated 14 Dec. 2010 and 8 Jun 2011 (To be replaced and superseded by Draft Conc. 12/5)</p>
<p>CONC 12/22: SURVEY ON THE PROVISION OF SAR IN THE MID REGION</p> <p>That,</p> <p>a) the ICAO MID Regional Office send a State Letter with a questionnaire to all MID States, prior to 15 Jan 2011, to collect information on the status of implementation of SAR provisions in the MID Region and update the list of Air Navigation Deficiencies accordingly;</p> <p>b) States send their replies to the ICAO MID Regional Office prior to 15 February 2011; and</p> <p>c) in case of non-receipt of reply by the agreed deadline, concerned States will be added to the list of Air Navigation Deficiencies for non-provisions of required SAR services.</p>	Implement the Conclusion	ICAO and States	State Letter Reply to survey	15 January 2011 15 February 2011	<p>Actioned</p> <p>SLs dated 16 Dec 2010 and 7 Jun 2011 (To be closed)</p>
<p>CONC. 12/23: SAR POINT OF CONTACT (SPOC) AND 406MHZ BEACON</p> <p>That, MID States:</p> <p>a) designate a national SAR Point of Contact;</p> <p>b) take appropriate action to establish a register for 406 MHz ELT and share the data with International 406 MHz Beacon Registration Database;</p>	Follow-up Implementation of Conclusion	ICAO States	State Letter Data base Beacon upgrades and registration	2011 2011	<p>Actioned</p> <p>SLs dated 16 Dec 2010 and 7 June 2011 (To be closed)</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<ul style="list-style-type: none"> c) designate to the Cospas-Sarsat Secretariat a SAR Point of Contact; and d) update the ICAO MID Regional Office on their implementation status. 			Focal points		
<p>DEC. 12/24: DISSOLVE THE SAR AD-HOC WORKING GROUP (AWG)</p> <p>That, the SAR AWG be dissolved and the ATM/SAR/AIS SG is to follow the SAR requirements and issues.</p>	Implement the Decision	MIDANPIRG/12	Dissolve WG	October 2010	Completed
<p>CONC. 12/25: CIVIL/MILITARY COOPERATION</p> <p>That, in order to facilitate effective civil/military cooperation and joint use of airspace in accordance with ICAO provisions, and in support of the ICAO’s vision for an integrated, harmonized and globally interoperable air traffic management system as laid out in the ATM Operational Concept and in the Global Air Navigation Plan, MID States that have not yet done so, be urged to:</p> <ul style="list-style-type: none"> a) manage the airspace in a flexible manner with an equitable balance between civil and military users through strategic 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 according to their needs; b) develop necessary institutional arrangements to foster civil/military cooperation; and c) take steps and arrange as necessary for the Military authorities to be: <ul style="list-style-type: none"> 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 	Follow-up Conclusion Implementation	States	<p>Input from States</p> <p>Involvement of military in civil airspace management processes</p> <p>Civil/military coordination and cooperation</p>	<p>November 2011</p> <p>Ongoing</p> <p>Ongoing</p>	<p>Actioned</p> <p>SL AN6/13-11/137 Dated 2 June 2011</p> <p>(Re-iterated)</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
meetings, workshops, seminars and training sessions, as appropriate.					
<p>CONC. 12/26: UNCOORDINATED FLIGHTS OVER THE RED SEA AREA</p> <p>That, the ICAO MID Regional Office process a Proposal for Amendment to the Supplementary Procedures (Doc 7030) in order to include the procedures to be followed by all civil uncoordinated flights and, to the extent practicable, by military aircraft operating over the Red Sea Area, as shown at Appendix 5.2L to the Report on Agenda Item 5.2.</p>	Implement the Conclusion	ICAO	Amendment of Doc 7030	January 2011	Completed
<p>CONC. 12/27: IMPROVEMENT OF THE ADHERENCE TO THE AIRAC SYSTEM</p> <p>That, in order to improve the adherence to the AIRAC System, States, that have not yet done so, be urged to:</p> <ul style="list-style-type: none"> a) fully comply with the AIRAC procedures, in accordance with the provisions of Annex 15 and the MID Basic ANP Chapter VIII; c) organize awareness campaigns involving AIS and all technical Departments providing the raw data to the AIS for promulgation; and c) arrange for the signature of Service Level Agreements (SLA) between AIS and the data originators. 	Implement the Conclusion	ICAO States	State Letter Feedback from States	February 2011 June 2011	Actioned SL dated 12 April 2011 (To be closed)
<p>CONC. 12/28: eTOD CHECKLIST</p> <p>That, MID States be encouraged to use the eTOD checklist at Appendix 5.3B to the Report on Agenda Item 5.3 in order to assist them in the process of planning and implementation of the eTOD provisions.</p>	Implement the Conclusion	ICAO States	State Letter Feedback from States	February 2011 June 2011	Completed SL Ref.: AN 8/2.4 – 11/094 dated 19 April 2011
<p>CONC. 12/29: eTOD AWARENESS CAMPAIGNS</p> <p>That, for the sake of an efficient and harmonized implementation of eTOD, MID States be invited to organize, at the National Level and,</p>	Implement the Conclusion	ICAO	State Letter	February 2011	Actioned SL dated 19 April 2011

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
to the extent possible co-operatively, awareness campaigns and training programmes (seminars, workshops, etc) to promote and expedite the process of eTOD implementation.		States	Feedback from States	June 2011	(To be closed)
DEC. 12/30: DISSOLUTION OF THE eTOD WORKING GROUP That, noting that the majority of the tasks assigned to the eTOD Working Group have been completed: a) the eTOD Working Group is dissolved; and b) the eTOD tasks which have not yet been completed be included into the Work Programme of the AIS/MAP Task Force.	Implement the Decision	MIDANPIRG/12	Dissolve eTOD WG	October 2010	Completed
CONC. 12/31: AWARENESS CAMPAIGNS AND TRAINING PROGRAMMES ON QMS That, MID States be invited to organize, at the National level, awareness campaigns and training programmes with the support of ICAO and the QMS Implementation Action Group (QMS AG), to promote and expedite the process of implementation of QMS for AIS.	Implement the Conclusion	ICAO States	State Letter Feedback from States	February 2011 June 2011	Actioned SL dated 12 April 2011 (Replaced and superseded by Draft Conc. 12/12)
DEC 12/32: TERMS OF REFERENCE OF THE QMS IMPLEMENTATION ACTION GROUP That, the Terms of Reference of the QMS Implementation Action Group (QMS AG) be updated as at Appendix 5.3G to the Report on Agenda Item 5.3.	Implement the Decision	MIDANPIRG	Updated TOR	October 2010	Completed
DEC.12/33: TERMS OF REFERENCE OF THE AIS AUTOMATION ACTION GROUP That, the Terms of Reference of the AIS Automation Action Group (AISA AG) be updated as at Appendix 5.3H to the Report on Agenda Item 5.3.	Implement the Decision	MIDANPIRG	Updated TOR	October 2010	Completed
CONC.12/34: TRANSITION FROM AIS TO AIM That, recognizing the limitations of the current AIS, which does not meet the new global ATM system requirements envisioned by the ATM Operational Concept, and taking into consideration the ICAO Roadmap for the transition from AIS to AIM:	Implement the Conclusion	ICAO States	State Letter National Plans	February 2011 April 2011	Actioned SL Ref.: AN 8/4 – 11/091 dated 14 April 2011 (To be closed)

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>a) MID States, that have not yet done so, be urged to develop national plans to implement the transition from AIS to AIM and send them to the ICAO MID Regional Office before 31 March 2011; and</p> <p>b) the AIS/MAP Task Force monitor the progress of transition from AIS to AIM in the MID Region and supports regional and national planning.</p>		AIS/MAP TF	AIS/MAP TF/6 Report		
<p>DEC. 12/35: PLANNING FOR THE TRANSITION FROM AIS TO AIM</p> <p>That, based on the ICAO Global ATM Operational Concept and the ICAO Roadmap for the transition from AIS to AIM, the AIS/MAP Task Force:</p> <p>a) develop performance goals for the transition from AIS to AIM in the MID Region and identify achievable Milestones; and</p> <p>b) carry out a review of the AIS parts of the MID Basic ANP and FASID in order to introduce/develop planning material related to the transition from AIS to AIM.</p>	Implement the Decision	AIS/MAP TF	<p>AIM Performance goals</p> <p>Draft Proposal for Amendment to the MID ANP (Part AIM)</p>	October 2011	<p>Actioned</p> <p>(To be closed)</p>
<p>CONC. 12/36: MID AIM SEMINAR</p> <p>That, with a view to provide States with a better understanding of the planning and implementation issues related to the transition from AIS to AIM:</p> <p>a) a MID AIM Seminar be organized in 2012;</p> <p>b) ICAO coordinate with Egypt for the hosting of the Seminar; and</p> <p>c) MID States be encouraged to participate actively in this event.</p>	ICAO to follow up with Egypt for the organization of the Seminar	ICAO Egypt	Seminar	2012	Ongoing
<p>DEC. 12/37: TERMS OF REFERENCE OF THE AIS/MAP TASK FORCE</p> <p>That, the Terms of Reference and Work Programme of the AIS/MAP</p>	Implement the Decision	MIDANPIRG	Updated TOR	October 2010	<p>Completed</p> <p>(replaced and</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
Task Force be updated as at Appendix 5.3I to the Report on Agenda Item 5.3.					superseded by Draft Dec 12/16)
<p>CONC. 12/47: MID REGION PERFORMANCE METRICS</p> <p>That:</p> <p>a) the following MID Region Metrics be adopted for performance monitoring of the air navigation systems:</p> <p>MID Metric 1: Number of accidents per 1,000 000 departures;</p> <p>MID Metric 2: Percentage of certified international aerodromes;</p> <p>MID Metric 3: Number of Runway incursions and excursions per year;</p> <p>MID Metric 4: Number of States reporting necessary data to the MIDRMA on regular basis and in a timely manner;</p> <p>MID Metric 5: The overall collision risk in MID RVSM airspace;</p> <p>MID Metric 6: Percentage of air navigation deficiencies priority “U” eliminated;</p> <p>MID Metric 7: Percentage of instrument Runway ends with RNP/RNAV approach procedure; and</p> <p>MID Metric 8: Percentage of en-route PBN routes implemented in accordance with the regional PBN plan.</p> <p>b) the MIDANPIRG subsidiary bodies monitor the Metrics related to their work programmes; develop associated performance targets and provide feed-back to MIDANPIRG.</p>	Monitor performance of ANS using the endorsed metrics	MIDANPIRG & subsidiary bodies	Develop performance targets	2011	Ongoing SL Ref.: AN 7/26.1-11/121 dated 24 May 2011
<p>CONC. 12/48: DATA COLLECTION FOR MID REGION PERFORMANCE METRICS</p> <p>That, States be invited to:</p> <p>a) incorporate the agreed MID Region Performance Metrics into their National performance monitoring process;</p>	Implement the Conclusion	ICAO States	State Letter Include metrics into national performance	January 2011	Ongoing SL Ref.: AN 7/26.1-11/121 dated 24 May 2011

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>b) collect and process relevant data necessary for performance monitoring of the air navigation systems to support the regional Metrics adopted by MIDANPIRG; and</p> <p>c) submit this data to the ICAO MID Regional Office on a regular basis.</p>			<p>monitoring</p> <p>Submit data to ICAO</p>		
<p>DEC. 12/49: REVIEW OF THE MID AIR NAVIGATION PLAN (ANP)</p> <p>That, in support to ICAO efforts to improve regional ANPs, the MIDANPIRG subsidiary bodies:</p> <p>a) carry out a complete review of the MID Basic ANP and FASID parts related to their Terms of Reference (TOR) and Work Programme;</p> <p>b) develop revised draft structure and content of the Basic ANP in order to reconcile it with the ATM Operational Concept, the Global Plan provisions and the performance based approach;</p> <p>c) identify the need for and development of those FASID Tables necessary to support the implementation of a performance-based global air navigation systems; and</p> <p>d) report progress to MIDANPIRG/13.</p>	Implement the Decision	ICAO States Users	New structure, format & content of ANP/FASID	2012	Ongoing
<p>DEC. 12/50: TERMS OF REFERENCE OF THE INFPL STUDY GROUP</p> <p>That, the Terms of Reference and Work Programme of the INFPL Study Group be updated as at Appendix 5.5G to the Report on Agenda Item 5.5</p>	Implement the Decision	MIDANPIRG	Updated TOR	October 2010	Completed
<p>CONC. 12/51: INFPL IMPLEMENTATION DIFFICULTIES</p> <p>That, MID States be urged to complete the impact studies and file any difficulties arising in the implementation of INFPL to the ICAO MID Regional Office for posting on FITS.</p>	Implement the Conclusion	ICAO States	State Letter Completed impact study File difficulties	April 2011 October 2012	Actioned SL dated 16 Feb 2011 (To be closed)

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>CONC. 12/52: ICAO NEW FLIGHT PLAN FORMAT IMPLEMENTATION</p> <p>That, MID States be urged to:</p> <p>a) secure necessary budget for the implementation of the ICAO New FPL Format;</p> <p>b) initiate necessary negotiation with their ATC systems manufacturers/ vendors for the implementation of necessary hardware/software changes, as soon as possible;</p> <p>c) develop National PFF related to the ICAO new FPL format project with clearly established milestones with timelines; and</p> <p>d) take all necessary measures to comply with the applicability date of 15 November 2012.</p>	Implement the Conclusion	States	Secure resources	June 2012	<p>Actioned</p> <p>SL dated 16 Feb 2011</p>
<p>CONC. 12/53: QUESTIONNAIRE ON THE STATUS OF INFPL IMPLEMENTATION</p> <p>That, MID States be urged to reply to the Questionnaire on the Status of Implementation of Amendment 1 to the Procedures for Air Navigation Services-Air Traffic Management, Fifteenth Edition (PANS-ATM, Doc 4444) as at Appendix 5.5J to the Report on Agenda Item 5.5, by 20 February 2011.</p>	Implement the Conclusion	States	Completed questionnaire	February 2011	<p>Completed</p> <p>SL AN 6/2B – 11/027 dated 16 February 2011</p>
<p>CONC. 12/54: STRATEGY FOR THE IMPLEMENTATION OF INFPL</p> <p>That, MID Region Strategy for the implementation of INFPL be adopted as at Appendix 5.5K to the Report on Agenda Item 5.5</p>	Implement the Conclusion	MIDANPIRG/12	Adopted Strategy	October 2010	Completed
<p>CONC. 12/55: INFPL IMPLEMENTATION PLANS AND PROGRESS REPORT</p> <p>That, MID States be urged to send INFPL Implementation plans and progress report on the preparation for the implementation of INFPL to the ICAO MID Regional Office every (3) three months and whenever major progress is achieved.</p>	Implement the Conclusion	States	Progress Report	Every 3 months	Ongoing
<p>CONC. 12/56: STRATEGY FOR THE IMPLEMENTATION OF GNSS IN THE MID REGION</p>					Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
That, the Strategy for implementation of GNSS in the MID Region be updated as at Appendix 5.5N to the Report on Agenda Item 5.5.	Implement the Conclusion	MIDANPIRG/12	Adopted new Strategy	October 2010	(To be replaced and superseded by PBN/GNSS TF/4 Draft Conc. 4/6)
CONC. 12/57: MID REGION PBN IMPLEMENTATION STRATEGY AND PLAN That, the MID Region PBN Implementation Strategy and Plan be updated as at Appendix 5.5P to the Report on Agenda Item 5.5.	Implement the Conclusion	MIDANPIRG/12	Approved Strategy	October 2010	Completed (To be replaced and superseded by PBN/GNSS TF/4 Draft Conc. 4/1)
CONC. 12/58: PBN IMPLEMENTATION PROGRESS REPORT That, for future reporting on the status of PBN implementation, MID States be urged to: a) use the excel sheet as at Appendix 5.5Q to the Report on Agenda Item 5.5 and PBN Implementation Progress Report Template as at Appendix 5.5R to the Report on Agenda Item 5.5; and b) submit progress reports to ICAO MID Regional Office every six months or whenever major progress is achieved.	Implement the Conclusion	States	Progress Report	Every 6 months	Ongoing SL dated 16 February 2011 (To be replaced and superseded by PBN/GNSS TF/4 Draft Conc. 4/3)
DEC. 12/59: TERMS OF REFERENCE OF THE PBN/GNSS TASK FORCE That, the Terms of Reference and Work Programme of the PBN/GNSS Task Force be updated as at Appendix 5.5T to the Report on Agenda Item 5.5.	Implement the Decision	MIDANPIRG	Updated TOR	October 2010	Completed (To be replaced and superseded by PBN/GNSS TF/4 Draft Dec. 4/8)
DEC. 12/60: LIST OF TASK FOR PBN/GNSS TASK FORCE That, the list of tasks for the PBN/GNSS Task Force be updated with new task assignments as at Appendix 5.5U to the Report on Agenda Item 5.5.	Implement the Decision	MIDANPIRG	PBN/GNSS TF/3 Report	October 2010	Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>CONC. 12/61: IMPLEMENTATION OF CONTINUOUS DESCENT OPERATIONS</p> <p>That, recognizing the efficiency and environmental benefits of Continuous Descent Operations (CDO), and the need to harmonize these operations in the interest of safety, MID States be encouraged to include implementation of CDO as part of their PBN implementation plans and to implement CDO in accordance with the ICAO CDO Manual Doc 9931.</p>	<p>Follow up development in MID Region/States</p>	<p>States</p>	<p>Progressive introduction of CDO operations in TMAs</p>	<p>2012</p>	<p>Actioned</p> <p>SL dated 16 February 2011</p>
<p>CONC.12/75: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION</p> <p>That, MID States be urged to:</p> <p>a) review their respective lists of identified deficiencies, define their root causes and forward an action plan for rectification of outstanding deficiencies to the ICAO MID Regional Office prior to 31 March 2011;</p> <p>b) use the online facility offered by the ICAO MID Air Navigation Deficiency Database (MANDD) for submitting online requests for addition, update, and elimination of air navigation deficiencies;</p> <p>c) accord high priority to eliminate all air navigation deficiencies with emphasis on those with priority “U”; in particular by allocating the necessary budget to ensure that their Civil Aviation Authorities have and retain a sufficient number of qualified technical personnel, who are provided with appropriate initial, on-the-job and recurrent training; and</p> <p>d) seek support from regional and international organizations (i.e. ACAC, GCC, etc.) for the elimination of identified air navigation deficiencies.</p>	<p>Implement the Conclusion</p>	<p>ICAO</p> <p>States</p>	<p>State Letter</p> <p>Feedback from States</p>	<p>January 2011</p>	<p>Actioned</p> <p>SL Ref.: AN2/2 – 11/123 dated 25 May 2011</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>CONC. 12/77: ATS SAFETY MANAGEMENT</p> <p>That, MID States that have not yet done so, be urged to:</p> <p>a) establish a State Safety Programme (SSP) and ensure the implementation of Safety Management Systems (SMS) by their ATS service providers, in accordance with Annex 11 provisions;</p> <p>b) promulgate a national safety legislative framework and specific regulations in compliance with international and national standards that define how the State will conduct the management of safety, including the collection and protection of safety information and improvement of accident prevention, in compliance with relevant provisions contained at Chapter 2 of Annex 11 and Chapter 8 of Annex 13;</p> <p>c) share safety information including information on ATS incidents and accidents; and</p> <p>d) take advantage of the ICAO guidance material related to safety management as well as the training events offered by ICAO (SMS, SSP and ECCAIRS training courses seminars and workshops).</p>	<p>The ATM/SAR/AIS SG to follow up the implementation of the Conclusion</p>	<p>ICAO States</p>	<p>State Letter Feedback from States</p>	<p>February 2011</p>	<p>Actioned</p> <p>SL dated 2 June 2011</p> <p>(Re-iterated)</p>

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REPORT ON AGENDA ITEM 3: IMPROVEMENT OF THE MID ATS ROUTE NETWORK

3.1 The meeting noted that there are a number of States that are not complying with the established procedures for the amendment of the ATS route Network, including the compliance with the AIRAC procedures. The meeting urged those States to adhere to the established ICAO procedures for amendments and establishment of ATS routes that form part of the Regional ATS route network.

3.2 *The meeting further noted that MIDANPIRG/12 recognized the need to harmonize the implementation of RNAV 5 in the MID Region. Accordingly, MIDANPIRG/12, through Conclusion 12/9, urged States, that have not yet done so to take necessary measures to implement RNAV 5 area in the level band FL 160 - FL460 (inclusive).*

3.3 The meeting noted that, as a follow-up action to the above-mentioned MIDANPIRG/12 Conclusion, the ICAO MID Regional Office issued State letter Ref.: AN 6/29 – 10/432 dated 16 December 2010 urging States to take necessary action and promulgate changes to their AIPs by the AIRAC date 7 April 2011.

3.4 The meeting noted with appreciation that Egypt, Kuwait, Jordan, Oman and UAE had fully implemented. However, the meeting noted that a number of States have not yet updated their AIPs to change RNP 5 to RNAV 5. Furthermore, the meeting noted that the RNAV 5 area in the MID Region is still being implemented with different base Flight Levels (FL150, FL195, FL245, FL280). Accordingly, the meeting re-iterated the MIDANPIRG 12 Conclusion 12/9:

CONCLUSION 12/9: RNAV 5 IMPLEMENTATION IN THE MID REGION

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

- a) update their AIP to change RNP 5 to RNAV 5; and*
- b) take necessary measures to implement RNAV 5 area in the level band FL 160 - FL460 (inclusive).*

3.5 The meeting noted that based on the requests received from Egypt, Jordan and Syria related to changes to the Regional ATS Route network, an Amendment proposal to the MID BASIC ANP Table ATS 1 as at **Appendix 3A** to the Report on Agenda Item 3 was consolidated. It was also highlighted that the amendment proposal includes the extension of the Route P751 from BRN to AMIBO, in order to align the MID Basic ANP with the AFI Basic ANP. Accordingly, the meeting agreed to the following Draft Conclusion:

*DRAFT CONCLUSION 12/1: PROPOSAL FOR AMENDMENT TO THE MID
BASIC ANP ATS-1 TABLE*

*That, the ICAO MID Regional Office issue a proposal for amendment to the MID Basic ANP Doc 9708 in order to update the ATS-1 Table as at **Appendix 3A** to the Report on Agenda Item 3.*

3.6 The meeting noted that IATA Europe presented to the Second Special Coordination Meeting for the return of Libyan Airspace to Libya (**SCM-Libya/2**) held in Malta 13 – 14 October 2011, two proposed ATS Route from the Malta FIR at Fix **AMIBO** that connects with **SIDI Barrani (BRN)** in the Cairo FIR through the Tripoli and Fix **KANAR** with **AMIBO**. Libya and Malta indicated their no objections to the proposed Routes. Accordingly, the SCM-Libya/2 tasked the Eastern Southern African ICAO Regional Office (ESAF) for preparation of an amendment proposal to

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the AFI ANP Doc 7474. The SCM-Libya/2 meeting also agreed that the segment **AMIBO – BRN** be added as an extension to ATS Route **UP751** as for the route segment **AMIBO – KANAR** will be arranged by ESAF Office and if not possible then the ICAO MID Regional Office will have to allocate the route designator.

3.7 In response to the above, Egypt informed the meeting that their Military authorities are still studying the proposals related to the implementation of the ATS route segments **AMIBO – BRN** and **AMIBO – DBA**; however they objected the implementation of the route segment **KANAR – AMIBO**.

3.8 In relation to ATS Route structure in the MID Region, the DGCA-MID/1 meeting recognized the need for rationalization of the ATS route in the Region and that a radical review of the ATS route network had to be carried out based on the definition of City Pairs, Flexible Use of Airspace (FUA) and Performance Based Navigation (PBN) concepts to address Airspace capacity limitation; as the current constraints limit capacity and force inefficient routings. In addition, civil and military airspace sharing agreements are needed to better balance airspace distribution.

3.9 The meeting recalled the DGCA-MID/1 Conclusion 1/3 related to the Middle East Regional Airspace Review (MIDRAR) lead by CANSO, as well as the follow-up action taken by the ARN TF/4 meeting. In this respect, the meeting noted that the ARN TF Chairperson will act as a focal point for MIDRAR.

3.10 The meeting noted that the MIDRAR work progress was below expectation, due inter-alia, to the low level of participation/support from States.

3.11 The meeting recalled that the ATS Route Catalogue has been developed mainly to include proposals for further consideration/processing until such time a consensus is reached regarding the proposal(s) to be included in the MID Basic ANP and implemented by concerned States.

3.12 The meeting noted that the ARN TF/4 meeting reviewed and updated the information in the MID ATS Route Catalogue containing the iFLEX ATS Route proposals relating to the MID Region.

Allocation of five-letter-name codes (5 LNCs) in the MID Region

3.13 The meeting recalled that ICAO Five-Letter Name Codes and Route Designator (ICARD) System has been used in the MID Region since 2004.

3.14 The meeting recalled that the ATM/SAR/AIS SG/11 meeting (Bahrain, 10-12 November 2009) recognized that the use of the ICARD system for the allocation of 5LNCs in the MID Region has been very efficient. The meeting confirmed that ICARD was an excellent tool for the elimination of duplicate codes. However, it was agreed that work has to be pursued to eliminate all the pending duplicate and non-ICAO codes

3.15 The meeting recalled that MIDANPIRG/12 (Amman, Jordan, 17-21 October 2010) noted that the ICARD hosting has been transferred from EUROCONTROL to ICAO in August 2010 and urged MID States, that have not yet done so, to take necessary action in order for their designated ICARD Route Planner(s) to register to the ICAO ICARD 5LNC web-based System, to update the ICARD database and replace the identified duplicate and non-ICAO 5LNCs. Accordingly, MIDANPIRG/12 agreed to the following Conclusion:

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CONCLUSION 12/10: ALLOCATION OF FIVE-LETTER-NAME CODES IN THE MID REGION

That, prior to 31 March 2011, States that have not yet done so:

- a) assign ICARD ATS Route Planners, in order to make use of the ICARD system and improve the process of allocation of 5LNCs;*
- b) take necessary action in order for their designated ICARD Route Planner(s) to register to the ICAO ICARD 5LNC web-based System;*
- c) review their list of allocated 5LNCs and identify the non-used, duplicate and non-ICAO 5LNCs, and inform the ICAO MID Regional Office accordingly for necessary action;*
- d) release those allocated 5LNCs which were replaced and/or are no longer used; and*
- e) update the ICARD database by adding the missing information (missing latitude and longitude coordinates, etc).*

3.16 The meeting noted that as a follow-up action, the ICAO MID Regional Office issued on 22 December 2010 State Letter Ref.: AN 8/15.2 – 10/444 requesting States to ensure that their designated ICARD Route Planner(s) register to the ICAO ICARD 5LNC web-based System and to give effect to the MIDANPIRG Conclusion 12/10.

3.17 The meeting reviewed and updated the list of MID Region ICARD ATS Route Planners as follows:

State	ICARD Route Planner	
	Name	Contact
Bahrain	Mr. Salah Mohamed Al-Humood	Fax: (973) 17 99 66 Tel: (973) 17 321 180 Mobile: (973) 3640 0424 Email: shumood@caa.gov.bh
Egypt	Mr. Nasr El Din Ali Mohamed	Fax: (202) 2268 0627 Tel: (202) 2265 0743 Mobile: (2010) 114 8968 Email: neam2002@hotmail.com nasreldin-ali@nansceg.net
Iran	Mr. Abbas Niknejad	Fax: +98 21 446 49269 Tel: +98 21 66025108 Mobile: +98 912810 9862 Email: abbas.niknejad@gmail.com a.niknejad@airport.ir
Iraq	Mr. Ali Khalil Ibrahim	Fax: (964) Tel: (964) 18 132 570 Mobile: (964-790)1568252 Email: alikhalil@iraqcaa.com

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State	ICARD Route Planner	
	Name	Contact
Jordan	Mr. Nayef Al Marshoud	Fax: (962-6) 4891266 Tel: (962-6) 4897729 Mobile: (962-7) 77789 470 Email: datm@carc.gov.jo
Kuwait	Mr. Abdullah Aladwani	Fax: (965-2) 476 5512 Tel: (965-2) 476 2531 Mob: (965) 6605 1116 Email: abm.aladwani@dgca.gov.kw
Lebanon	Mr. Elie Elkhoury	Fax: (961-1) 629 023 Tel: (961-1) 628 178 Mobile: (961-3) 897943 Email: kelie@beirutairport.gov.lb
Libya		
Oman	Mr. Nasser Salim Al-Tuwaiya	Fax: (968) 24519523 Tel: (968) 24519 305 Mobile: (968) 95180 233 Email: nass2008@caa.gov.om naltuwaiya@yahoo.com
Qatar	Refer to Bahrain	
Saudi Arabia	Mr. Hamad Al Aufi	Fax: (966-2) 640 5333 Tel: (966-2) 640 5000 ext 640 Mob: (966-55) 561 1136 Email: hmalaufi@gaca.gov.sa
Sudan		Fax: Tel: Mobile: Email:
Syria		Fax: Tel: Mobile: Email:
UAE	Mr. Abdalla Al Rashidi	Fax: (971-2) 599 6889 Tel: (971-2) 599 6891 Mobile: (971) 50 611 9865 Email: : akaabi@szc.gcaa.ae
	Mr. Talal Hussain Al Hammadi	Fax: (971-2) 599 6883 Tel: (971- 2) 599 6890 Mobile: (971) 50 818 0783 Email: thammadi@szc.gcaa.ae

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State	ICARD Route Planner	
	Name	Contact
Yemen	Mr. Hashed Abdul Wassa A. Kamel	Fax: (967-1) 344 047 Tel: (967-1)345527 Mobile: (967-7) 7170 7019 Email: hashed_kamel@yahoo.com hashedkamel@gmail.com

3.18 The meeting noted with appreciation that, in order to improve the process of assignment and management of 5LNCs in the MID Region, and identification/elimination of duplicate and non-ICAO codes, a Workshop on the use of the ICARD System and associated issues was successfully held in Cairo from 27 to 29 June 2011. The meeting reviewed the Summary of Discussion of the Workshop at **Appendix 3B** to the Report on Agenda Item 3.

3.19 Based on the above, the meeting urged those States that have not yet done so, to ensure that their designated ICARD Route Planner(s) register to the ICAO ICARD 5LNC web-based System and to give effect to the MIDANPIRG Conclusion 12/10 which was considered “completed”.

**PROPOSAL FOR AMENDMENT OF THE ICAO
MID AIR NAVIGATION PLAN (DOC 9708), VOLUME I BASIC ANP**

(Serial No: MID Basic ANP 11/-- -ATM)

- a) **Plan:** Air Navigation Plan, Middle East Region (Doc 9708), Volume I Basic ANP
- b) **Proposed amendment:** Editorial note: Amendments are arranged to show deleted text using ~~strikeout (text to be deleted)~~ and added text with grey shading (text to be inserted)

**Amend requirement ATS Route
A/UA16 as follows**

<p>A16 RASDA 330600N 0305700E MILAD MELDO 320201N 03104406E BALTIM (BLT) 313144N 0311035E DEGDI 311429N 0311035E CAIRO (CVO) 300532N 0312318E</p>	<p>UA16 RASDA 330600N 0305700E MILAD MELDO 320201N 03104406E BALTIM (BLT) 313144N 0311035E DEGDI 311429N 0311035E CAIRO (CVO) 300532N 0312318E</p>
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**Amend requirement ATS Route
A/UA145 as follows**

<p>A145 PLH 3513.7N 02340.9E SALUN 340000N 0242700E * BRN 3134.5N 02600.3E KHG 2526.9N 03035.4E LUXOR (LXR) 254458 N 0324607E 2445.0N 03246.1E IMRAD 260500N 0354400E WEJH 2610.8N 03629.3E HLF 262600N 03916.1E GASSIM 2617.9N 04346.8E MGA 2617.3N 04712.4E ALMAL 2615.9N 04821.1E KING FAHD 2621.9N 04949.2E</p>	<p>UA145 PLH 3513.7N 02340.9E SALUN 340000N 0242700E * BRN 3134.5N 02600.3E KHG 2526.9N 03035.4E LUXOR (LXR) 254458 N 0324607E 2445.0N 03246.1E IMRAD 260500N 0354400E WEJH 2610.8N 03629.3E HLF 262600N 03916.1E GASSIM 2617.9N 04346.8E MGA 2617.3N 04712.4E ALMAL 2615.9N 04821.1E KING FAHD 2621.9N 04949.2E</p>
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**Amend requirement ATS Route
A/UA411 as follows**

<p>A411 (CAIRO) 3005.5N 03123.3E MENLI 2947.0N 03152.1E KAMIS KAPIT 2917.0N 03236.1E SHARM EL SHEIKH PASAM 2730.8N 03455.7E *Note 7(OE) WEJH 2610.8N 03629.3E MUVAT 2537.9N 03654.8E YEN 2409.0N 03802.3E JDW 2140.7N 03910.0E QUN 1922.2N 04104.5E</p>	<p>UA411 (CAIRO) 3005.5N 03123.3E MENLI 2947.0N 03152.1E KAMIS KAPIT 2917.0N 03236.1E SHARM EL SHEIKH PASAM 2730.8N 03455.7E *Note 7(OE) WEJH 2610.8N 03629.3E MUVAT 2537.9N 03654.8E YEN 2409.0N 03802.3E JDW 2140.7N 03910.0E QUN 1922.2N 04104.5E</p>
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TALIB 1838.9N 04131.2E
GIZ 1654.5N 04234.7E
NABAN 1631.4N 04301.8E
IMSIL 1557.6N 04313.2E
SAA 1530.0N 04413.2E

TALIB 1838.9N 04131.2E
GIZ 1654.5N 04234.7E
NABAN 1631.4N 04301.8E
IMSIL 1557.6N 04313.2E
SAA 1530.0N 04413.2E

Amend requirement ATS Route
UL572 as follows

UL572 KAMISHLY (KML)
LESRI 3704.3N 04113.8E
HASSAKEH (HAS) 3629N
04045.3E
DIER ZZOR (DRZ)
TANF (TAN)

Add a requirement ATS Route
L/UL620 as follows

L620 BALMA 342856N 0350302E
KAD 334827N 0352910E

UL620 BALMA 342856N 0350302E
KAD 334827N 0352910E

Amend requirement ATS Route
UL768 as follows

UL768 MENSA 245750N 0563249E
AVAMI 2505.9N 05556.8E
*Note 7
ATBOR 2510.1N 05519.8E
RANBI 251908N 0544500E
DUVGA 2530.3N 05403.5E
BALUS 254554N 0530424E
ELAXI 260000N 0523500E
IMTAS 281800N 0515700E
DAXAS 2621.3N 0515000E
ASMOR 2636.7 0511700E
TOLMO 265504N 0502927E
RAMSI 270249N 0500714E
ALVUN 271028N 0494455E
KISAB 272335N 0490606E
COPPI 2750.6N 04744.0E
HFR
VATIM 2851.6N 04444.7E
RAFHA (RAF)
ARAR (AAR)
OVANO3148.0N 03909.9E
OTILA 3201.5N 03901.9E
MODAD 3235.7N 03841.6E
SOKAN 3308.1N 03822.1E
RAFIF 3312.8N 03819.3E
SULAF 3327.3N 03810.4E
FIRAS 3352.3N 03755.2E

Add a requirement ATS Route
M/UM305 as follows

M305 BRN 3134.5N 02600.3E
ATMUL 200000N 2905.4E

Add a requirement ATS Route
M/UM312 as follows

M312 DBA 3100.7N 02828.0E
AMIBO 3456.7N 2136.4E

Add a requirement ATS Route
N/UN310 as follows

N310 BALMA 342856N 0350302E
CAK 341802N 0354200E
LATEB 3401.9N 03624.1E
BASEM 3333.6N 03739.1E

Add a requirement ATS Route
N/UN438 as follows

N438 LITAN 333456N 0343758E
KAD 334827N 0352910E
CAK 341802N 0354200E
RA 343510N 0360010E

Add a requirement ATS Route
P/UP300 as follows

P300 KAD 334827N 0352910E
LATEB 3401.9N 03624.1E

Amend requirement ATS Route
P/UP751 as follows

P751 AMIBO 3456.7N 2136.4E
BRN 3134.5N 02600.3E
KATAB 2925.0N 2905.1E
AST 2701.9N 03101.9E
LUXOR (LXR)
ALEBA 2200.0N 03527.0E
PORT SUDAN
[ASMARA] * Note 1
ASSAB 1304.0N 04238.8E
PARIM 1231.7N 04327.2E
ADEN
ANGAL 1614.0N 06000.0E
(MUMBAI) BBB

UM305 BRN 3134.5N 02600.3E
ATMUL 200000N 2905.4E

UM312 DBA 3100.7N 02828.0E
AMIBO 3456.7N 2136.4E

UN310 BALMA 342856N 0350302E
CAK 341802N 0354200E
LATEB 3401.9N 03624.1E
BASEM 3333.6N 03739.1E

UN438 LITAN 333456N 0343758E
KAD 334827N 0352910E
CAK 341802N 0354200E
RA 343510N 0360010E

UP300 KAD 334827N 0352910E
LATEB 3401.9N 03624.1E

UP751 AMIBO 3456.7N 2136.4E
BRN 3134.5N 02600.3E
KATAB 2925.0N 2905.1E
AST 2701.9N 03101.9E
LUXOR (LXR)
ALEBA 2200.0N 03527.0E
PORT SUDAN
[ASMARA] * Note 1
ASSAB 1304.0N 04238.8E
PARIM 1231.7N 04327.2E
ADEN
ANGAL 1614.0N 06000.0E
(MUMBAI) BBB

Amend requirement ATS Route
UR219 as follows

UR219 KUKLA 3414.6N 03444.8E
KALDE (KAD)
OTILA 3201.5N 03901.9E
*Note 7

~~MODAD~~
~~SOKAN~~
~~RAFIF~~
~~SULAF~~
~~FIRAS~~

- c) **Originated by:** ATM/SAR/AIS SG/12 meeting
- d) **Originator's reasons for amendment:** As a result of requests received from Egypt, Jordan and Syria related changes to the Regional ATS Route network, in their FIRs and also the extension of the Route P751 from BRN to AMIBO, in order to align the MID Basic ANP with the AFI Basic ANP.
- e) **Intended date of implementation:** As soon as practicable after approval
- f) **Proposal circulated to following States and organizations:**
- | | |
|---------------------------|----------------------|
| Bahrain | Qatar |
| Cyprus | Saudi Arabia |
| Egypt | Sudan |
| Greece | Syrian Arab Republic |
| Iran, Islamic Republic of | Tunis |
| Iraq | Turkey |
| Israel | United Arab Emirates |
| Jordan | Yemen |
| Kuwait | ASECNA |
| Lebanon | CANSO |
| Libya | IACA |
| Malta | IATA |
| Oman | IFALPA |

Secretariat's comments: In addition to the amendments the new RNAV route M/UM305 between SIDI BRN (Cairo FIR) and ATMUL (CAIRO/Khartoum FIR boundary) will reduce distance flown on ATS route A145 and P557 to relieve congestions over El Kharga (KHG) VOR which will enhance traffic flows, and ATS route efficiency.

The new RNAV route M/UM312 is proposed to replace the proposal which was emanating from the Libyan Special Coordination meeting (AMIBO – KANAR) which is not supported by Egypt.

The following new RNAV routes are proposed by Lebanon:
L/UL620 to replace existing route B/UB15, N312 to replace J222,
N438 to replace W201 and P300 to replace M1.

ATM/SAR/AIS SG/12
Appendix 3B to the Report on Agenda Item 3



International Civil Aviation Organization

Workshop on the use of the ICARD System and associated issues
(Cairo, Egypt, 27-29 June 2011)

SUMMARY

1. INTRODUCTION

1.1 The Workshop on the use of the ICARD System and associated issues, approved by ICAO HQ as a Special Implementation Project (SIP) for the MID Region, was successfully held in Cairo from 27 to 29 June 2011. Nineteen (19) participants from 7 States (Bahrain, Egypt, Kuwait, Oman, Saudi Arabia, UAE and Yemen) have attended the Workshop. The list of participants is at **Attachment A**. The Workshop was moderated by Mr. Mohamed Smaoui, RO/ANS/AIM, ICAO MID Regional Office, supported by Mr. Jérôme Guévin, Aeronautical Information Manager, ANB, ICAO HQ and Mrs. Nikki Goldschmid, ATM Technical Assistant from the ICAO EUR/NAT Regional Office.

1.2 The main objective of the Workshop was to train nominees from States on the use of ICARD and improve the process of assignment and management of Five-Letter Name Codes (5LNCs) in the MID Region. The identification of duplicate and non-ICAO codes in order to initiate necessary actions, in coordination with concerned parties, was also an important subject addressed by the Workshop.

2. OUTCOME OF THE WORKSHOP

2.1 The Workshop included a series of audiovisual presentations and practical hands-on exercises through on-line access to the ICARD System, covering, mainly, the following:

- ICAO provisions related to 5LNCs (Annex 11), including the use of alphanumeric name codes (Doc 8168);
- ICAO Portal;
- registration procedure;
- different Modules of ICARD;
- use of ICARD in the MID Region;
- update of the ICARD database; and
- identification of duplicate and non-ICAO 5LNCs.

2.2 Specific actions have been taken by the participating States as follows:

Bahrain:

- registration procedure of the ICARD Route Planner completed;
- the ICARD database has been updated. In particular, the following non-used 5LNCs were released: ALVON (also for KSA), BONIS, BOPIX, KIRIR, KIRUM and SELEG; and

- the following 5LNCs have been confirmed as Duplicates: AKRAM, ELOSA, KISAB, LOTOS, MUSKO, MUTAR and SALWA;
- KITAP has also been identified as a duplicate. It was also found that this code was registered to UAE instead of Bahrain.

Egypt:

- the current ICARD Route Planner provided a presentation to share the experience of Egypt in the use of ICARD and associated coordination issues;
- the designation of a new ICARD Route Planner has been initiated (to take over from the current one who is changing his job position);
- registration of 3 participants as members of the ICARD group (one of them will be the new designated ICARD Route Planner);
- the ICARD database has been updated; and
- the 5LNC DELMA has been confirmed as Duplicate and action was initiated to carry out necessary coordination for its replacement by DELNA.

Note: it was noted with appreciation that Egypt has taken all necessary measures, in close coordination with the ICAO MID Regional Office, for the update of the ICARD database and elimination of the identified Duplicate and non-ICAO 5LNCs, as requested by the ATM/SAR/AIS Sub-Group and MIDANPIRG. In this respect, it was highlighted that during the last year, the following Duplicate and non-ICAO 5LNCs have been replaced by Egypt: ASTAR, KODAR, LADAL, TOKBO, SIXUM, AVIVA, EMARI, KAMIS, MILAD, MENDI, TABLA and DITAR.

Kuwait:

- registration procedure of the ICARD Route Planner completed;
- the ICARD database has been updated. In particular, the following non-used 5LNCs were released: ALRAS, ALRIM, ALRUT, BOSAK, BOTUB, ELULU, GOMKA, ITNAP, IVIRO, IVOVO, KAPOS, KUBAR, LABDI, MURED, MUSOD, MUXON, NADUS, ORBEB, PASES, PUSMA, RIKSA, RUKAK, SELEG, SEPLI, SIVAL, SODUP, SOGEK, SOLAL, SOMAM, TASRO;
- The 5LNC GESAK has been reserved to replace the 5LNC AWADI which is a non-ICAO code (not registered in ICARD); and
- the 5LNC DARVA has been confirmed as Duplicate and TANAP was identified also as Duplicate.

Oman:

- ICARD Route Planner already registered;
- the ICARD database has been updated. In particular, the following non-used 5LNCs were released: ALPEX, CROSS, DASTO and KANAS. In addition, the 5LNC APELO which is a FIR boundary point between Muscat and Karachi has been registered also for Oman; and
- the 5LNC MIBSI has been confirmed as Duplicate (to be replaced by MIBVI) and DORAB was identified also as Duplicate (to be replaced by DERTO).

Saudi Arabia:

- registration procedure of the ICARD Route Planner completed;
- registration of 3 participants as members of the ICARD group; and
- the following 5LNCs have been confirmed as Duplicates: RAGAN, SALWA, AKRAM, GAMDI, KOBAS, LOTOS and PARAM.

Note: it was noted with appreciation that Saudi Arabia used to be active for the update of the ICARD database and elimination of the identified Duplicate and non-ICAO 5LNCs before the change of the hosting of the ICARD System from EUROCONTROL to ICAO HQ. In this respect, it was highlighted that the following Duplicate and non-ICAO 5LNCs have been replaced by Saudi Arabia: METKI, DARAG, MITSO, ROTAM, BOSOS, KARIN, LABAG, NANGO, RAMSO, GAMLA, GIDOD, HARIS, KAPAD.

UAE:

- registration procedure of the ICARD Route Planners (main and alternate) completed;
- registration of 2 participants as members of the ICARD group;
- the ICARD database has been updated. In particular, the 5LNC SAMAK has been released;
- The Duplicate 5LNC GIDOX has been replaced by UAE;
- the 5LNCs AVAMI and SOBER have been confirmed as Duplicate. UAE will consider the replacement of SOBER; however, it would be difficult to replace AVAMI since it's used in many ATS Routes.

Note: it was noted with appreciation that UAE used to be active for the update of the ICARD database and elimination of the identified Duplicate and non-ICAO 5LNCs before the change of the hosting of the ICARD System from EUROCONTROL to ICAO HQ. In this respect, it was highlighted that the following Duplicate and non-ICAO 5LNCs have been replaced by UAE: LILLY, CARLO, EGMAL, DUMPI, NIGEL, PINGO and MURAK. An example of good coordination between the ICAO Cairo and Paris Offices for the replacement of the 5LNC DESDI by the Russian Federation was highlighted (DESDI used to be a Duplicate used by both UAE and The Russian Federation).

Yemen:

- registration procedure of the ICARD Route Planner completed;
- the ICARD database has been updated. In particular, the following non-used 5LNCs were released: DOMAN, ITMAM, FARES, RIHAB and ALKOS.
- the following 5LNCs have been confirmed as Duplicates: KORAB and MISAN.
- the 5LNCs KITAB, AMBOD, BAROM, KORAB and BANAR have been identified also as Duplicates.

2.3 A brainstorming session related to the future developments/improvements of the ICARD System and its use in the MID Region took place at the end of the Workshop. The following proposals/suggestions have been made:

- Non-ICAO codes that are released shall not go back to the reserve list.
- Differentiate between the “blocking” warnings and other warnings.

- Generate a warning message in case the Lat and Long coordinates for the requests of allocation of 5LNC are not provided;
- The following warning message should be clarified *“The code is close to another existing points”*:
 - ✓ What is the distance used to trigger the message?
 - ✓ Should the distance be shown on the warning message?
 - ✓ Should the name(s) of the existing 5LNC provided?
- When renaming an existing code, the selection of sound-like code with almost identical spelling should be avoided; eg. renaming MITSU with MITVI or DELMA with DELNA.
- Improve the software/algorithm used for the generation of “Reports” (especially the Reports of Duplicates) in the “Downloads” menu. In particular, the cover page of all reports referring to the FASID, shall be deleted and the header page amended accordingly.
- The use of codes for the designation of States “Code Indicators” (ITU and ISO) is to be reviewed, especially in the generation of Reports. The use of the State name is more convenient.
- Initiate action for the use of ICARD for the management of Route Designators in the MID Region and identify associated users’ requirements.
- States are encouraged to use the alphanumeric name codes in accordance with Doc 8168 provisions.
- ICAO to consider developing the necessary mechanism for the regular update of the ICARD database, based on the electronic AIPs (eAIP) and/or Regional AIS Databases (EAD, MIDAD, etc) and using the Aeronautical Information Exchange Model (AIXM) as the standard for the exchange of aeronautical data.
- ICAO to consider developing additional Training material on the use of ICARD, including on-line Training (Computer Based Training “CBT”).
- When requesting the assignment/amendment of 5LNC, the ICARD Route Planners should endeavour to provide complementary information in the “Comments” Box, related to the effective date, concerned ATS Route(s), replacement of duplicate or Non-ICAO code, etc.
- The following changes to the ICARD System (software issues) should be considered:
 - ✓ “Find Allocated and Available 5LNC” change the default from “Allocated List” to “Both”.
 - ✓ The Proximity Check box should be disabled until the Lat/Long coordinates are provided.
 - ✓ When using Microsoft Internet Explorer 9 (IE9), the users should run the ICARD application in 'Compatibility View' mode, otherwise the web page shows up as a blank without any indications of the problem.
 - ✓ Review the definition and use of the Codes shown in orange (pending for approval, or release, belongs to a block, etc) and provide relevant information to the Data Manager.
 - ✓ “Transfer to Region” currently offers the possibility for the ICARD Data Manager to transfer codes from his Region Reserve List to another Region. It is proposed that this functionality should allow also the ICARD Data Manger to post Requests for transfer of codes

which are available in other Regions Reserve Lists to his Region Reserve List.

- ✓ Provide a Forum for discussions between the different ICARD Data Managers and ICARD Route Planners through the ICARD System.

2.4 ICAO to consider the review of Appendix 2 to Annex 11 to provide more guidance on the Establishment and Identification of Designators for significant points not marked by the site of a radio navigation aid (5LNCs), taking into consideration the above proposals/suggestions.

2.5 The participants thanked ICAO for organizing such a successful Workshop and requested that similar Workshop(s) be organized in the future to address both the 5LNC and Route Designators related issues.

ATM/SAR/AIS SG/12
Report on Agenda Item 4

REPORT ON AGENDA ITEM 4: IMPROVEMENT OF THE ATM OPERATIONS IN THE MID REGION

ICAO New Flight Plan Format (INFPL)

4.1 The meeting noted the progress achieved and difficulties faced by other ICAO regions during the implementation of INFPL provisions, which were posted on the FITS. In this regard, the meeting urged MID States to use FITS system and post any issue encountered in the implementation of INFPL in FITS.

4.2 It was also noted that ICAO MID Regional Office sent State letter AN 6/2B – 11/027 dated 16 February 2011, requesting MID States to provide update on MIDANPIRG/12 conclusions 12/51 *INFPL Implementation difficulties and conclusion 12/53: Questionnaire on the Status of INFPL implementation* including, completed impact study, any difficulties being encountered or anticipated.

4.3 The meeting noted that only 10 States (Bahrain, Egypt, Iran, Jordan, Lebanon, Libya, Oman, Qatar, Saudi Arabia and UAE) provided the replies to the questionnaires which were analyzed by the Regional Office and further updated by the meeting as at **Appendix 4A** to the Report on Agenda Item 4.

4.4 The meeting reiterated MIDANPIRG/12 Conclusion: 12/52: ICAO New Flight Plan Format implementation and requested States to exert all efforts to fulfill the implementation requirement well in advance on the requested date.

4.5 The meeting was updated on the advanced INFPL Implementation Seminar held in Cairo, 19-21 June 2011, where it was highlighted that even manual flight plan system requires an upgrade even though it may only involve procedural changes training and documents. Furthermore, the meeting noted that ACAC and ICAO will hold a joint INFPL seminar/workshop in Saudi Arabia 16-18 January 2012. Accordingly, the meeting encouraged all MID States and concerned organization to participate actively in the seminar/workshop.

4.6 Noting the requirement for harmonizing the implementation of Amendment No. 1 to the Fifteenth Edition of the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444). INFPL SG/3 meeting had a thorough review of the MID Region Strategy for the implementation of the INFPL and developed revised version of the Strategy. The INFPL SG/3 developed table on the status of implementation of INFPL in the MID Region which was updated by the meeting.

Implementation of 20 NM and 10 NM Longitudinal Separation

4.7 The meeting was apprised on the agreement between Bahrain, Jordan, Saudi Arabia and Syria for the implementation of 20 NM longitudinal separation on a constant or increasing orientation starting on AIRAC 29 July 2010 on trial basis. Following the trial period, all concerned States agreed to implement the 20 NM longitudinal separation on permanent basis.

4.8 The meeting recalled that 20 NM longitudinal separation has been implemented between Bahrain, Kuwait, Iraq and Turkey. Bahrain requested that further reduction in longitudinal separation to 10 NM would be required in order to cater for the projected increase of Traffic.

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4.9 The meeting noted that continuous traffic growth within the ICAO MID Region constantly exceeds projections and has scored the highest rate of growth in the world, resulting in airspace saturations in most of the MID Region.

4.10 The meeting noted that uniform separation minima of 10 NM can be established for ATS routes within the MID Region. The radar surveillance systems, currently in operation within the MID Region, allow for consistent separation standards across the MID Region.

4.11 The meeting encouraged MID States to implement 20 NM longitudinal separation, and develop plans for further reduction of longitudinal separation from 20 NM to 10 NM. Accordingly the meeting agreed to reflect this as an ATM objective to be included in the Regional PFFs.

4.12 Based on the above, the meeting agreed to the following draft Conclusion:

**DRAFT CONCLUSION I2/2: IMPLEMENTATION OF A REDUCED
RADAR LONGITUDINAL SEPARATION IN
THE MID REGION**

That,

- a) *MID States, that have not done so;*
 - i) *be urged to implement the 20 NM radar longitudinal separation;*
 - ii) *be encouraged to further reduce the radar longitudinal separation within the MID Region to 10 NM; and*
 - iii) *to agree with their neighboring States on the date of implementation and updating of the LoAs;*
- b) *the ATM Regional PFFs be updated to include the reduced radar longitudinal separation as an ATM objective for the MID Region.*

4.13 The meeting noted with appreciation that Oman had been instrumental in pushing for the reduction of horizontal separation through the Bay of Bengal Reduced Horizontal Separation Task Force (BOBRHS TF) which discussed the results of the RHS minima that were introduced in July for ATS Route N571.

4.14 The meeting noted that, the BOBRHS TF/5 meeting agreed to expand RHS to include the Indian Ocean and introduce 50/50 NM separation using mix mode operations in phase two which will commence on the 15 December 2011.

4.15 The meeting noted that airline operators were encouraged by the BOBRHS TF/5 meeting to equip their aircraft fleets with CPDLC, and ADS- B in order to fully benefit from the RHS on ATS routes through the Arabian Sea, Bay of Bengal and the Indian Ocean. In this regard the meeting was informed that Aircraft equipage survey will be discussed during CNS/ATM/IC SG/6 meeting in January 2012.

4.16 The meeting noted that there have been a number of reported events relating to the A380 either on Departure or the En-route phase of flight where the following aircraft has been 1000 or 2000 ft below and within 20 NM has encountered turbulence.

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4.17 Based on the above, a further reduction in the longitudinal separation to 10 NM would require MID States to develop procedures for their Air Traffic Controllers to exercise caution when clearing Medium Category aircraft to climb behind an A380 taking into consideration of the ICAO guidance material.

Flight Level Allocation in Kuwait FIR for Westbound Traffic

4.18 The meeting recalled further to the request made by Kuwait during the MIDRMA Board/11 meeting, related to the available Flight levels for the westbound traffic in Kuwait FIR, especially during the Hajj season, Bahrain and Saudi Arabia agreed to allocate FL300 in addition to FL280 for use by Kuwait on temporary basis only during the Hajj season. Furthermore, Iran and Kuwait agreed that the traffic from Iran should be transferred at FL340 (i.e.: FL360 and FL380 are not to be used for the transfer of traffic to Kuwait).

4.19 Based on the above, the meeting noted that it was agreed that Kuwait present a Working Paper to the ATM/SAR/AIS SG/12 meeting to seek a permanent solution for the above-mentioned difficulties faced by Kuwait. However, noting that Kuwait did not present such a working paper, the meeting requested Kuwait to address this subject in ARN TF/5 meeting (Amman, Jordan, 6-8 February 2012).

ATM operational improvements and environmental protection

4.20 The meeting referred to the resolution on continuing ICAO policies and practices related to operational improvements and environmental protection adopted at the 37th session of the assembly, currently ICAO is engaged in the measurement at global level, of the environment benefits as a result of improvement to the air navigation system. Assisted by IATA, CANSO EUROCONTROL and other international organizations, ICAO developed the ICAO Fuel Savings Estimated Tool (IFSET) and guidance material to help States, in globally endorsed method their fuel savings resulting from national or regional improvement. Furthermore, ICAO MID Regional Office in coordination with CANSO will conduct IFSET workshop on 29 January 2012. Accordingly the meeting encouraged MID States to actively participate in the workshop to get hand on training on the use of the IFSET.

4.21 The meeting was informed that an ATM Measurement Task Force (ATM/M TF) will be established and it will be reporting to the CNS/ATM/IC Sub-Group, which is mandated, inter-alia, to monitor the MID Region Performance Metrics and analyze the environmental benefits resulting from the improvements to the air navigation systems.

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Appendix 4A to the Report on Agenda Item 4

QUESTIONNAIRE ANALYSIS

State	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Bahrain	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Egypt	No	Yes	Not yet	Yes	Yes	Yes	Yes	Not yet under development
Iran	Yes there are problems (120+training)	Yes as mentioned in Q1	No under development	Yes	Yes no doubts	Yes	Yes	Not yet under development
Iraq								
Jordan	No problems	Yes	Yes under development	Yes fully understand	Yes fully understand	Yes	Yes, and understand fully the impact	Defined action plan WP11
Kuwait								
Lebanon	No problem after upgrading our system by February 2012	Yes we will not accept flight plan filing exceeding 120 hours	Planning to do so the issue under discussion	Yes	Yes	Yes we do but awaiting to upgrade our systems by our suppliers which intended to be achieved by February 2012	Yes	In progress we establish a committee and it is working on defining the action plan.
Libya	No problems	Yes	No under development	--	Yes	Yes	Yes	Under development
Oman	No	Yes	Yes under development	Yes	Yes	Yes	Yes	Under development

State	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Qatar	No Problem	Yes	Yes under development	Yes	Yes	Yes	Yes	Under development
Saudi Arabia	No problems at this time	As it applies to ATM system	Yes will have Dual	Yes	Yes and will have dual functionality	Yes	Yes <i>expect additional automation and procedural impact</i>	Under development
Sudan								
Syria								
UAE	No	Yes	Yes—ANSPs to include software in upgrades or new systems.	Yes	Yes	Yes—Most ANSPs including this upgrade with the automated system upgrades	Yes	Under development—National workshop Q1 2012.
Yemen								

- Q1- *In your compliance to the changes in Amendment 1, is there any part of Amendment 1 in which your State identifies any major problem to comply?*
- Q2- *Has your State considered the accommodation of the 120 hour filing provision outlined in Amendment 1?*
- Q3- *Have you considered a strategy for transitioning NEW FPL and related messages to the PRESENT/EXISTING format?*
- Q4- *Do you know about the regional actions defined in MID Regional Strategy for implementation of this amendment?*
- Q5- *Do you understand the phased transition approach?*
- Q6- *Do you intend to comply with the dates contained in Phase 2 (transition) of the approach (i.e., you plan to be ready to begin accepting NEW format FPLs and related messages between 1 April and 30 June 2012)?*
- Q7- *Have you considered the automation and/or procedural impacts involved in the implementation of Amendment 1?*
- Q8- *Has your State defined an action plan for carrying out the different aspects of this implementation?*

ATM/SAR/AIS/SG/12
Report on Agenda Item 5

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/11 meeting held in Cairo, from 27 to 29 September 2011.

MID RVSM SMR 2012

5.2 The meeting recalled that MIDANPIRG/12, through Conclusion 12/18, agreed that the MID RVSM SMR 2012 be ready before 30 September 2011 for review by the ATM/SAR/AIS SG/12 meeting.

5.3 It was highlighted that, although, this is the fourth SMR developed by the MIDRMA, 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 Table below reflects the traffic data collected from the MIDRMA member States for the period 1 – 31 January 2011:

SN	MID States FIR's	June 2009 SMR 2010	Jan 2011 SMR 2012	Increased or Decreased (%)
1	Bahrain	24285	30099	19.32
2	Muscat	22520	28224	20.21
3	Jeddah	22422	25499	12.07
4	Cairo	19228	14270	- 34.74
5	Emirates	15868	21076	24.71
6	Tehran	10479	10638	1.49
7	Damascus	9774	11719	16.60
8	Amman	8554	10689	19.97
9	Kuwait	3570	10364	65.55
10	Sana'a	3490	4305	18.93
11	Beirut	2949	3845	23.30
	Total =	143,139	170,728	+ 19.27%

Table A1: MID States RVSM Traffic Data used for SMRs 2010 & 2012

5.5 The meeting re-iterated the concern related to the reporting of Altitude Deviation Reports (ADRs), which is considered one of the most important elements for the development of the Safety Monitoring Reports. In this regard, it was recognized that it's unrealistic that a number of FIRs experiencing high volume of traffic continue to report NIL ADRs since 2007.

5.6 In connection with the above, the meeting recalled that MIDANPIRG/12 noted with concern that the reporting of Altitude Deviation Reports (ADRs) is far below expectations.

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5.7 The status of reporting of ADRs and CFRs to the MIDRMA is summarized in the following Table:

States	Timeliness	Regularity	ADRs	CFRs	Concerned Adjacent Centres
Bahrain	Yes	Yes	Yes	Yes	Riyadh, Jeddah, Muscat, Kuwait, Tehran
Egypt	Yes	Yes	Yes	Yes	Jeddah, Khartoum, Tripoli
Iran	Yes	Yes	Always NIL	Yes	Kuwait, Emirates, Bahrain, Muscat
Iraq	No	No	-	Stopped in 2011	Kuwait, Ankara
Jordan	Yes	Yes	Always NIL	Yes	Baghdad, Damascus, Jeddah
Saudi Arabia	Yes	Yes	Always NIL	Yes	Bahrain, Khartoum, Amman, Cairo, Kuwait
Kuwait	No	No	NIL	Yes	Baghdad
Lebanon	Yes	Yes	Yes	Always NIL	-
Oman	No	No	NIL	Yes	Tehran, Mumbai, Emirates, Bahrain, Karachi, Sana'a
Syria	Yes	Yes	Always NIL	Always NIL	-
UAE	Yes	Yes	Yes	Yes	Bahrain, Muscat, Tehran
Yemen	No	No	Always NIL	Always NIL	Muscat

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 agreed that the lack of awareness about the requirements for RVSM safety assessment activity is a major contributing factor.

5.9 In connection with the above, the meeting was apprised of the outcome of the Second meeting of the MID RVSM Scrutiny Group, held in Cairo, 26 September 2011 with representatives from 8 States (Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Saudi Arabia, and UAE). The meeting was chaired by the MIDRMA and ICAO attended as an observer.

5.10 The meeting noted that the MIDRMA presented to the Scrutiny Group all Coordination Failure Reports (CFRs) and Altitude Deviation Reports (ADRs) received from the MIDRMA member States during the period: 1 July 2010 – 31 August 2011. A total of 37 Altitude Deviation Reports and 534 CFRs were submitted by the MIDRMA members. It was highlighted that the extreme majority of the CFRs represent failure of coordination between the transferring Unit and the accepting Unit. The Scrutiny Group analyzed these reports and discussed their impact on the implementation of RVSM in the MID Region.

5.11 The meeting noted with appreciation the outcome of the Scrutiny Group as at **Appendix 5A** to the Report on Agenda Item 5.

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5.12 In the same vein, and in order to standardize and simplify the reporting of Altitude/Height Deviations and Coordination Failures, the meeting agreed to replace the monthly submission of ADRs and CFRs to the MIDRMA; by the monthly submission of LHDs using the Form at **Appendix 5B** to the Report on Agenda Item 5, in accordance with the ICAO Doc 9937 - *Operating Procedures and Practices for Regional Monitoring Agencies in Relation to the Use of a 300 m (1 000 ft.) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive*.

5.13 It was highlighted that the new LHD reporting form shall be used by all reporting units/operators for all large height deviations of 300 ft or more in magnitude. The main causes of large height deviation occurrences are as follows:

- a) an error in the altimetry or automatic altitude control system of an aircraft;
- b) turbulence and other weather-related phenomena;
- c) the crew not following established contingency procedures during an emergency descent by an aircraft;
- d) the response to airborne collision avoidance system (ACAS) resolution advisories;
- e) not following an ATC clearance, resulting in flight at an incorrect flight level;
- f) an error in issuing an ATC clearance, resulting in flight at an incorrect flight level; and
- g) coordination errors between adjacent ATC units in the transfer of control responsibility for an aircraft, resulting in flight at an incorrect flight level.

5.14 The meeting noted the examples of incidents/reports for each LHD taxonomy category provided at **Appendix 5C** to the Report on Agenda Item 5, and appreciated the offer made by the MIDRMA to develop a video-clip and post it on the MIDRMA website, as a support tool to be used for the reporting of altitude deviations and coordination failures using the new LHD Form.

5.15 The meeting recalled that as a mitigation measure to improve the reporting of required data to the MIDRMA, MIDANPIRG/11, through Conclusion 11/21, agreed to the inclusion of States that are not providing the required data to the MIDRMA, on a regular basis and in a timely manner, in the MIDANPIRG list of air navigation deficiencies. Accordingly, based on the status of provision of data by States provided by the MIDRMA, the meeting agreed to include Iraq and Yemen in the list of deficiencies.

5.16 The meeting reviewed the draft MID RVSM SMR 2012 developed by the MIDRMA. It was highlighted that the SMR 2012 presents evidence that, according to the data and methods used, the key safety objectives as set out by MIDANPIRG, through Conclusion 12/16, continue to be met. In this respect, it was noted with appreciation that the three safety objectives were met, as follows:

Safety Objective 1: The risk of collision in MID RVSM airspace due solely to technical height-keeping performance meets the ICAO target level of safety (TLS) of 2.5×10^{-9} fatal accidents per flight hour. The computed value for the technical height risk in the SMR 2012 is 5.08×10^{-14} . This meets RVSM Safety Objective 1.

5.17 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 Pz(1000) – the probability of vertical overlap due to technical height-keeping performance, between aircraft flying 1000 ft separation in the MID RVSM airspace, is less than 1.7×10^{-8} . For the MID RVSM SMR 2012, the computed value of the Pz(1000) is 7.83×10^{-10} , which meets the ICAO requirement.

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5.18 The meeting noted that radar data from three radars: Amman, Bahrain and Kuwait, was used for the determination of the Horizontal Frequency Overlap (HOF) using the RADAC System. It was highlighted that the actual measurements were captured for the period 1 to 31 January 2011 for Bahrain and Kuwait radars, and from 15 to 31 May 2011 for Amman radar. The computed value for the Horizontal Frequency Overlap is estimated to be 6.49×10^{-5} per flight hour.

5.19 Based on the above, the meeting recalled that, in accordance with the Recommendations of the SMR 2010, and considering the MID Region ATS route network and traffic data, it was agreed that the horizontal frequency overlap should be determined in Muscat in Oman, HIL in Saudi Arabia, and TAZ in Yemen.

5.20 The meeting noted that the third Recommendation for Safety Objective 1 listed in para. 2.5.1.5 of the Draft SMR 2012, included the following:

- (iii) The MIDRMA shall coordinate with Iraq's focal point to ensure the receipt of all the requirements of including Iraq's radar in the RADAC System for the purpose of continuous monitoring of the horizontal overlap within Baghdad FIR.

5.21 Based on the above and noting that the Recommendation of SMR 2010 related to the determination of horizontal frequency overlap in Muscat in Oman, HIL in Saudi Arabia, and TAZ in Yemen, has not been implemented, the meeting agreed to reflect this Recommendation also in the SMR 2012. Accordingly, the meeting urged Iraq, Oman, Saudi Arabia and Yemen to take action, in coordination with the MIDRMA, for measuring the horizontal frequency overlap in their FIRs and to provide all necessary technical information for including their radar format in the RADAC system.

Safety Objective 2: The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace meets the ICAO overall TLS of 5×10^{-9} fatal accidents per flight hour. The computed value for the overall risk in the SMR 2012 is 1.04×10^{-11} . This meets RVSM Safety Objective 2.

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

5.23 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 was informed that this Model is over conservative and sometimes over estimates the collision risk. The meeting recalled that the MID RVSM Safety Assessment Seminar held in Bahrain from 22 to 24 February 2010, addressed the subject. Accordingly, the meeting agreed that the MIDRMA initiate action for the development/purchase of suitable Vertical Collision Risk (VCR) software, for the MID Region, which should be presented to and validated by the Second MID RVSM Safety Assessment Seminar, to be organized by the MIDRMA in coordination with ICAO in the last quarter of 2012. In this respect, the meeting noted that the VCR software will cost about US\$ 50,000.

5.24 Considering that the MID RVSM airspace is a typical radar controlled airspace where aircraft are frequently vectored away from their routes by ATC on a tactical basis, resulting in a big number of different crossing tracks with different crossing angles and different relative speeds between the aircraft; the VCR software would be based on derivation of the collision risk model applicable to Radar controlled airspace as detailed in "A method for the assessment of the vertical collision risk with RVSM in the London FIR, MDG/11-DP/1, November 1998". Such software must be

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capable of addressing limited data availability by simulating individual aircraft 4D trajectory from given information and be able to compute the key parameters needed for collision risk estimations as in a radar controlled airspace. It should generate individual aircraft 4D radar points by simulation of air traffic in the MID RVSM airspace based on their FIR entry and exit points. For this purpose, the software should use aerodynamic models to generate aircraft performance parameters and hence their 4D positions from point of activation in the airspace till the point of deactivation.

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.

5.25 The meeting noted that the analysis of operational error reports and coordination failure reports and the recommendations put forward in the SMR 2012 provide sufficient evidence that RVSM Safety Objective 3 is being met.

5.26 The meeting agreed to delete from the SMR 2012 the specific Recommendation for Yemen to update the MIDRMA of any case of deviation over the Red Sea by unknown aircraft.

5.27 Considering all the foregoing, the meeting endorsed the SMR 2012 draft version 0.2 for presentation to MIDANPIRG/13 and agreed to the following Draft Conclusion which replaces and supersedes the MIDRMA Board/11 Draft Conclusion 11/3:

DRAFT CONCLUSION 12/3: REVIEW OF THE DRAFT MID RVSM SMR 2012

That:

- a) States further review the Draft MID RVSM SMR 2012 (V0.2) and provide their comments and suggestions to the MIDRMA before 31 December 2011; and*
- b) the MIDRMA consolidate the final version of the MID RVSM SMR 2012 based on the comments and suggestions received, for presentation to MIDANPIRG/13 for endorsement.*

5.28 The meeting supported the following MIDRMA Board/11 Conclusions and agreed to their presentation to MIDANPIRG/13 for endorsement:

***DRAFT CONCLUSION 11/4: REPORTING OF LARGE HEIGHT DEVIATIONS
(LHD)***

That, in order to simplify and standardize the reporting of Altitude/Height Deviations and Coordination Failures, in accordance with the ICAO Doc 9937:

- a) as of 1 December 2011, the Form at Appendix 4A to the Report on Agenda Item 4 be used for the reporting of Altitude/Height Deviations and Coordination Failures; and*

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- b) *the monthly submission of LHD replaces the monthly submission of ADRs and CFRs.*

DRAFT CONCLUSION 11/5: PROVISION OF REQUIRED DATA TO THE MIDRMA

That, considering the on-going requirement for RVSM safety assessment in the MID Region:

- a) *States provide the required data to the MIDRMA on a regular basis and in a timely manner. The data includes, but is not necessarily limited to:*
- i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);*
 - ii) Large Height Deviations (LHD) (on monthly basis);*
 - iii) traffic data (as requested by the MIDRMA Board); and*
 - iv) radar data as, when and where required (as requested by the MIDRMA Board).*
- 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.*

Note: *the above Draft Conclusion is proposed to replace and supersede MIDANPIRG/11 Conclusion 11/21.*

DRAFT CONCLUSION 11/6: SECOND MID RVSM SAFETY ASSESSMENT SEMINAR

That, with a view to raise the awareness related to the requirements for sustained RVSM safety assessment activity and improve the knowledge of all involved parties, in particular with respect to the Vertical Collision Risk Methodology and Altimetry System Errors, the MIDRMA, in coordination with ICAO, organize a Second MID RVSM Safety Assessment Seminar, in the last quarter of 2012.

DRAFT CONCLUSION 11/7: TRAINING ON RVSM SAFETY ASSESSMENT

That, with a view to raise the awareness related to the requirements for sustained RVSM safety assessment activity and improve the knowledge of the ATC and Air Operators personnel:

- a) *the MIDRMA include in its work programme regular missions to the Member States, during which briefings on the MIDRMA activities and RVSM safety assessment requirements be provided to concerned personnel; and*

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- 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.*

DRAFT CONCLUSION 11/8: VERTICAL COLLISION RISK SOFTWARE

That,

- a) *the MIDRMA initiate action for the development/purchase of a suitable VCR software for the MID Region; and*
- b) *the VCR Software be presented to and validated by the Second MID RVSM Safety Assessment Seminar, to be held in the last quarter of 2012.*

Height Keeping Monitoring Requirements

5.29 The meeting recalled Annex 6 provisions related to long term monitoring requirements for height keeping performance, applicable since 18 November 2010.

5.30 Based on the latest RVSM approval lists received from MID States, the following Table has been consolidated by the MIDRMA to show the minimum monitoring requirements for each of the MID States, as of November 2011:

**MID. STATES - RVSM ACFT MINIMUM MONITORING REQUIREMENTS
AS OF NOVEMBER 2011**

Seq. #	MID STATES	RVSM ACFTs	HAVE HMU OR GMU	NOT Covered	NOT Covered in %	ACFT MMR	Required MON in %	REMARKS
1	BAHRAIN	58	31	27	47%	12	21%	
2	EGYPT	128	89	39	30%	7	5%	
3	IRAN	123	74	0	0%	0	0%	Revised
4	IRAQ	14	0	14	100%	7	16%	
5	SAUDI ARABIA	260	109	151	58%	42	7%	
6	JORDAN	60	31	29	48%	14	20%	
7	KUWAIT	36	22	14	39%	2	20%	
8	LEBANON	33	29	4	12%	3	9%	
9	OMAN	30	15	1	3%	1	16%	Revised
10	QATAR	107	10	97	91%	4	8%	
11	SYRIAN	9	8	1	11%	1	9%	
12	UAE	328	258	70	21%	20	20%	Revised
13	YEMEN	12	5	7	58%	4	4%	
	TOTAL	1198	681	454	38%	117	10%	

5.31 The meeting noted with concern that 38% of the RVSM approved aircraft in the MID Region do not have known height monitoring results. It was recognized that big effort should be made to reach the world average of 90%. In this respect, 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. The meeting agreed also to include in the Regional Performance Framework Form (PFF) related to RVSM operations in the MID Region, a KPI on the

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percentage of the RVSM approved aircraft in the MID Region with known height-keeping monitoring results.

5.32 Based on the above, the meeting supported the following MIDRMA Board/11 Draft Conclusion, which is proposed to replace and supersede the MIDANPIRG/12 Conclusion 12/15:

DRAFT CONCLUSION 11/9: RVSM APPROVALS

That,

a) States be urged to take necessary measures to:

- i) ensure that, **before 30 June 2012**, their aircraft operators fully comply with Annex 6 provisions related to long term height monitoring requirements, based on the MIDRMA MMR Tables;*
- ii) withdraw the RVSM approvals for their registered aircraft that would not be compliant with Annex 6 provisions related to long term height monitoring requirements; **after 30 June 2012**;*
- 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.

5.33 The meeting agreed that a follow-up State Letter is to be issued by the ICAO MID Regional Office on the above subject, as soon as possible.

5.34 In connection with the above, the meeting noted that the issue of aircraft not reporting their own RVSM approval status based on the real flight plan information is a recognized problem by all Regional Monitoring Agencies in the world. In this respect, the meeting was informed that the Sixth meeting of the Regional Monitoring Agencies Coordination Group (RMACG/6) held in Cronwall, Canada, 6-10 June 2011 agreed to coordinate a global check of flight plans for verification of RVSM approvals, for the month of December 2011. Accordingly, the meeting invited all MIDRMA member States to provide the flight plans requesting entry to the RVSM airspace received for their respective FIRs for the month of December 2011. These flight plans are required to be submitted to the MIDRMA in electronic format (excel sheet or notepad format) for the agreed period 01/12/2011 until 31/12/2011.

5.35 States were invited also to send their latest RVSM approval lists on 1 December 2011 and on 31 December 2011 to the MIDRMA, which will send a reminder to all member States for updating their list before these dates.

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5.36 The meeting agreed that the results and findings concerning the MID Region and the results received from other RMAs should be presented to MIDANPIRG and concerned subsidiary bodies. It was agreed also that necessary measures should be taken against all “non-compliant” airline operators.

5.37 The meeting was apprised of the MIDRMA GMU activities. In this respect, it was noted with appreciation that from January 2010 to November 2011, the MIDRMA conducted GMU height monitoring for 83 Aircraft and it’s expected to conduct the GMU height monitoring for more than 130 aircraft in the near future.

5.38 In connection with the above, the meeting noted that based on the MIDRMA Board/10 Draft Conclusion 10/6, the MIDRMA ordered 2 GMU Units from the CSSI Company. However, the CSSI put a number of conditions that are not acceptable to the MIDRMA and its member States. Alternatively, after intensive coordination, CSSI agreed to lend the MIDRMA one GMU unit only to conduct GMU monitoring for the region, provided that CSSI processes the recorded data in their labs under the supervision of the FAA.

5.39 The meeting noted that the MIDRMA Team was provided the necessary training and was certified to conduct GMU height monitoring.

5.40 The meeting agreed, that as an alternate solution, the MIDRMA should sign the Service Agreement with CSSI for the use of 2 GMUs for height-keeping monitoring in the MID Region (with the condition that the processing of recorded data is done by CSSI). In addition, the meeting agreed that it became necessary to plan for the implementation of HMUs in the Region in order to be used for height-keeping monitoring. In this respect, the meeting recalled that MIDANPIRG/12, through Conclusion 12/17, endorsed the MID Region height-keeping monitoring Strategy. The meeting further reviewed the Strategy as updated by the MIDRMA Board/11 meeting and supported the proposed updates to the Strategy as at **Appendix 5D** to the Report on Agenda Item 5. Accordingly, the meeting supported the following MIDRMA Board/11 Draft Conclusion:

*DRAFT CONCLUSION 11/10: MID REGION HEIGHT-KEEPING MONITORING
STRATEGY*

*That, the MID Region height-keeping monitoring strategy is updated as at
Appendix 4C to the Report on Agenda Item 4.*

Action Plan for the development of the MID RVSM SMR 2013

5.41 Considering that a new VCR Model/Software will be used for the development of the SMR 2013, the meeting noted with appreciation that the Traffic Data Sample (TDS) which will be used will not require the provision of the aircraft registrations. Nevertheless, it was underlined that the TDS should be prepared using a special excel sheet Format and that any data received in a different format, or in an excel sheet different from the one available on the MIDRMA website, www.midrma.com, would not be acceptable.

5.42 Taking into consideration that MIDANPIRG/14 is tentatively scheduled for the fourth quarter of 2013, the meeting agreed that for the development of the SMR 2013, the TDS will be collected for the month of October 2012, which coincides with the Hajj season.

5.43 Therefore, the meeting agreed to the following Action Plan for the development of the MID RVSM SMR 2013:

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No.	Start	Activity	End
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.	31/10/2012
2	01/10/2012	Collect Bahrain and Kuwait SSR radar data for October 2012	31/10/2012
3	01/11/2012	Collect Amman SSR radar data for November 2012	15/11/2012
4	16/11/2012	Collect Muscat SSR radar data for November 2012	30/11/2012
5	01/12/2012	Collect Jeddah* SSR radar data for November 2012	15/12/2012
6	01/11/2012	Collect states TDS	31/01/2013
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
8	01/12/2012	Review and analyze all Large Height Deviation Reports.	Scrutiny Group meeting date
9	01/01/2013	Prepare New MID MMR for all MID Airline Operators.	31/01/2013
10	01/02/2013	MID RMA evaluation of technical risk	28/02/2013
11	01/03/2013	Calculations of all risk parameters	31/03/2013
12	01/04/2013	Production of draft SMR-2013/2014	30/04/2013

* Subject to Saudi Arabia approval and necessary coordination with the MIDRMA

5.44 Based on the above, the meeting supported the following MIDRMA Board/11 Draft Conclusion:

DRAFT CONCLUSION 11/11: MID RVSM SMR 2013

That,

- a) the FPL/traffic data for the period 1-31 October 2012 be used for the development of the MID RVSM Safety Monitoring Report (SMR 2013);*
- b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA; and*
- c) the draft version of the MID RVSM SMR 2013 be ready before 30 April 2013.*

Post RVSM implementation within Baghdad FIR

5.45 The meeting recalled that RVSM has been implemented in the Baghdad FIR since 10 March 2011. In this regard, it was highlighted that in accordance with the ICAO provisions, a post RVSM implementation Safety Report, covering the following seven items, should be developed after the operational application of RVSM:

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1. assurance that all aircraft operating in RVSM airspace are RVSM approved;
2. evidence that the RVSM approval process remains effective;
3. assessment to show that the Target Level of Safety (TLS) of 2.5×10^{-9} fatal accidents per aircraft flight hour continues to be met with a predetermined level of statistical confidence;
4. assessment to show that, with a predetermined level of statistical confidence, the introduction of RVSM does not increase the level of risk due to operational errors and in-flight contingencies;
5. determination that additional safety measures, introduced to reduce the risk as a result of operational errors and in-flight contingencies and to meet the overall safety objectives are effective;
6. provision of evidence that Altimetry System Error (ASE) stability exists; and
7. assurance that ATC procedures remain effective.

5.46 The meeting reviewed the Report on Safety of application of RVSM in the Baghdad FIR after 90 days of use, developed by the Iraqi Civil Aviation Authority.

5.47 The meeting noted the concerns raised by Iran, Jordan and Kuwait related to the communication problems with Baghdad ACC as well as the repetitive radar failures in Iraq, especially the Basra radar, which had a negative impact on the safety and efficiency of air navigation. In this respect, it was highlighted that in many cases (40% of the time), the situation imposed to revert back to 40NM or 10 min longitudinal separation instead of the agreed 20 NM longitudinal separation.

5.48 Based on the above, the meeting agreed that the ICAO MID Regional Office send a State Letter to Iraq on the subject, as soon as possible. The meeting agreed also that the MIDRMA develop the Safety Report on RVSM implementation in Baghdad FIR, in coordination with the Iraqi Civil Aviation Authority (ICAA) for presentation to MIDANPIRG/13. In this respect, it was agreed that Iraq be invited to a meeting with all the neighboring States, the MIDRMA and ICAO early 2012 in order to address the ATC coordination, communication and surveillance issues between Baghdad ACC and the neighboring ACCs and finalize the RVSM post-implementation safety case. In this respect, the meeting noted with appreciation the willingness of Jordan to host this meeting. Accordingly, the meeting agreed to the following Draft Conclusion:

**DRAFT CONCLUSION 12/4: BAGHDAD FIR POST RVSM IMPLEMENTATION
SPECIAL COORDINATION MEETING**

That,

- a) *Iraq be invited to a meeting with all the neighboring States, the MIDRMA and ICAO early 2012, in order to address the ATC coordination, communication and surveillance issues between Baghdad ACC and the neighboring ACCs and finalize the RVSM post-implementation safety case for presentation to MIDANPIRG/13; and*
- b) *ICAO and the MIDRMA coordinate with Jordan the hosting of this meeting.*

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5.49 The meeting was of the view that for an improved efficiency, it would good if the Baghdad FIR Post RVSM Implementation Coordination Meeting is held back-to-back with the ARN TF/5 meeting in February 2012.

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Appendix 5A to the Report on Agenda Item 5

Second Meeting of the MID RVSM Scrutiny Group

(Cairo, Egypt, 26 September 2011)

SUMMARY OF DISCUSSION

1. INTRODUCTION

1.1 The Second Meeting of the MID RVSM Scrutiny Group convened on 26th September 2011 in Cairo ICAO Middle East Office with representatives from 8 States (Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Saudi Arabia, and UAE) and was chaired by the MIDRMA.

2. DISCUSSION

2.1 The MIDRMA presented to the Scrutiny Group all Coordination Failure Reports (CFRs) and Altitude Deviation Reports (ADRs) received from all MIDRMA member states during the period of 1st July 2010 until 31st August 2011. A total of 37 Altitude Deviation Reports and 534 CFRs were submitted by the MIDRMA members. The extreme majority of the CFRs were reports of the transferring units fail to coordinate their traffic to the accepting units. The Scrutiny Group analyzed these reports and discussed their impact on the implementation of RVSM in the Middle East region and determined parameter values necessary for the collision risk estimation.

2.2 The MIDRMA raised their serious concern to the Scrutiny Group, concerning the lack of reporting Altitude Deviations and Coordination Failures by some of the MIDRMA member states, and also found it was unrealistic that a number of FIRs, that experience high volumes of traffic, continue to report NIL ADRs since 2007.

2.3 The ADR and CFR occurrences in the MID Region airspace are summarized as follows:

- a. Total number of ADRs received was 37 - deviation period = 14.92 minutes.
- b. Total number of CFRs received was 534 (50 were categorized as ADRs) – deviation period = 25.58 minutes.

Since July 2010 there have been a total of 40.5 minutes of Altitude Deviation occurrences.

2.4 The Scrutiny Group validated all essential ADRs and some CFRs which have a direct impact on the RVSM operations within the MID region. The following observations were addressed by the MIDRMA to all concerned states.

- 1- Bahrain scored the highest volume of traffic in the Middle East Region for the traffic sample data received for the SMR 2012. The airspace from North of the Qatari Peninsula to the North of Dammam continued to be the most congested and complex airspace in the Middle East Region. The waypoint BALUS, which is the FIR boundary point between Bahrain and Emirates FIRs, scored the highest volume of traffic, which makes it the busiest waypoint in the MID Region. Bahrain had already highlighted their serious concerns to the MIDRMA in the last SMR, regarding the need to establish a second FIR entry point, and another airway, to facilitate the transit of Westbound traffic entering the Bahrain FIR from the Emirates FIR, so as to reduce traffic congestion at BALUS, and to increase safety margins. The MIDRMA requested that Bahrain and Emirates find a quick solution that satisfies both parties, as soon as possible, to reduce the BALUS congestion, as the traffic level at this waypoint has reached an alarming level.

The vast majority of the CFRs received from Bahrain were concentrated at waypoints DETKO, RABAP, GIBUS, TAGSO and ULOVO. A considerable number of CFRs were also reported by Bahrain Southern sector, where a FLAS is implemented due to lack of Radar and VHF coverage. These CFRs required a careful review by Bahrain which has requested that solutions be found to reduce these CFRs, due to their serious impact on RVSM implementation.

- 2- The Scrutiny Group discussed one ADR and all the CFRs reported by Egypt, which were concentrated at waypoint DITAR which is an FIR boundary point between Cairo and Tripoli FIRs. Cairo ACC is still suffering a lot of problems with Tripoli ACC, and although there is radar coverage at this waypoint, it is still difficult to handle this traffic as there is often a lack of information on these flights inbound to the Cairo FIR.

The Egyptian representative advised also that no CFRs had been received against Khartoum and Larnaca FIRs for a long time, and requested that this issue be followed up with the Cairo ACC.

- 3- The I.R. of Iran representative raised concern regarding the ATC coordination problems with the Baghdad ACC, due to lack of adequate communication, and requested this be raised at the next ATM/SAR/AIS meeting. This issue is causing serious difficulties in handling traffic in Tehran ACC.

Tehran CFRs were concentrated at waypoint DARAX (common FIR boundary point with Emirates), DENDA (common FIR boundary point with Muscat) and JIWANI (common FIR boundary point with Karachi). The Scrutiny Group agreed that the I.R. of Iran should review the procedures for transferring traffic at these points with Muscat and Karachi ACCs, to reduce the amount of CFRs.

- 4- The CFRs reported by Amman ACC were concentrated at waypoint ZELAF (common FIR boundary point with Damascus). This point is one of the busiest points in the MID Region. As mentioned in the previous SMR, Damascus ACC is continuously transferring traffic to Amman ACC without coordination, or without revising already coordinated flight levels. Amman ACC is also facing a lot of problems at waypoint PASIP on Airway L200, where Baghdad ACC is transferring traffic without proper coordination or at flight levels that have not been approved by Amman ACC.

Jordan representatives raised also concern regarding the coordination with Baghdad ACC due to a lack of adequate communication links, which makes it very difficult and sometimes even very dangerous to manage traffic inbound to their airspace from the Baghdad FIR. The issue of lack of adequate communication links with Baghdad ACC was already addressed to Iraq ATM in the previous report, but the problems still exist. The Scrutiny Group requests that the ICAO Middle East Office intervene to address this issue to Iraq CAA. Direct communication lines should be available as soon as possible, and alternative suitable and reliable backup communication links with Amman, and all Baghdad FIR neighbors should also be established without delay.

- 5- Kuwait ACC sent CFRs for three months only, and all were regarding coordination failures with Baghdad ACC, due to the same communication problems suffered by the other FIRs surrounding the Baghdad FIR. Kuwait reported serious concern regarding the lack of adequate communication links with Baghdad ACC, and the continuous failures of the Baghdad radars, or the limited radar coverage, which causes an increase in the longitudinal separation minima required for aircraft entering Baghdad FIR, and an associated increase in the upstream controller's workload.

- 6- Lebanon is regularly sending CFRs and ADRs but always indicating NIL reports. Their representatives were questioned about the reasons for not receiving any CFR or ADR for more than four years and Lebanon representatives explained that they are not facing any problems with their neighboring FIRs, and they have a good system to prevent these failures from happening within the RVSM airspace.
- 7- The MIDRMA reported to the Scrutiny Group that Oman stopped sending CFRs and ADRs in April 2011. All the CFRs received before then were reflecting problems at waypoint JIWANI (the common FIR boundary point with Karachi) which was already addressed in the MID RVSM SMR 2010.
- 8- Syria is continuously sending CFRs and ADRs to the MIDRMA on a regular basis, but always with NIL reports. As there was no representative from Syria attending the Scrutiny Group meeting, it was not possible to discuss this issue, or the Amman ACC CFRs reported against Damascus.
- 9- All Jeddah/Riyadh ADRs and CFRs evaluated by the Scrutiny Group noted the continuous reporting of NIL ADRs for the SMR 2012 reporting period, which is reflecting an unrealistic picture of Jeddah/Riyadh FIRs which handle very busy traffic especially during the Haj period.

The majority of the CFRs reported by Riyadh/Jeddah ACCs were concentrated at waypoint SILKA which is the FIR boundary point between Cairo and Riyadh/Jeddah ACCs. Egypt representative advised that the main reason of the CFRs reported against Cairo ACC at this waypoint was due to a lack of enough direct communication lines between ATCOs in both ACCs. The only available communication line is for the ATCAs use and it is not suitable for effective and quick coordination between ATCOs.

Egypt and KSA representatives agreed to work together to install a second direct line between the two ACCs as soon as possible.

- 10- For the second consecutive reporting period, the Emirates CFRs and ADRs were found to be the best reported in the MID Region. The Scrutiny Group noted that the majority of the CFRs reported by Emirates were due to the failure of their neighboring FIRs to pass estimates or flight level revisions at waypoints GITEX (FIR boundary waypoint with Bahrain), LALDO (FIR boundary waypoint with Tehran), SODEX (FIR boundary waypoint with Muscat).
- 11- Yemen stopped to send ADRs and CFRs for eight months; the MIDRMA failed to contact the focal point in Sana'a for long time to submit their reports but the MIDRMA managed with ICAO intervention to establish contact again with the concerned parties in Sana'a and was able to receive all the missing data from them.

The MIDRMA didn't receive any deviation reports of unknown traffic over the Red Sea during this SMR reporting period, as there was no representative from Yemen attending the Scrutiny Group meeting, it was not possible to discuss this issue and to confirm if the occurrences of these deviations is still existing or not.

ATM/SAR/AIS SG/12
 Appendix 5B to the Report on Agenda Item 5



The information contained in this form is confidential and will be used for statistical safety analysis purposes only.

**MIDRMA F4
 LARGE HEIGHT DEVIATION FORM (LHD)**

Report to the MIDRMA of an altitude deviation of 300ft or more, including those due to TCAS, Turbulence and Contingency Events			
1. Today's date:	2. Reporting Unit:		
DEVIATION DETAILS			
3. Operator Name:	4. Call Sign: ACFT Registration Number:	5. Aircraft Type:	6. Mode C Displayed: <input type="checkbox"/> Yes. Which FL? _____ <input type="checkbox"/> No.
7. Date of Occurrence:	8. Time UTC:	9. Occurrence Position (lat/long or Fix):	
10. Cleared Route of Flight:			
11. Cleared Flight Level:	12. Estimated Duration at Incorrect Flight Level (seconds):	13. Observed Deviation (+/- ft):	
14. Other Traffic Involved:			
15. Cause of Deviation (<i>brief title</i>): (Examples: ATC Loop Error, Turbulence, Weather, Equipment Failure)			
AFTER DEVIATION IS RESTORED			
16. Observed/Reported Final Flight Level*: *Please indicate the source of information: <input type="checkbox"/> Mode C <input type="checkbox"/> Pilot	Mark the appropriate Box 17. Is the FL above the cleared level: <input type="checkbox"/> 18. Is the FL below the cleared level: <input type="checkbox"/>	19. Did this FL comply with the ICAO Annex 2 Tables of Cruising Levels? <input type="checkbox"/> Yes <input type="checkbox"/> No	
NARRATIVE			
20. Detailed Description of Deviation <i>(Please give your assessment of the actual track flown by the aircraft and the cause of the deviation.)</i>			
21 - CREW COMMENTS (IF ANY)			

When complete please forward the report(s) to:
 MIDRMA
 Tel: +973 17 329054
 Fax: +973 17 329956
 Email – midrma@midrma.com
 P.O.BOX 50468

ATM/SAR/AIS SG/12
 Appendix 5C to the Report on Agenda Item 5

HEIGHT DEVIATION TAXONOMY

Code	LHD Cause
<i>Operational Errors</i>	
A	<p>Flight crew failing to climb/descend the aircraft as cleared</p> <p><i>Example: Aircraft A was at FL300 and assigned FL360. A CLAM alert was seen as the aircraft passed FL364. The Mode C level reached FL365 before descending back to FL360.</i></p>
B	<p>Flight crew climbing/descending without ATC Clearance</p> <p><i>Example: At 0648, Aircraft A reported leaving cruise level FL340. The last level clearance was coincident with STAR issue at 0623, when the flight was instructed to maintain FL340. ATC was applying vertical separation between Aircraft A and two other flights. The timing of the descent was such that Aircraft A had become clear of the first conflicting aircraft and there was sufficient time to apply positive separation with the other.</i></p>
C	<p>Incorrect operation or interpretation of airborne equipment (e.g. incorrect operation of fully functional FMS, incorrect transcription of ATC clearance or re-clearance, flight plan followed rather than ATC clearance, original clearance followed instead of re-clearance etc)</p> <p><i>Example: The aircraft was maintaining a flight level below the assigned altitude. The altimeters had not been reset at transition. The FL assigned was 350. The aircraft was maintaining FL346 for in excess of 4 minutes.</i></p>
D	<p>ATC system loop error; (e.g. ATC issues incorrect clearance or flight crew misunderstands clearance message. Includes situations where ATC delivery of operational information, including as the result of hear back and/or read back errors, is absent, delayed, incorrect or incomplete, and may result in a loss of separation.)</p> <p><i>Example: All communications between ATC and aircraft are by HF third party voice relay. Aircraft 1 was maintaining FL360 and requested FL380. A clearance to FL370 was issued, with an expectation for higher levels at a later point. A clearance was then issued to Aircraft 2 to climb to FL390, this was correctly read back by the HF operator, but was issued to Aircraft 1. The error was detected when Aircraft 1 reported maintaining FL390.</i></p>
E	<p>Coordination errors in the ATC to ATC transfer or control responsibility as a result of human factors issues (e.g. late or non-existent coordination, incorrect time estimate/actual, flight level, ATS route etc not in accordance with agreed parameters)</p> <p><i>Example 1: Sector A coordinated Aircraft 1 to Sector B at FL380. The aircraft was actually at FL400.</i></p>

Code	LHD Cause
<i>Operational Errors</i>	
	<i>Example 2: The Sector A controller received coordination on Aircraft 1 for Waypoint X at FL370 from Sector B. At 0504 Aircraft 1 was at Waypoint X at FL350 requesting FL370.</i>
F	<p>Coordination errors in the ATC to ATC transfer or control responsibility as a result of equipment outage or technical issues</p> <p><i>Example: Controller in FIR A attempts to send AIDC message to coordinate transfer of aircraft at FL320. Messaging unsuccessful and attempts to contact adjacent FIR by telephone fail. Aircraft contacts adjacent FIR without coordination being completed.</i></p>
<i>Aircraft Contingency Events</i>	
G	<p>Deviation due to aircraft contingency event leading to sudden inability to maintain assigned flight level (e.g. pressurization failure, engine failure)</p> <p><i>Example: Aircraft 1 descended from F400 to F300 with a pressurisation issue.</i></p>
H	<p>Deviation due to airborne equipment failure leading to unintentional or undetected change of flight level</p> <p><i>Example: Aircraft 1 cruising at FL380. ATC receives alert indicating aircraft climbing through FL383. Flight crew advises attempting to regain cleared level with autopilot and navigation system failure.</i></p>
<i>Deviation due to Meteorological Condition</i>	
I	<p>Deviation due to turbulence or other weather related cause</p> <p><i>Example: During the cruise at F400, the aircraft encountered severe turbulence, resulting the aircraft descending 1,000 ft without a clearance.</i></p>
<i>Deviation due to TCAS RA</i>	
J	<p>Deviation due to TCAS resolution advisory, flight crew correctly following the resolution advisory</p> <p><i>Example: Aircraft 1 was cruising at FL350. Flight crew received "Traffic Alert" from TCAS and almost immediately after an "RA Climb" instruction. Flight crew responded and climbed Aircraft 1 to approx FL353 to comply with TCAS instruction. TCAS display indicated that opposite direction Aircraft 2 descended to approx FL345 and passed below Aircraft 1.</i></p>
K	<p>Deviation due to TCAS resolution advisory, flight crew incorrectly following the resolution advisory.</p>
<i>Other</i>	
L	<p>An aircraft being provided with RVSM separation is not RVSM approved (e.g. flight plan indicating RVSM approval but aircraft not approved, ATC misinterpretation of flight plan)</p>

Code	LHD Cause
<i>Operational Errors</i>	
	<p><i>Example 1: Original flight plan details submitted by FIR A for outbound leg showed Aircraft 1 as negative RVSM. Subsequent flight plan submitted by FIR B showed Aircraft 1 as RVSM approved. FIR A controller checked with aircraft shortly after entering FIR A and pilot confirmed negative RVSM.</i></p> <p><i>Example 2: Aircraft 2 cruising FL310 was handed off to the Sector X controller who noticed the label of Aircraft 2 indicated RVSM approval. The Sector X controller had controlled the aircraft the day before. It was then a non-RVSM aircraft. The controller queried the status of Aircraft 2 with the pilot who advised the aircraft was negative RVSM.</i></p>
M	<p><i>Other – this includes situations where:</i></p> <ul style="list-style-type: none"> <i>i) There has been a failure to establish or maintain a separation standard between aircraft; or</i> <i>ii) Where flights are operating (including climbing/descending) in airspace where flight crews are unable to establish normal air-ground communications with the responsible ATS unit.</i> <p><i>Example 1: Aircraft 1 cruising at FL350. At time xxxx Aircraft 1 advised “Negative RVSM” due equipment failure. At that time Aircraft 2 on converging reciprocal track FL360 less than 10 minutes prior to time of passing.</i></p>

MID REGION HEIGHT-KEEPING MONITORING STRATEGY

Considering:

- a) The status of implementation of RVSM in the MID Region;
- b) the ICAO requirements for height-keeping monitoring contained in Annex 6, Annex 11, ~~and~~ Doc 9574 (RVSM Manual) ~~and~~ Doc 9937;
- c) the duties and responsibilities of the MIDRMA; and
- d) the sustained need for height-keeping monitoring of aircraft operating within the MID RVSM airspace;

Recognizing:

- i) that an important number of Middle East region aircraft do not have known monitoring results; and
- ii) the necessity to develop a MID Region Height monitoring infrastructure;

Agreed:

That the MID Region height-keeping monitoring Strategy is as described below:

1) Short Term (2011-2014):

- States to follow up with concerned aircraft operators to carry out necessary height keeping monitoring for the aircraft identified by the MIDRMA; and
- States encountering difficulties to get the necessary height monitoring results to coordinate with the MIDRMA for the conduct of GPS Monitoring Unit (GMU) monitoring for the identified operators' aircraft.

2) Medium and Long Term (2014 – 2020) :

- ~~– the MIDRMA to conduct GMU Monitoring in the MID Region with self-sufficiency capability (acquisition of necessary hardware, software, training, etc);~~
- ~~– MIDRMA continue to conduct GMU monitoring for identified operators' aircraft, as required.~~
- the use of the Bahraini and Omani Multi-lateration-based Height Monitoring Units (HMUs), or any other HMU that becomes available in the MID Region, as a ~~possible~~ means of conducting height-keeping monitoring; and
- the ~~possibility of use of ing~~ a MID Region HMU infrastructure as the main mean of height-keeping monitoring in the Region, ~~if supported by a feasibility study and business case and when decided by the MIDRMA Board to go ahead with such an important project.~~

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Report on Agenda Item 6

REPORT ON AGENDA ITEM 6: SSR CODE ALLOCATION PLAN (CAP) FOR THE MID REGION

6.1 The meeting recalled that when considering the Originating Region Code Assignment Method (ORCAM), the SSRCA SG agreed that data related to MID Region traffic patterns and volume, Flight Data Processing Systems' (FDPS) capabilities and requirements in adjacent ICAO Regions, was necessary in order to reach a decision on the number of the PAs and codes allocated to each PA.

6.2 The meeting noted that MIDANPIRG/12 urged MID States to identify and address inefficiencies in the current ORCAM structure before adopting an alternate structure in order to overcome the SSR code shortage.

6.3 The meeting was apprised of the outcome of the SSRCA SG/4 meeting (Cairo, Egypt, 14-15 September 2011). The meeting noted that the SSRCA SG/4 meeting reviewed the study carried out by EUROCONTROL on the MID Regional traffic patterns for the month of June 2009. The following recommendations were highlighted:

- a) the results of the study does not require an immediate split of the MID PA into multiple ones for the short and medium term; and
- b) should there be a need to split the MID PA for the medium and long term, then two PAs should be implemented in accordance with option 1 presented to the SSRCA SG/3 meeting.

6.4 The meeting endorsed the Strategy on SSR Code allocation at **Appendix 6A** to the Report on Agenda Item 6, as reviewed and updated by the SSRCA SG/4 meeting and accordingly agreed to the following Draft Conclusion:

DRAFT CONCLUSION 12/5: MID STRATEGY ON SSR CODE ALLOCATION

*That, the MID Region Strategy on SSR Code Allocation be updated as at **Appendix 6A** to the Report on Agenda Item 6.*

6.5 The meeting noted that States were encouraged to use the guidelines related to the "Criteria used to determine the required number of SSR Codes in the MID Region" at **Appendix 6B** to the Report on Agenda Item 6, for determining the number of SSR codes that States require for meeting operational requirements.

6.6 The meeting noted that based on the replies received from 7 States (Bahrain, Egypt, Iran, Iraq, Jordan, Oman and Saudi Arabia) related to the questionnaire concerning the number of SSR Codes required and FDPS Functionalities, issued by the ICAO MID Regional Office, the SSRCA SG/4 meeting developed the "Draft MID SSR Code Management Plan (MID CMP) document" as at **Appendix 6C** to the Report on Agenda Item 6.

6.7 The meeting noted that the Draft MID CMP was missing the SSR Code allocation list for the MID Region, which was developed, further to the SSR CA SG/4 meeting, by the Secretariat in coordination with EUROCONTROL as at **Appendix 6D** to the Report on Agenda Item 6. In this respect, it was highlighted that during the coordination process with EUROCONTROL, it was identified that the following SSR Codes in the transit series were conflicting between the EUR and

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MID Regions: 06, 11, 21, 23, 25, 27, 30, 35, 37, 41, 60, 61, 66, 71. It was noted with appreciation that this issue has been resolved through the development of the updated SSR Code allocation list for the MID Region.

6.8 Based on the above, the meeting urged MID States to provide updates and comments on the Draft MID CMP and the SSR Code Allocation List to the ICAO MID Regional Office before 31 January 2012, for presentation of an updated version to MIDANPIRG/13 for endorsement.

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

DRAFT CONCLUSION 12/6: DRAFT MID CODE MANAGEMENT PLAN (CMP)

That, MID States:

- a) review the Draft MID SSR Code Management Plan (CMP) and the SSR Code allocation list at **Appendices 6C and 6D** to the Report on Agenda Item 6; and*
- b) provide their updates and comments to the ICAO MID Regional Office before **31 January 2012**, for presentation of an updated version of the MID SSR Code Management Plan (CMP) to MIDANPIRG/13 for endorsement.*

6.10 The meeting noted that the SSRCA SG/4 meeting developed a request form for a temporary assignment of SSR Codes required for seasonal high traffic activities and intensive Military exercise requirements as at **Appendix 6E** to the Report on Agenda Item 6.

6.11 The meeting was of the view that the SSRCA Study Group has completed its work programme and accordingly, agreed to dissolve the SSRCA SG and include the remaining SSRCA issues in the work programme of the ATM/SAR/AIS SG.

6.12 Based on the above, the meeting agreed the following Draft Decision:

DRAFT DECISION 12/7: DISSOLUTION OF THE SSRCA SG

That, recognizing that the SSRCA SG has completed its work programme, the SSRCA SG is dissolved.

REVISED MID STRATEGY FOR SSR CODE ALLOCATION ISSUES

1) Medium Term Until 2020

- a) transmission of EST and ABI be deferred until necessary – and no more than 30 minutes prior to ETO for the applicable COP;
- b) “Super-domestic” code allocation be introduced through bilateral measures (LOAs) where necessary to make use of Domestic codes to supplement Transit codes;
- c) codes should be assigned in a manner ensuring that the earliest available codes are reassigned first rather than using the assignment in numerical order;
- d) adopt the approach of “code sharing” between FIRs that are geographically adequately disparate and where directional assignment of SSR codes makes “code sharing” practical; and
- e) expedite the implementation of Mode S and/or ADS-B Surveillance to cater for the SSRCA long term measures for MID Region SSR code allocation.

2) Long Term

- a) consider the implementation of Two (2) ORCAM Participating Areas (PA); and
- b) consider the setup of a centralized SSR Code Allocation System.

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 Appendix 6B to the Report on Agenda Item 6

CRITERIA TO BE USED TO DETERMINE THE REQUIRED NUMBER OF SSR CODES IN THE MID REGION

The objective of the SSR Code Allocation List is to enhance safety by providing the means to ensure unambiguous correlation between an SSR return and a flight plan. Multiple correlations can lead to mis-identification which in turn can lead to increased risk of interception or of ATC providing erroneous ATC instructions to an aircraft.

The guidelines shown below were drawn up based on the requirements of the Originating Region Code Assignment Method (ORCAM), which was adopted by MIDANPIRG/12 when it endorsed the MID Strategy on SSR Code Allocation Issues, (MIDANPIRG Conclusion 12/21 refers), in order to assist States to determine the number of SSR codes that they require to meet duly justified operational requirements. The guidelines are in consistent with the provisions of PANS ATM (Doc 4444) Chapter 8 paragraph 8.5.2.

INTERNATIONAL TRANSIT CODES

Explanation

Remarks

<p>The number of codes required should be limited to the average number of traffic movements plus 20% to cover peaks.</p>	<p>To determine the number of transit codes each State requires, it is necessary to determine how many aircraft would require a code at any one time. This number can be determined by looking at the mean number, taking account of the retention time (two hrs) plus a suitable buffer for peaks. This is in line with ORCAM and ICAO PANS ATM provisions¹.</p>	
<p>The number of transit codes required should be based on the four following factors:</p> <ol style="list-style-type: none"> 1) The mean hourly number of aircraft entering the MID PA; and 2) The mean hourly number of international traffic departing all aerodromes within the PA; and 3) An allowance shall be made to take account of the two hour recycling value, as agreed in the strategy; and 4) The actual number of codes required would then be calculated based on 1), 2) and 3) above and a safety buffer of [<i>parameter</i> 	<p>This is based on the requirements of ORCAM (cf footnote 1)</p>	

1 In establishing the number and series of transit codes account is taken of the air traffic flows and main sources of transit traffic in the MID Region and likely trends and can be derived from the total number of aircraft requiring assignment of a specific code during the busiest period of activity of that ATC Unit, taking into account a “protection period” after which any specific code assigned to an aircraft by an ATC Unit is normally available for reuse.

value] of codes should be added.

INTERNATIONAL TRANSIT CODES

No codes should be permanently assigned to an airframe, to an individual or to a squadron.

No codes should be assigned based on the day of the week.

All codes have to be re-usable within a [*parameter time*] of the aircraft landing or of it leaving the Area of Responsibility (AOR) or the PA.

The first ACC in the MID PA shall assign a transit code if the aircraft will continue beyond the limits of the ACC's boundary. The same code will be retained until the aircraft lands within the MID PA or exits the PA.

If the aircraft lands within the limits of the first ACC, then a domestic code shall be assigned. This permits a faster re-cycling of the codes.

Explanation	Remarks
Example: Aircraft registration xyz (civil or military) would be assigned code 3441. This is against the very principles of ORCAM ² itself.	
Example: All aircraft operating on Wednesday would be assigned codes from block 3400 whereas Tuesday would get 3100 etc. This is against the very principles of ORCAM ¹ itself.	
This is a requirement of ORCAM and of the MID Strategy itself which stipulates two hours.	
This is a requirement of the ORCAM and of the PANS ATM ³ .	

² Permanent code assignments and allocations based on the aircraft callsign, control position or any other systematic distinguishing features cannot be accepted because of the wasteful effects on the efficiency in use of codes required.

³ to reduce pilot/controller workload and the need for communications, the number of code changes required shall be kept to the minimum

DOMESTIC CODES	Explanation	Remarks
<p>The number of codes required should be limited to the average number of traffic movements plus 20% to cover peaks.</p>	<p>To determine the number of transit codes each State requires, it is necessary to determine how many aircraft would require a code at any one time. This number can be determined by looking at the mean number, taking account of the retention time (two hrs) plus a suitable buffer for peaks. This is in line with ORCAM and ICAO PANS ATM provisions¹.</p>	
<p>The total number of domestic codes shall be based on 75% of all State military aircraft and 50 % of all civil registered aircraft on the State Registry.</p> <p><i>(Note: The 50% assumes an even split between commercial and non-commercial aircraft and takes account of the transit codes)</i></p>	<p>The numbers were chosen based on the ORCAM requirement that operational needs should determine the number of codes available. It is assumed that not more than 75% of all military assets would require an SSR simultaneously. This is considered a very conservative estimate.</p> <p>As for civilian aircraft. Most would be operating on transit codes therefore the 50% would appear a conservative estimate of the number of domestic codes required simultaneously to meet the requirements of the entire aircraft population.</p>	
<p>No codes should be permanently assigned to an airframe, to an individual or to a squadron.</p>	<p>Example: Aircraft registration xyz (civil or military) would be assigned code 3441. This is against the very principles of ORCAM itself².</p>	
<p>No codes should be assigned based on the day of the week.</p>	<p>Example: All aircraft operating on Wednesday would be assigned codes from block 3400 whereas Tuesday would get 3100 etc. This is against the very principles of ORCAM¹ itself².</p>	
<p>All codes have to be re-usable within a [parameter time] of the aircraft landing or of it leaving the Area of Responsibility (AOR) or the PA.</p>	<p>This is a requirement of ORCAM and of the MID Startegy.</p>	

MID REGION COOEPRATIVE CODES	Explanation	Remarks
<p>A pool of codes would be retained by the ICAO MID Regional Office to assist States to accommodate temporary large scale military exercises, for contingencies or for specific requirements made by a State.</p> <p>The codes would be allocated for the duration required and then returned to the MID Regional Office for re-use.</p> <p>An underlying objective of the Code Management Plan is NOT to allocate all available codes but only a sufficient number so that States can provide services without any difficulties or risk of duplication. Achieving this objective will permit the Region to meet the expected increase in the demand for codes in the future in a harmonious fashion without causing unnecessary problems.</p>	<p>The ICAO MID Regional Office would retain a pool of x numbers of unique SSR codes that it could allocate to a State or a group of States on a temporary basis in order to carry out military exercises or to implement contingency measures. When the exercise or contingency was terminated, the SSR codes would be returned to the ICAO MID Regional Office pool.</p> <p>This is in line with the ORCAM objective of maximizing the efficient use of SSR codes. Rather than freeze a large chunk of codes for occasional use, these codes would be made available a permanent basis subject to some which will be finalized with the States of the Region.</p> <p>In accordance with PANS ATM paragraph 8.5.2.3, some codes will be retained by the ICAO MID Regional Office to support humanitarian operations.</p>	

MID xxx

INTERNATIONAL CIVIL AVIATION ORGANIZATION



MIDDLE EAST SECONDARY SURVEILLANCE RADAR (SSR) CODE MANAGEMENT PLAN

- First Edition -

2011

THE DESIGNATIONS 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 OF ITS AUTHORITIES, OR CONCERNING THE DELIMITATION OF ITS FRONTIERS OR BOUNDARIES.

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1 SCOPE

1.1 RELATIONSHIP TO MID AIR NAVIGATION PLAN (DOC 9708)

- 1.1.1 The *Middle East Secondary Surveillance Radar Code Management Plan* (MID Doc xx) has been produced on behalf of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG).
- 1.1.2 The purpose of MID Doc xx is to detail the requirements to be met by the States of the ICAO Middle East (MID) Region in order to comply with the provisions of the *Middle East Basic Air Navigation Plan* (MID ANP) (Doc 9708, Volume I) and the *Middle East Facilities and Services Implementation Document* (MID FASID) (Doc 9708, Volume II) as they pertain the management of Secondary Surveillance Radar (SSR) codes in the ICAO MID Region. This document incorporates text that currently comprises **Attachments x** and **y** to the MID FASID along with new material to document the management of the regional SSR Code pool.
- 1.1.3 The technical requirements and associated procedures may also be adopted by States in adjoining ICAO Regions which elect to participate in the Originating Region Code Assignment Methodology (ORCAM) for the management of SSR codes.
- 1.1.4 All references to SSR Codes in MID Doc xx are confined to Mode 3/A. The use and allocation of Mode S Interrogator Codes is covered by Appendix A to the MID FASID.

2 DEFINITIONS AND ABBREVIATIONS

2.1 DEFINITIONS

Assigned Secondary Surveillance Radar code (ASSR)	The SSR code assigned by an ATS Unit (ATSU) to a departing aircraft or to an aircraft entering the airspace of the ATSU. <i>Note: In cases where the Previous Secondary Surveillance Radar code (PSSR) can be retained, PSSR and ASSR can be the same code</i>
(SSR) Code	The number assigned to a particular multiple pulse reply signal transmitted by a transponder in Mode A or Mode C.
Code allocation	The distribution of SSR Codes to a State, unit or service.
Code assignment	The distribution of SSR codes to aircraft.
Code block	A continuous series of four-digit codes from the same code series.
Code series	A group of 64 four-digit codes having the same first two digits.
Direction of flight	The direction shall be defined as a combination of one or more: a) exit points or receiving Areas of Responsibility (AOR); and b) destinations (defined by the first, the first two, the first three or all four letters of an ICAO location indicator).
Directional assignment	Assignment of an SSR code based on the direction of the flight.
Discrete code	A four-digit code with the last two digits not being “00”.
Domestic code	A code allocated to a specific AOR for use by designated ATC unit(s) within that AOR or, subject to certain conditions, across AOR boundaries.
Expectation window	A window of variable size around a 4D position, defined by flight plan information, at which a flight is expected to enter the AOR.
Four-digit code	An SSR identity code containing combinations of A, B, C and D pulses (any reply generated by a 4096-code transponder where the digits fall in the range 0-7).
Geographical correlation	Correlation of a flight with its flight plan using the geographical position of the flight by means of “Expectation Windows” in cases where the SSR code is already in use by one or more other flights within the same AOR.
Mode S Conspicuity Code	In order to maximise SSR code savings through Mode S Elementary Surveillance (ELS), all aircraft identified via the downlinked Aircraft Identification (ACID) use the same SSR code, the Mode S Conspicuity Code A1000.
Octal block	A block of 8 four-digit codes from the Same Series and having the first three digits common. They may be identified by indicating their third digit when referring to the Code Series e.g. Codes 0010-0017 may be referred to as Codes 00(1).
Participating area (PA)	An area of specified dimensions comprising the areas of ATS unit responsibility of one or more States.
Previous Secondary Surveillance Radar code (PSSR)	The SSR code transmitted by an aircraft when entering the airspace of an ATSU or when being transferred by the transferring unit. <i>Note: In cases where the PSSR can be retained, PSSR and ASSR can be the same code.</i>

Simultaneous code use	Assignment of an SSR code, which is already in use within the same AOR, to an aircraft in accordance with procedures which ensure that the two aircraft will be exiting the AOR in opposite or nearly opposite directions.
Retention of an SSR code	Accepting an aircraft from the transferring unit without changing the SSR code. A code can be retained if no other aircraft within the AOR uses the same code and if the retention of the code is in accordance with the Code Allocation List (CAL).
Transit code	A code allocated to a State for a specified ACC for assignment to an aircraft engaged in transit flights within the originating PA or, subject to certain conditions, to specified locations in succeeding PAs.

2.2 ABBREVIATIONS

ABI	Advance Boundary Information
ACID	Aircraft Identification
ADEP	Aerodrome of Departure
ADES	Aerodrome of Destination
AOR	Area of Responsibility
ASSR	Assigned Secondary Surveillance Radar code
ATC	Air Traffic Control
ATS	Air Traffic Services
ATSU	Air Traffic Services Unit
CAL	Code Allocation List for the Middle East Region
CMP	Code Management Plan
COD	SSR Code Assignment Message
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group
ELS	Elementary Surveillance
FDPS	Flight Data Processing System
FIR	Flight Information Region
NM	Nautical Mile
ORCAM	Originating Region Code Assignment Method
PA	Participating Area
PSSR	Previous Secondary Surveillance Radar code
RDPS	Radar Data Processing System
SSR	Secondary Surveillance Radar
VSP	Variable System Parameter

3 INTRODUCTION

3.1 OBJECTIVES OF THE MIDDLE EAST SSR CODE MANAGEMENT PLAN

- 3.1.1 The Middle East SSR Code Management Plan (MID SSR CMP) has been established to provide States in the ICAO MID Region with means to coordinate the use of SSR codes based on the principles of the Originating Region Code Assignment Method (ORCAM), which provides for the most efficient and economical use of codes.
- 3.1.2 The MID SSR CMP will foster the implementation of ORCAM which will ultimately allow for an assigned discrete code which would, whenever possible, be retained throughout the flight.
- 3.1.3 For the development of automated SSR code assignment systems, reference should be made to Paragraph 6 below.
- 3.1.4 On the basis of the above, a detailed Code Allocation List (CAL) for the MID Region Participating Area (PA) and certain adjacent areas was developed. The CAL is maintained by the ICAO MID Regional Office as a Supplement to MID Doc 9708.
- 3.1.5 The agreed allocation of SSR codes to States and ATS units are documented in Part A of the CAL. The detailed listing of codes serving both transit and domestic purposes is shown in Part B of the CAL. The CAL is at **Attachment x** to the MID FASID, Part IV.

3.2 GENERAL PRINCIPLES TO MEET THE OBJECTIVES

- 3.2.1 The detailed principles governing the use of SSR codes in the MID Region are based on the following general principles which are provided by or are complementary to the worldwide provisions detailed in *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444), Chapter 8:
- a) codes shall be allocated to States in accordance with regional air navigation agreements, taking into account overlapping radar coverage over adjacent airspace;
 - b) codes are allocated to Air Traffic Services Units (ATSU) on the basis of duly justified operational requirements; their number is primarily established by taking into account the number of aircraft to be handled simultaneously and the system capabilities;
 - c) the appropriate ATS authority shall establish a plan and procedures for the allocation of codes to ATSUs;
 - d) the plan and procedures for the allocation of codes to ATSUs shall be compatible with those practised in adjacent States;
 - e) codes shall be assigned to aircraft in accordance with the plan and procedures laid down by the appropriate ATS authority;
 - f) whenever there is a need for individual aircraft identification, each aircraft shall be assigned a discrete code which should, whenever possible, be retained throughout the flight;
 - g) the assignment of a code should preclude the use of this code for any other function within the area of coverage of the same SSR for a prescribed time period; and
 - h) to reduce pilot/controller workload and the need for communications, the number of code changes required shall be kept to the minimum.
- 3.2.2 SSR codes should be used for ATS purposes only.

- 3.2.3 Code allocations are expressed in terms of complete code series or specified parts thereof. In special cases, such requirements may even cover designated discrete codes.
- 3.2.4 Codes intended to be used for transit purposes are allocated to States for use by specified ATSU's within the MID PA. Where provided for in the *Middle East SSR Code Management Plan* and under clearly defined circumstances, such codes may also be designated for use across PA boundaries.
- 3.2.5 Codes intended to be used for domestic purposes are allocated to States for use by specified ATSU's requiring limited geographical protection for such codes. Where provided for in the MID SSR CMP and under clearly defined circumstances, such codes may also be designated for use across national boundaries.

3.3 MONITORING OF THE PLAN

- 3.3.1 Provisions regarding the progressive implementation and monitoring of the MID SSR CMP have been agreed by the MIDANPIRG. In this connection, the management of the MID SSR CMP is exercised by the ICAO MID Regional Office. States expecting to introduce or change SSR facilities are requested to advise the ICAO MID Regional Office at least six months in advance, in order to provide sufficient time to carry out any necessary coordination.
- 3.3.2 To be effective, the MID SSR CMP must be kept up to date. While its contents will be reviewed regularly, it is the responsibility of all States to inform the ICAO MID Regional Office promptly of any variations proposed or considered necessary with respect to their code allocations, relevant to ATS infrastructure developments and/or the guidance material provided in the MID SSR CMP.
- 3.3.3 In order to serve their purposes it is imperative that the MID SSR CMP and the CAL are kept up to date. States are therefore required to inform the MID Office of ICAO promptly of any requests for changes, additions or deletions in regard to the use of specific codes, as follows:

ICAO MID Regional Office

Subject: SSR Code Management
E-mail:
icaomid@cairo.icao.int
Fax: +2 (02) 22674843

4 PERMANENT CODE DISTRIBUTION AND CATEGORIES

4.1 DISTRIBUTION OF CODES

- 4.1.1 Certain codes are reserved for special purposes on a worldwide scale or have been put in a common pool for use in the MID Region. The remaining code series for use in the ICAO MID Region are divided into two distinct types: transit codes and domestic codes. Both domestic and transit codes may be used as directionally assigned codes beyond their normal application under clearly defined and published circumstances, and appropriately coordinated through ORCAM.
- 4.1.2 The number of codes used for transit purposes has to take account of the extended geographical protection required, in order to reduce to a minimum the chances of confusion between the identities of two different aircraft assigned with the same discrete code. The MIDANPIRG has agreed that the retention time should normally be two hours.

4.1.3 The number of codes used for domestic purposes can be kept relatively small as they may be repeated within the same State or they can be used by other States provided a buffer is established. In some cases, by agreement, they can be used across national boundaries.

4.1.4 Furthermore, the allocation possibilities can be increased significantly by dividing specific code series into smaller contiguous codes. When this method is used for transit flights bilateral agreement may be required.

4.2 SPECIAL PURPOSE CODES

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

Series 00 Code 0000 is available as a general purpose code for domestic use by any of the following States:

Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.

Series 10 Code 1000 reserved for use as a conspicuity code for Mode S

Series 20 Code 2000 shall be used by flight crews in the absence of any Air Traffic Control (ATC) instructions or regional agreements unless the conditions for the use of codes: 7000,7500, 7600 and 7700 apply.

Series 70 Code 7000 shall be used by flight crews not receiving ATS service in order to improve detection of suitably equipped aircraft in areas specified by States, unless otherwise instructed by ATS.

Series 75 Code 7500 is reserved for use in the event of unlawful interference.

Series 76 Code 7600 is reserved for use in the event of radio communications failure.

Series 77 Code 7700 is reserved for use in the event of emergencies and interception*. Code 7776 and Code 7777 are reserved for SSR ground transponder monitoring.

Codes 7601-7612 Are reserved for humanitarian flights.

Common SSR Code Pool The following code blocks have been reserved for tactical allocation to States on a temporary basis to support large scale activities:
To be added

4.2.2 Discrete codes in the series 00 are allocated to States for use for domestic purposes. States in the MID Region are generally allocated two octal blocks of four-digit codes per State in such a manner that code duplication is avoided at FIR boundaries. The allocation of octal blocks is shown in the CAL.

*Note.— The word “interception” in this context does not include intercept and escort service provided, on request, to an aircraft in distress, in accordance with Volumes II and III of the International Aeronautical and Maritime Search and Rescue Manual (Doc 9731).

4.3 TRANSIT CODES

4.3.1 Transit codes are allocated for assignment to transit flights. Aircraft will retain the assigned code within the geographical limits of the MID PA or, in the case of an agreement between States concerned, across the PA boundary.

4.3.2 The allocation of transit codes in the MID Region is based on one PA¹ which has been determined on the basis of the flow of air traffic in the region. It is shown on the Chart at **Appendix A** and includes the following States:

PA MID Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.

4.3.3 Transit codes shall be assigned in accordance with the following principles:

- a) when an aircraft enters the MID PA (either on departure or in flight), it will be assigned a discrete code by the first ATSU concerned at a Variable System Parameter (VSP) of not less than 30 minutes prior to activation of the flight entering the MID PA or when departing, upon ATC clearance delivery or at start up, whichever is later;
- b) each aircraft will keep the original code assigned on entering the MID PA for the entire flight within the PA. Appropriate code protection criteria have to be applied in order to avoid duplication by too early reassignment of the same code. Efforts should be made to reduce the “protection period” while retaining adequate protection. It has been agreed that the normal retention value shall be two hours; and
- c) a code change will be required at the time an aircraft crosses the MID PA boundary, unless special provision has been made for retention beyond the PA boundary.

4.3.4 In establishing the number and series of transit codes for both omni-directional and directional application, account is taken of the following factors:

- a) the air traffic flows and main sources of transit traffic in the MID Region and likely trends;
- b) the requirement for code series for a given ATC Unit. This requirement is derived from the total number of aircraft requiring assignment of a specific code during the busiest period of activity of that ATC Unit, taking into account a “protection period” after which any specific code assigned to an aircraft by an ATC Unit is normally available for reuse; and
- c) the assignment of a specific code to an aircraft is ideally made, as late as possible before take-off, normally on start up or upon ATC clearance delivery, whichever is later or, when an aircraft in flight is imminently due to come under control, normally a VSP value of not less than 30 minutes.

4.3.5 The distribution of the available code series for transit purposes is shown in the CAL.

4.3.6 Specific arrangements are required to ensure that no conflicting situations will arise in border areas.

4.4 DOMESTIC CODES

4.4.1 Domestic codes are allocated for use by aircraft remaining within the boundaries of the agreed area of responsibility (AOR) (normally within one State) or, in the case of agreement between States concerned, across agreed AORs. Domestic codes can also be used for transit

¹ The actual number of PAs to be established will depend on the results of the Secretariat study.

aircraft entering the MID PA and landing at an aerodrome within the AOR of the ATSU that has assigned the SSR code. The relevant code series for domestic purposes are shown in the CAL.

- 4.4.2 Domestic codes should be used so that utmost economy in the number of codes required is achieved. Domestic codes used for terminal purposes or within specified portions of the airspace (sectors) or across national boundaries will be assured protection in these functions from other uses of the same code through suitable systematic or procedural methods.
- 4.4.3 More detailed information concerning the procedures to be used for SSR code assignment can be found in **Appendix B**.

5 ORCAM

5.1 OUTLINE OF ORCAM OBJECTIVES

5.1.1 The objectives of ORCAM are:

- a) to ensure safety by uniqueness and continuity;
- b) enhance safety;
- c) reduce workload;
- d) improve system capacity; and
- e) increase efficiency.

5.1.2 Uniqueness and continuity criteria are intended to provide permanent perceptibility and identification of aircraft with a minimum of errors and interruptions.

5.1.3 *Uniqueness*. Depending on system functionality, only one aircraft should respond using a given code in any particular area and at any given time. This provides an unambiguous code/callsign correlation and consequently an easy identification of aircraft.

5.1.4 *Continuity*. A code assigned to an aircraft should, whenever possible, be retained throughout the flight. This secures permanent display of aircraft identification.

5.1.5 The uniqueness and continuity criteria of ORCAM enhance safety by limiting the likelihood of identification errors. They also assist traffic flows since radar identification and all aspects connected with transfers are facilitated. This results in a reduction of workload (radiotelephony, identification monitoring, etc.) and substantially improves the overall system capacity.

5.1.6 In some areas the number of flights could exceed the number of SSR codes available. Some rationalization according to the nature of the flight (short-, medium- or long-haul, domestic, international or transit) and of the capabilities of the system is necessary for the most intensive possible use of codes.

5.1.7 Permanent code assignments and allocations based on the aircraft callsign, control position or any other systematic distinguishing features cannot be accepted because of the wasteful effects on the efficiency in use of codes required.

6 ORCAM SYSTEM REQUIREMENTS

6.1 INTRODUCTION

- 6.1.1 Middle East States are relying on the extensive use of SSR in automated ATC ground systems to ensure uninterrupted aircraft identification and maintenance of radar/flight plan correlation.
- 6.1.2 They have recognized the common availability of specified capabilities in automated ATC ground systems as being essential for:
- a) participation of individual automated ATC units in a cooperative environment;
 - b) application of a common SSR Code assignment method in accordance with the ICAO principles;
 - c) efficient utilization of codes in automated ATC ground systems.
- 6.1.3 This “Statement of essential common capabilities for automated ATC ground systems in relation to the use of SSR” shown in paragraph 6.3 below, lists the capabilities concerned. It should be used by States as the basis to determine the minimum operational specifications for automated ground systems.

6.2 GENERAL SYSTEM CONSIDERATIONS

- 6.2.1 The application of automatic data processing in ATC ground systems allows for great freedom in the definition of system capabilities. This freedom should be exploited to:
- a) provide for all essential capabilities related to the use of SSR in the most simple manner having due regard to operational requirements; and
 - b) enable individual automated ATC ground systems to function as part of an inter-operable environment and to comply with agreed conventions facilitating such cooperation (e.g. principles and basic rules for code assignment, code assignment methods etc.).
- 6.2.2 Individual automated ATC ground systems should, as part of an inter-operable environment, be capable of making the maximum use of codes previously assigned by other units controlling the aircraft concerned; i.e. they should not introduce any code changes or if this is impossible in some circumstances, require only the minimum of changes.
- 6.2.3 Taking into account inter-operability of ATC ground systems within the MID Region with others outside that area and the range of codes which may be utilized under such arrangements, automated ATC ground systems should be capable of performing all system functions related to the use of SSR for any 4-digit identity code.
- 6.2.4 Automated ATC ground systems should be designed to allow the use of a minimum number of codes. The application of sophisticated code correlation methods may reduce the number of codes needed in comparison with those required when simpler methods are used.
- 6.2.5 The processing of SSR data in automated ATC ground systems should be aimed at reducing the need for controller intervention.
- 6.2.6 **Appendix C** and **Appendix D** provide greater detail regarding the implications for automation and the development of automated SSR code assignment systems respectively.

6.3 ESSENTIAL CAPABILITIES FOR AUTOMATED ATC GROUND SYSTEMS

6.3.1 It is essential that automated ATC ground systems be designed to have certain capabilities in common, based on the assumption that:

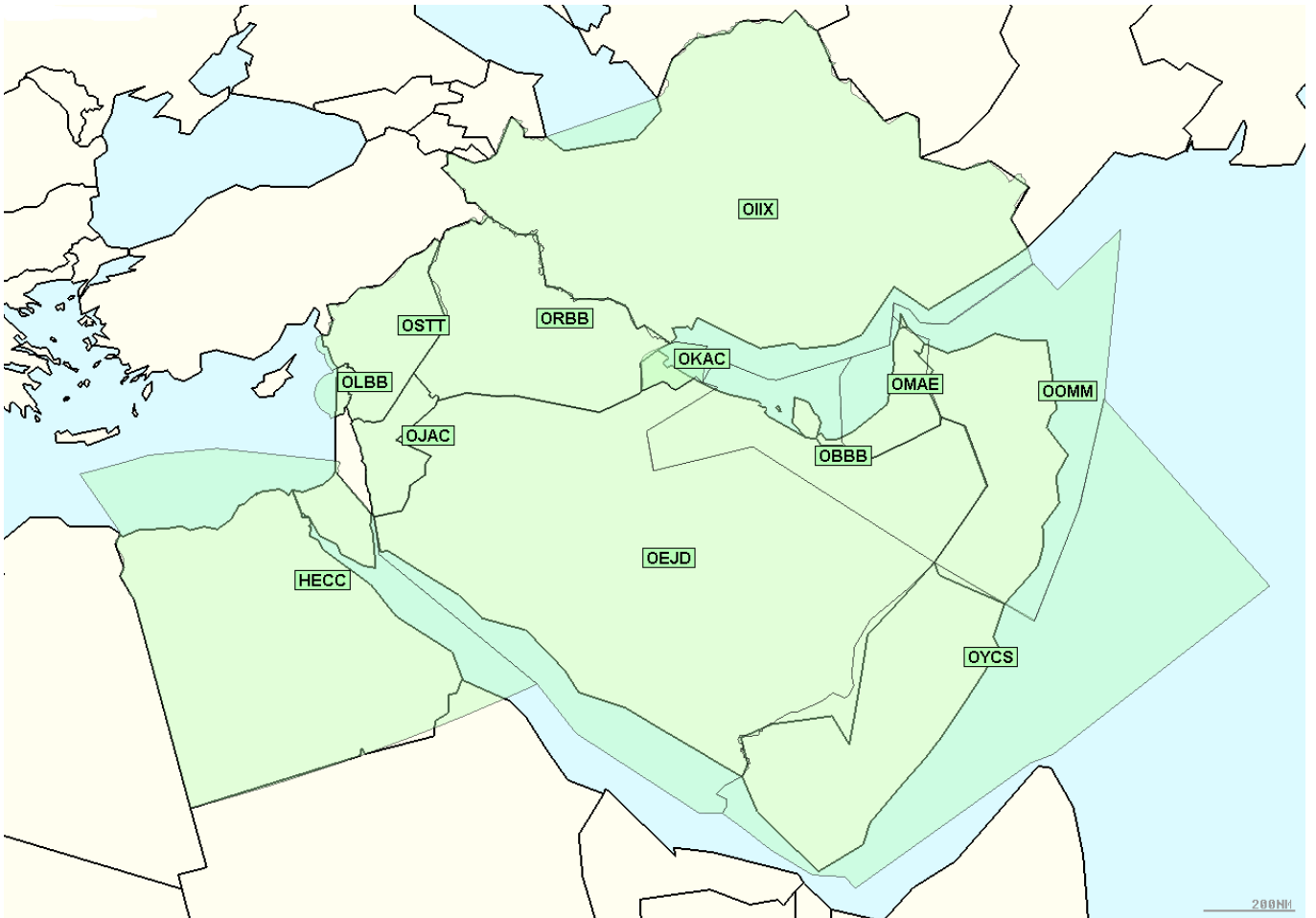
- a) the maximum use will be made of previously assigned codes;
- b) only where continuing use of previously assigned codes would give rise to ambiguity, new codes will be assigned in accordance with a suitable common SSR code assignment method;
- c) the prime use of codes will be to facilitate automatic identification, automatic tracking and automatic radar/flight plan data correlation; and
- d) the differentiation of aircraft essential for the execution of these functions can be achieved through the use of a single, adequately protected code per aircraft.

6.3.2 In detail, automated ATC ground systems should be capable of automatic:

- a) **Exchange of codes:** in particular of timely transmission to adjacent centres concerned of information on the code previously assigned to flights to be transferred.
- b) **Assignment of codes:** in all instances where no previous code assignment has been made or where previous assignments are found to be unsuitable.
- c) **Processing of SSR code information, including:**
 - i) initiation of automatic tracking of SSR responses;
Note.— This does not exclude tracking on the basis of primary radar returns in areas where adequate primary coverage is available;
 - ii) determination for each code whether it meets the criteria to be established for unambiguous correlation;
 - iii) recognition of any code duplications affecting correlation;
 - iv) proposing action to controllers to resolve code duplications affecting correlation;
 - v) establishment of initial correlation between real-time radar information and current flight plan information on the basis of decoded SSR replies (including Mode C information). Correlation should be achieved sufficiently in advance of the time at which an aircraft enters the area of responsibility of a centre;
 - vi) maintenance of correlation between real-time radar information and current flight plan information on the basis of decoded SSR replies and/or coincidence of flight plan information (route, heading, altitude) or other distinguishing criteria and radar information;
 - vii) storage of code information until a VSP time at which its activation and protection is desired; and
 - viii) activation of stored information for correlation at a given VSP time and/or within a given airspace.

- d) **Display of information including:**
 - i) presentation in a suitable manner of decoded SSR replies and/or correlated flight plan information;
 - ii) filtering of information to be displayed on the basis of SSR-derived data (Mode A/C); and
 - iii) indication of code duplications.
- e) **Special codes:** immediate recognition of special codes, as specified on a regional or world-wide basis, as well as maintenance of tracking and correlation of aircraft using these codes.
- f) **Recovery from ground system degradation:** in cases of ground system degradation (excluding display component failure) to the extent that essential SSR-derived information is not displayed, automated ATC ground systems should be capable of restoring all essential information within the shortest possible time. Until full serviceability can be restored, the above aim may necessitate suppression of functions of secondary importance.

APPENDIX A - PARTICIPATING AREAS



APPENDIX B - GENERAL PROCEDURES FOR SSR CODE ASSIGNMENT

B.1 Retention of previous code

- B.1.1 Every endeavour shall be made to retain the code already assigned to the aircraft. This assumes that the code is known at the time of coordination (either by voice coordination or by transmission of an Air Traffic Services (ATS) Interfacility Data Communications (AIDC) message, or an On-Line Data-Interchange (OLDI) or via the pilot) and input into the system if automated. If a code is not already being used by another aircraft flying in an unprotected area and if the code assigned to the aircraft is acceptable for the flight category², the code shall be retained.

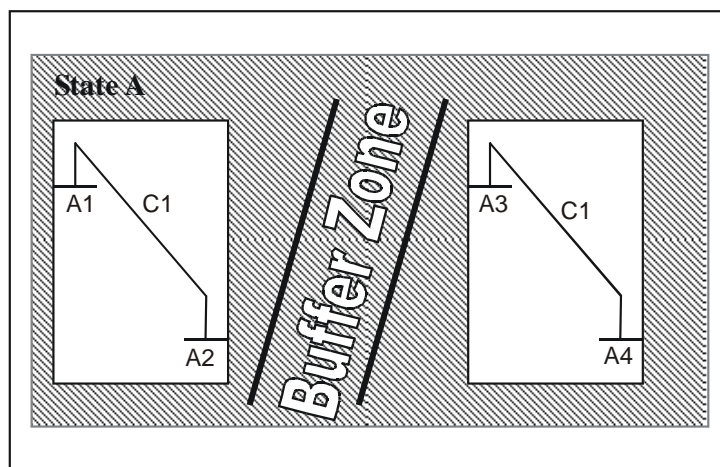
Note.— This should apply if the aircraft comes from an ATSU belonging to the same PA or a unit in another PA, but it may be retained in an area which has no conflicts with the other units in the area.

B.2 Code assignment or re-assignment

- B.2.1 The following rules will be applied to departing aircraft within the area of the control unit, or to aircraft whose previously assigned code failed to comply with the rules stated in B.1.1 above and consequently could not be retained:

B.2.2 Where an aircraft remains inside a defined area of the AOR

Directional assignment of a domestic code - Code C1 can be assigned simultaneously to aircraft A1A2 and A3A4. C1 is protected for zone 1 and zone 2:

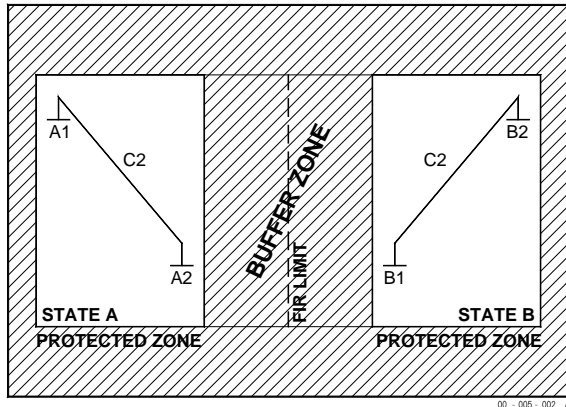


Note.— Domestic code allocation may be protected by buffer zones of at least 60 NM or separated by another unit. This rule is applicable within States, and also by arrangement between adjacent States. In order to make economic use of this type of allocation the same codes should preferably be disseminated (at most every 120 NM) in different small areas instead of having recourse to allocating codes belonging to an excessive number of different series.

² Flight category refers to transit, domestic or common pool codes.

B.2.3 Where an aircraft remains inside a State

Code C2 can be assigned simultaneously to aircraft A1A2 and B1B2 from different States A and B. C2 is protected for State A and State B:

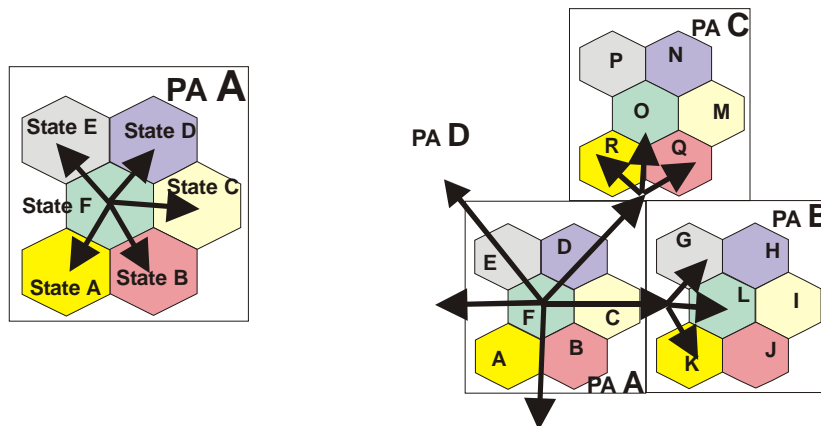


Note.— Domestic code allocation must be protected by buffer zones. Even more than in the case of B.2.2 above; consultation between adjacent States will be necessary to ensure such protection and rationalize excessive domestic code utilization as far as possible.

B.2.4 For an aircraft leaving a State

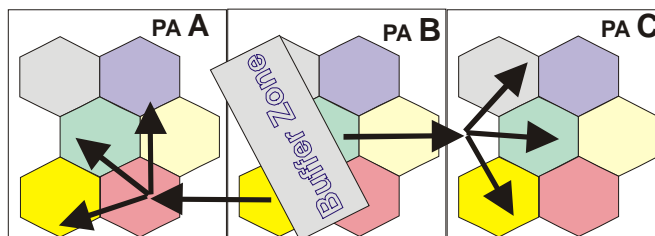
Transit codes are allocated by the Middle East SSR Code Management Plan to the various States for assignment to this flight category. Transit codes should be retained for the remainder of the flight in all States in the same PA and, if possible, other successive PAs, as agreed and reflected in Part B of the CAL. Transit codes received from a previous unit are maintained provided that they satisfy the assignment criteria.

B.2.4.1 *Omni-directional assignment of a transit code*



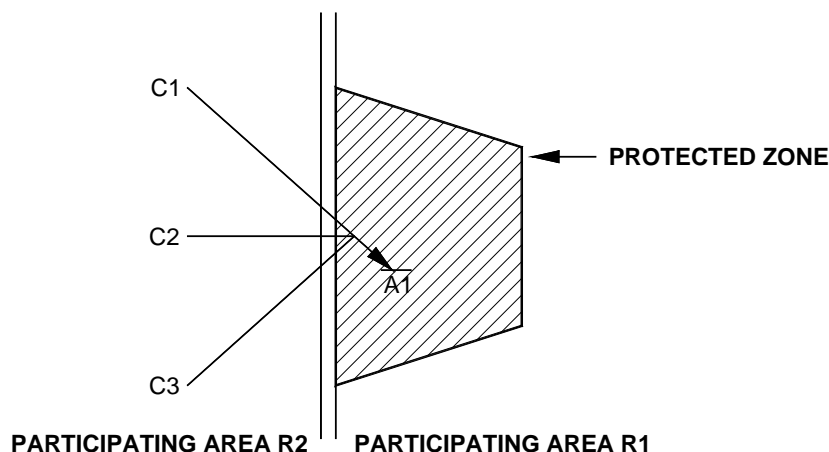
B.2.4.2 Directional assignment of a transit code

Allocated by the Middle East SSR Code Management Plan to the various States for assignment to aircraft under specific conditions: to specific destinations in the same PA or in different PAs; to specific directions of aircraft and/or via specific areas. Special attention shall be given in ensuring that when applying directional assignment of a transit code, no code conflict could occur.



B.2.4.3 Close to PA border, retention of transit codes of other PA

Codes C1, C2 and C3, which belong to R2 transit series are retained until landing at an airport A1 near the border between the two PAs, which is located in a protection area for the codes in question.



00 - 005 - 005 A

B.3 Code occupancy times

B.3.1 In order to ensure uniqueness of the code in the systems concerned by an aircraft, the ICAO MID Regional Office based its calculations on a “protection period” of approximately two hours, when establishing the number and series of transit codes (please see paragraph 4.3.4). At the same time, the protection period should be reduced when possible, while providing adequate protection (please see paragraph 4.3.3 b). Certain suggestions along these lines will be found below.

B.3.2 Point of time for code assignment to aircraft

In order to economize codes as much as possible, it is recommended that codes be assigned to flights which will be performed in the very near future (when ready for departure, or in flight, about to come under control).

Note.— The ideal moment is the flight activation point in the case of automated systems.

B.3.3 Assignment procedures

Codes are normally assigned according to the earliest time of release (a VSP). However, in units assigning codes manually such sophistication may be cumbersome. When sophisticated systems are not available, cyclical assignment of the codes released should be preferred instead of a systematic return to the beginning of the category.

B.3.4 Release of a code by an aircraft

When a system records an aircraft landing or passing a distant MID PA exit point, the code assigned to the aircraft may be regarded as released and be re-used. In the case of distant MID PA exit point, an additional VSP waiting time, normally thirty minutes, shall be added before re-use. In the event that a code has been assigned to flight that has been cancelled or which will not take place, the code assigned should be released for immediate re-use.

B.3.5 Saturation

When the traffic load is such that no code is available for a given flight category it may be necessary to assign codes in accordance with relaxed rules:

- a) reduced protection times –
(see B.3.4);
- b) using a different code category –
using an omni-directional assignment if no more codes for directional assignment

APPENDIX C - IMPLICATIONS FOR AUTOMATION

C.1 As stated in Appendix B, B.1.1, retention of the code assigned by the previous unit requires foreknowledge, implying capture of the data by the system in the event of automated assignment (direct capture by an AIDC or OLDI message, or indirect by manual input on coordination).

C.2 Assignment according to flight category implies that the system is capable of analysing the origin and destination of flights. If not, capture of units transferring and accepting, where applicable, may be used. For some cases one may need to process all four data items.

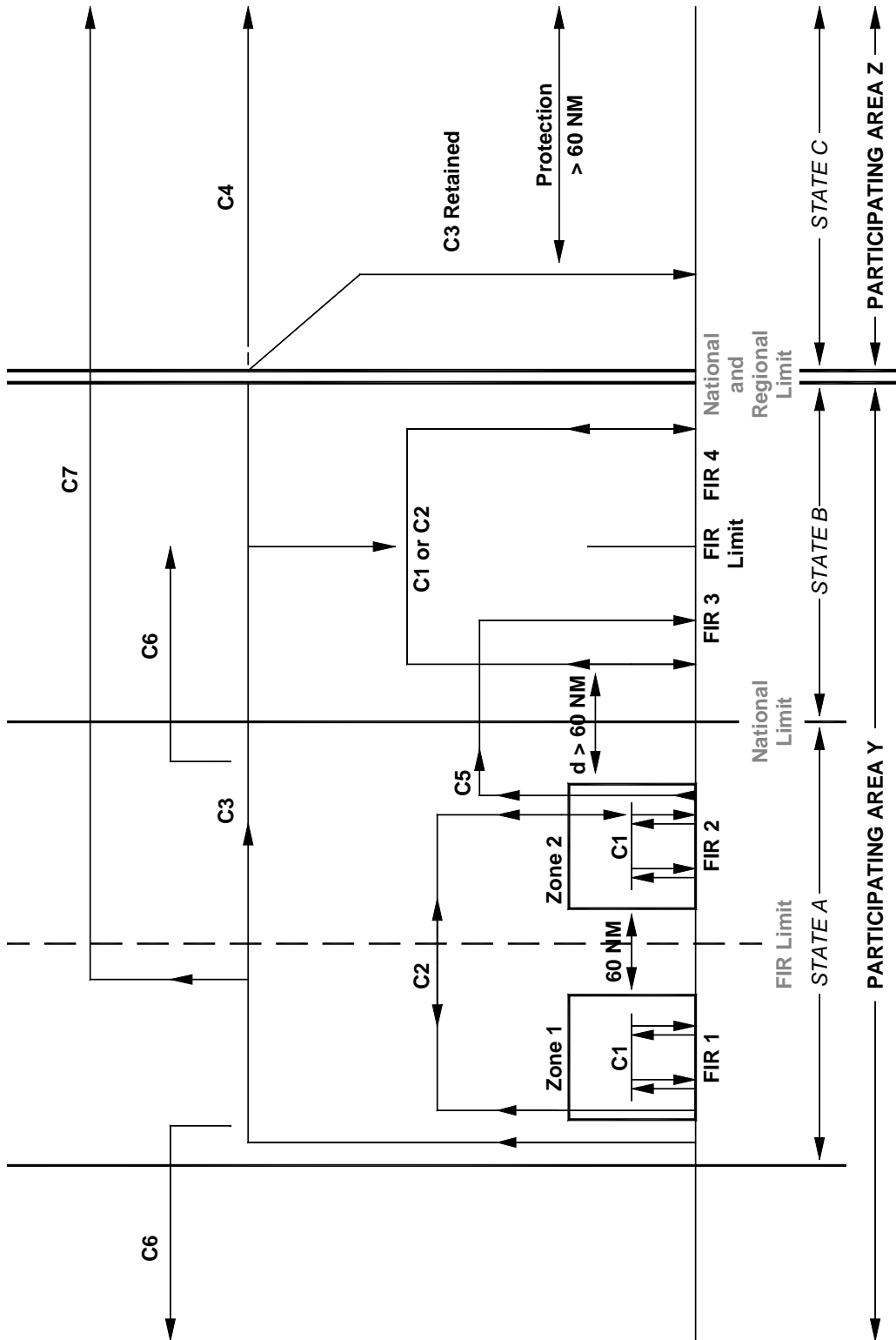
C.3 As in the case of any problem involving the “queuing management”, it is abundantly clear in the light of the previous remarks that the more centralized the allocation-assignment system, the more economical it will be. In other words, the less call there will be for allotment type solutions (provision of sub-banks to decentralized units), and the greater the use made of central assignment in accordance with overall criteria the more economical the system will be.

C.4 Likewise it has been seen that proper management of the assignment system presupposes knowledge of the actual traffic situation (entry into the system, route, exit from the system-landing etc.). Consequently, it is desirable that the assignment machinery should be linked with the real-time system.

C.5 A number of examples given in Appendix B show that despite the uniqueness by zone criterion, two codes may be found to be in use simultaneously in the same system (radar range is greater than the 60 NM buffer zone). Accordingly, the correlation systems should at least be capable of accommodating and unambiguously identifying two aircraft responding on the same code separated at the time of correlation by a designated geographical distance which will be a function of the automated system.

Note.— A geographical correlation filter should exist such that correlation will not be achieved if the calculated distance between the flight plan derived position based on estimate information and the SSR response corresponding to the SSR code in the flight plan is more than 30 NM.

C.6 Illustrative diagram for general code allocation and assignment



00-005-007 A

The following notes relate to the diagram:**Code C1:** Domestic code for PA Y (Domestic in STATE A Domestic in STATE B)

These codes can be used inside zone 1, inside zone 2, inside other zones of STATE B, and even inside the whole territory of STATE B if a buffer zone of 60 NM or a FIR separates them.

These codes could be used in PA Z under the same condition of protection against the allocation in STATE B.

Code C2: Domestic code for PA Y (Domestic in STATE A and STATE B)

Condition: a 60 NM buffer zone should be provided between these two assignments.

Code C3: Transit code for PA Y (STATE A)

In general such a code should be assigned to any aircraft originated in STATE A and leaving its boundaries, for overflying STATE B or landing in B.

In general this code may be changed at the entry in PA Z, but it could be retained for an arrival at an aerodrome close to the border and having a protection area of at least 60 NM against any other use in PA Z.

If C3 is planned for transit use from PA Y to PA Z it could be retained inside the whole PA Z.

Code C4: Transit code for PA Z (STATE C)

Such a code will be assigned to any flight whose code cannot be retained and overflying STATE C for a further destination in PA Z.

Code C5: Directional transit code between STATE A FIR2 and STATE B FIR3

C5 should be simultaneously protected in the two FIRs though domestic for PA Y. Such an allocation has the advantage of avoiding assignment of a transit code for such short middle-range flights.

Code C6: Transit code for PA Y

The example given with C6 is a duplication where the directional assignment by STATE A gives a guarantee of no conflicts occurring with the following units.

Code C7: Transit code for use for PA Y (STATE A) and PA Z

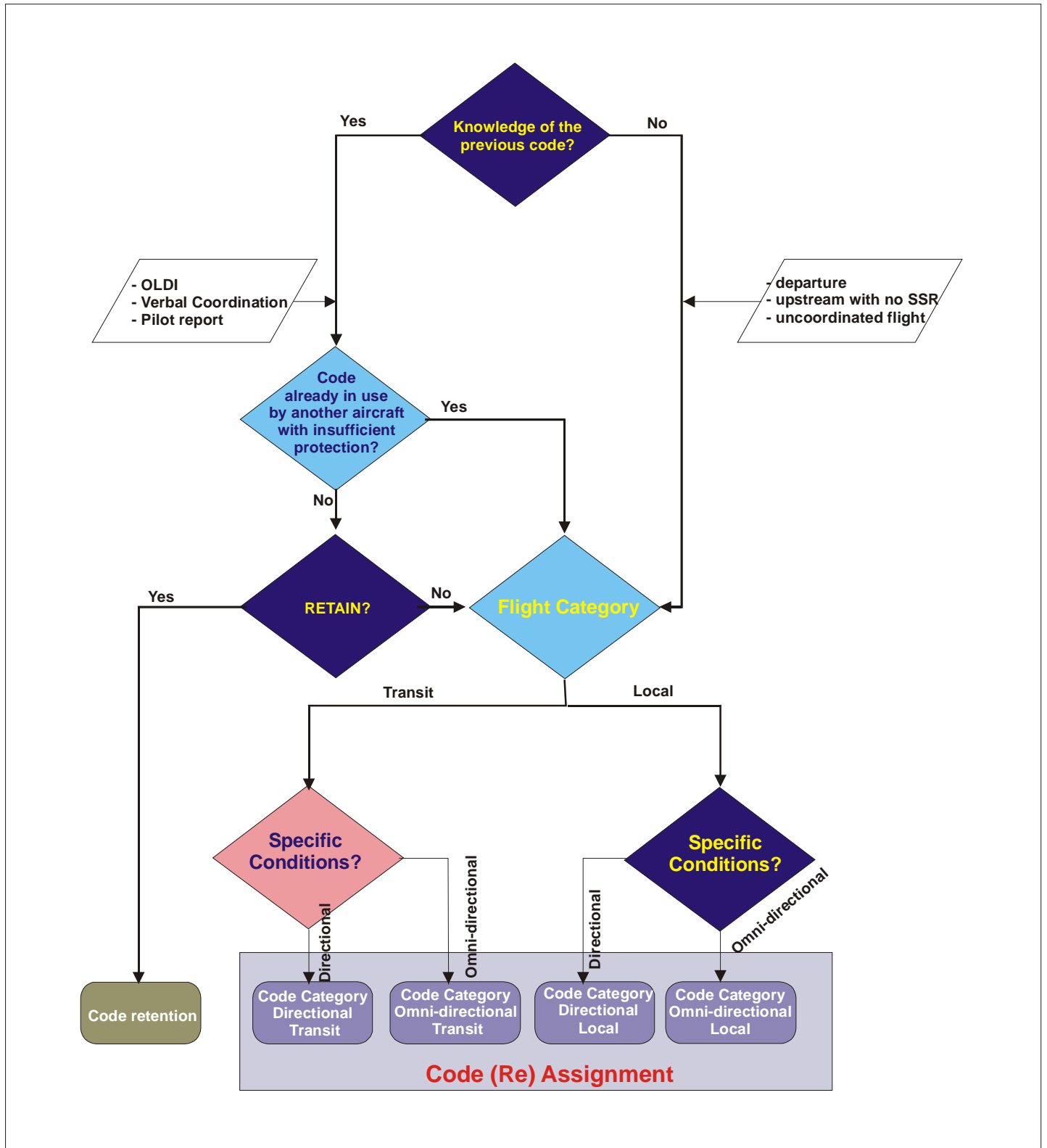
C7 which is at least transit in PA Y and having no domestic use in PA Z will be retained in the two areas.

Management of the code baskets for STATE A:

General:	Domestic basket				: C1, C2
	Transit basket				: C3, C6
Special:	Domestic State A	FIR 2	—	State B FIR 3	: C5
	Transit State A		—	PA Z	: C7
	Directional assignment	FIR 2	—	State B	
		FIR 1	—	Other State of PA Y	: C6

C.7 Flow Chart

The following chart outlines the retention/assignment procedures described above:



APPENDIX D - DEVELOPMENT OF AUTOMATED SSR CODE ASSIGNMENT SYSTEMS

D.1 As computer capabilities could be a limiting factor in code assignment and thus reflect on the code allocation, the following principles for the development of automated SSR code assignment systems should be observed:

- a) automated systems shall be capable of using code blocks (part of a code series) without getting confused if, in a neighbouring system, other blocks of the same code series (with the same first and second digits) are used;
- b) automated equipment shall be capable of coping with a limited number of code conflicts rather than preventing code duplications by means of more complicated and less economical code allocation and assignment methods;

Note.— It is expected that this feature will become even more important as traffic increases.

- c) automated systems shall be capable of assigning codes with reference to the category of a flight, i.e. transit codes shall be assigned to an aircraft engaged in transit flights and domestic codes to an aircraft confined within the smaller area of use reserved for such codes;
- d) automated systems shall permit the addition of a sophisticated capability of assigning codes with reference to the routing or special code protection required for specific aircraft, especially when this will permit economies in the number of codes required;
- e) the code assignment logic of an automated system shall not impose any restriction on the free choice of any specific additional codes if this is required to satisfy new requirements;
- f) automated code assignment systems shall be designed to conform to international cooperative principles and essential capabilities described in this Document.

ATM/SAR/AIS SG/12
 Appendix 6D to the Report on Agenda Item 6

SSR Code Allocation List

STATE FIR	Domestic Code	Domestic Code	Transit Code	Transit Code
Amman	0400 – 0477 1101 - 1177	2400 - 2477	0700 - 0777	
Baghdad	7400 - 7477		1001 - 1077	
Bahrain	2100 – 2177 2700 - 2777	1200 - 1277	2200 – 2277 4400 - 4477	2600 - 2677
Beirut	2500 - 2577		4300 - 4377	
Cairo	0600 – 0677 2700 - 2777	2300 - 2377	1600 – 1677 7300 - 7377	3300 - 3377
Damascus	3000 - 3077		5700 - 5777	
Emirates	0400 – 0477 6000 - 6077	0600 – 0677 6100 - 6177	0500 – 0577 3400 - 3477	1700 – 1777 6200 - 6277
Jeddah	0100 - 0177 3500 - 3577	0200 – 0277 5000 - 5077	3100 – 3177 5200 - 5277	4500 – 4577 4200 – 4277
Kuwait	0600 – 0677		1400 – 1477	
Muscat	6600 – 6677 4600 – 4677	6500 – 6577	4000 – 4077	4700 – 4777
Sana'a	3700 – 3777		7001 – 7077	
Tehran	1101 - 1177 1500 - 1577	4100 – 4177	3600 – 3677 5400 - 5477	5100 – 5177

SSR Code Reserve list

Domestic	Transit
0001 – 0077	2001 – 2077
0300 – 0377	3200 – 3277
1300 – 1377	5300 - 5377
5600 -5677	5500 – 5577
6300 – 6377	6400 – 6477
6700 – 6777	7200 - 7277
7100 - 7177	
7501 - 7577	
7601-7612 Red Cross/humanitarian	
7613 - 7677	
7701 - 7777	

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Request for Temporary/Permanent SSR Codes

State: -----

Date of request: -----

Name Of Unit Requesting SSR Code: -----

Number Of Codes Required: -----

Purpose: -----

Duration: -----

Notes:

- 1- The official request from States DG should be sent to the ICAO MID Regional Office Director and copied Email: icaomid@cairo.icao.int or Fax: +2022674843
- 2- The temp assigned codes will be automatically withdrawn after the specified duration date.

ATM/SAR/AIS SG/12
Report on Agenda Item 7

REPORT ON AGENDA ITEM 7: ATS SAFETY MANAGEMENT SYSTEMS

7.1 The meeting recalled that the concept of safety has followed an evolutionary path. Although accident investigation, as a reactive method for improving safety was shown to be effective and became a valuable tool in helping to determine the cause of accidents with the aim of reducing their frequency, there was a need for a method or system that would help identify latent conditions to accidents before they actually occurred. Thus, the concept of management of safety was conceived.

7.2 It was re-iterated that a mature safety management requires the integration of reactive, proactive and predictive safety data capture systems, a judicious combination of reactive, proactive and predictive mitigation strategies, and the development of reactive, proactive and predictive mitigation methods.

7.3 The meeting recalled that Safety management provisions require States to establish a State Safety Programme (SSP) in order to achieve an Acceptable Level of Safety (ALoS) in civil aviation. In addition, States shall require, as part of their SSP, the air traffic service providers to implement an SMS.

7.4 The meeting reviewed and updated the status of implementation of SSP by the Regulators and SMS by the ATS service providers, in the MID Region as follows:

	Not started		Planning/ Slow starting		Ongoing/ partial implementation		Implemented		Remarks
	SSP	SMS	SSP	SMS	SSP	SMS	SSP	SMS	
Bahrain			X					X	
Egypt			X					X	Egypt reply to SL 11/138
Iran			X			X			
Iraq									
Jordan					X	X			Jordan reply to SL 11/138
Kuwait		X	X						
Lebanon	X			X					
Oman					X	X			Based on Oman reply to SL 11/138
Qatar	X							X	
Saudi Arabia					X	X			Saudi Arabia reply to SL 11/138
Syria			X			X			
UAE					X			X	
Yemen									

7.5 The meeting recalled that MIDANPIRG/12 recognized the difficulties encountered by States in the implementation of SSP requirements and was of the view that a step -by-step approach should be followed for managing the transition to an SSP environment. The meeting further re-

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iterated that the first step should be the gap analysis. In connection with the above, the meeting noted that the Second Edition of ICAO Safety Management Manual (Doc 9859) of 2009 contains guidance material related to SSP, SMS and ALoS, as well as their relationships. The Guidance Material on “*SMS GAP Analysis for Service Providers*” contained in Appendix 2 to Chapter 7 of Doc 9859 and on “*the development of a State Safety Programme (SSP) GAP Analysis*” contained in Appendix 3 to Chapter 11 of Doc 9859; were particularly highlighted and States were encouraged to use this guidance material especially the checklists to expedite the implementation of the required SSP and SMS.

7.6 The meeting noted that the RASG-MID/1 held in Cairo, 18-19 September 2011, addressed the issue related to the coordination between RASG-MID and MIDANPIRG. In this respect, the meeting supported the following agreement reached during the RASG-MID/1 meeting:

- English Language Proficiency (ELP); and Accidents and Incidents Analysis be addressed within the framework of RASG-MID;
- SSP and SMS implementation as well as Runway Safety issues be included in the Work Programmes of both RASG-MID and MIDANPIRG, for some period; and
- RVSM safety monitoring continues to be part of MIDANPIRG Work Programme.

7.7 Based on the above, the meeting re-iterated MIDANPIRG/12 Conclusion 12/77:

CONCLUSION 12/77: ATS SAFETY MANAGEMENT

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

- a) establish a State Safety Programme (SSP) and ensure the implementation of Safety Management Systems (SMS) by their ATS service providers, in accordance with Annex 11 provisions;*
- b) promulgate a national safety legislative framework and specific regulations in compliance with international and national standards that define how the State will conduct the management of safety, including the collection and protection of safety information and improvement of accident prevention, in compliance with relevant provisions contained at Chapter 2 of Annex 11 and Chapter 8 of Annex 13;*
- c) share safety information including information on ATS incidents and accidents; and*
- d) take advantage of the ICAO guidance material related to safety management as well as the training events offered by ICAO (SMS, SSP and ECCAIRS training courses seminars and workshops).*

7.8 Noting that only four (4) States replied to State Letter Ref.: AN 6/21-11/138 of 2 June 2011 issued by the ICAO MID Regional Office, as a follow-up action to the MIDANPIRG/12 Conclusion 12/77, the meeting urged States that have not yet done so to send their reply to the ICAO MID Regional Office before 31 January 2012, in order to present an updated picture to MIDANPIRG/13 on the subject.

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Report on Agenda Item 8

REPORT ON AGENDA ITEM 8: CONTINGENCY PLANS

8.1 The meeting recalled 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 in this regard, since a number of States have signed contingency planning agreements with adjacent FIRs/States, and some agreements are pending signatures.

8.2 The meeting noted that the DGCA-MID/1 meeting noted with concern that the development and promulgation of contingency plans remains one of the long standing deficiencies in the MID Region. In this respect, it was highlighted 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.

8.3 Taking into consideration the current events in the MID Region and for ensuring safety and continuity of civil aviation, the DGCA-MID/1 meeting recognized that it's becoming more imperative and pressing that all MID States take necessary measures to sign the pending Contingency agreements with adjacent FIRs/States and expedite the promulgation of their contingency plans. Accordingly, the DGCA-MID/1 meeting agreed to the following Conclusion:

DGCA-MID/1 CONCLUSION 1/6 – CONTINGENCY PLANS

That, for the interest of ensuring safety and continuity of civil aviation, MID States:

- a) accord high priority and secure necessary resources to update, complete and promulgate their contingency plans; and*
- a) send copies of their contingency plans (even those which are still in draft format) to the ICAO MID Regional Office as soon as possible.*

8.4 Based on the above, the meeting noted that the ARN TF/4, through Draft Conclusion 4/1, urged MID States to forward copies of their contingency plans, including the signed agreements, to the ICAO MID Regional Office, in order to consolidate a Draft MID Regional Contingency Plan.

8.5 The meeting recognized that progress was achieved in the implementation of contingency measures in the MID Region. The meeting reviewed and updated the status of Contingency agreements by MID States as at **Appendix 8A** to the Report on Agenda Item 8.

8.6 Based on the above the meeting was presented with a draft MID Regional Contingency Plan, including the Contingency Routing Scheme for Asia/Middle East/Europe (**CRAME**) as at **Appendix 8B** to the Report on Agenda Item 8. Accordingly, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 12/8: MID REGIONAL CONTINGENCY PLAN

That, MID States:

- a) review the MID Regional Contingency Plan at **Appendix 8B** to the Report on Agenda Item 8; and*

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- b) *provide updates and comments on the MID Regional Contingency Plan to the ICAO MID Regional Office before **31 January 2012**, for presentation of an updated version to MIDANPIRG/13 for endorsement.*

MID Region Volcanic Ash Contingency Plan

8.7 The meeting recalled that MIDANPIRG/12 through Decision 12/72 invited the ATM/SAR/AIS Sub-Group and the MET Sub-Group to develop a draft Volcanic Ash Contingency Plan for the MID Region for consideration by MIDANPIRG/13. This Decision was formulated in light of the eruption of the Eyjafjallajökull volcano in Iceland during April and May 2010 that resulted in a historic multi-regional disruption in air travel.

8.8 The meeting noted that the International Volcanic Ash Task Force (IVATF) was established to develop a global safety risk management framework that would make it possible to determine the safe levels of operation in airspace contaminated by volcanic ash. One task of the IVATF is the development of a regional Contingency Plan for Volcanic Ash.

8.9 The meeting was informed that as of July 2011, a draft regional Volcanic Ash template was created by the ATM SG of the IVATF that was in large part based on the Volcanic Ash Contingency Plan – EUR and NAT Regions (EUR Doc 019/NAT Doc 006, Part II). This draft template as provided in **Appendix 8C** to the Report on Agenda Item 8 was accepted by the IVATF/2 meeting as a draft template (IVATF Recommendation 2/20 refers).

8.10 The meeting noted that the work on the draft regional Volcanic Ash template will continue and is expected to mature in June 2012. Taking into consideration, the dates of the MET SG/3 meeting (19-21 December 2011) and MIDANPIRG/13 meeting (15-19 April 2012), the meeting agreed that the subject be further addressed by the MET SG/3 meeting, which might propose to MIDANPIRG/13 the establishment of a multi-disciplinary ad-hoc group to adapt the expected regional volcanic ash contingency template to meet the needs of the MID Region.

ATM/SAR/AIS SG/12
Appendix 8A to the Report on Agenda Item 8

CONTINGENCY AGREEMENT STATUS

STATE	CORRESPONDING STATES	STATUS	SOFT COPIES SENT TO ICAO
BAHRAIN	IRAN KUWAIT OMAN QATAR SAUDI ARABIA UAE	Signed Signed Signed Signed Signed	
EGYPT	GREECE JORDAN LYBIA CYPRUS SAUDI ARABIA SUDAN	Signed	
IRAN	ARMENIA AZERBAIJAN TURKMANISTAN AFGHANISTAN BAHRAIN IRAQ KUWAIT OMAN PAKISTAN TURKEY UAE	Signed Signed Signed	
IRAQ	IRAN JORDAN KUWAIT SAUDI ARABIA SYRIA TURKEY	Signed	

STATE	CORRESPONDING STATES	STATUS	SOFT COPIES SENT TO ICAO
JORDAN	EGYPT IRAQ ISRAEL SAUDI ARABIA SYRIA	Signed	Sent
KUWAIT	BAHRAIN IRAN IRAQ SAUDI ARABIA	Signed Signed	
LEBANON	CYPRUS SYRIA		
OMAN	BAHRAIN INDIA IRAN PAKISTAN UAE YEMEN	Signed Signed Signed Signed	Sent
QATAR	BAHRAIN SAUDI ARABIA UAE	Signed	
SAUDI ARABIA	BAHRAIN EGYPT ERITREA IRAQ JORDAN KUWAIT SUDAN YEMEN	Signed Signed	
SYRIA	IRAQ JORDAN LEBANON CYPRUS TURKEY		

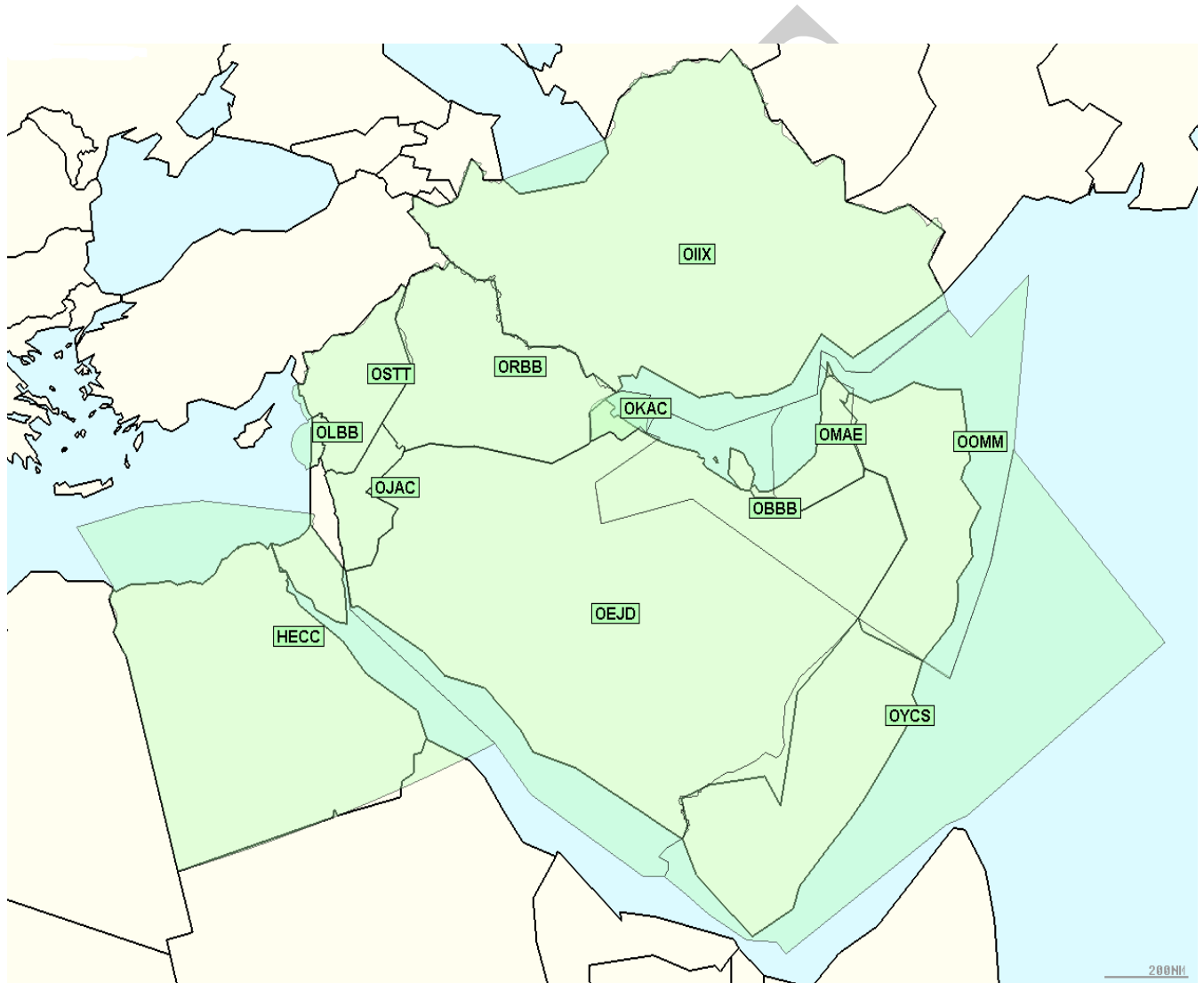
STATE	CORRESPONDING STATES	STATUS	SOFT COPIES SENT TO ICAO
UAE	BAHRAIN IRAN OMAN QATAR	Signed	
YEMEN	DJIBOUTI ERITREA ETHIOPIA INDIA OMAN SAUDI ARABIA SOMALIA	Signed	

ATM/SAR/AIS SG/12
Appendix 8B to the Report on Agenda Item 8

MID Doc ----

AIR TRAFFIC MANAGEMENT OPERATIONAL CONTINGENCY PLAN

MID REGION



First Edition: 22 May 2011

**Published on behalf of the ATS Route Network Task Force (ARN TF)
by the MID Regional Office of ICAO**

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Originating ACC actions (eruption in its own FIR).....

120 NM temporary danger area.

Contaminated area based on SIGMET.

Contaminated area based on VAA.

Adjacent ACC actions

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MID REGIONAL DIVERSION AND MASS TURNBACK PLAN

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), State AIPs and current NOTAMs, which should be read in conjunction with the material contained in this Document.

The MID Region is fast growing continental airspace in the world, and is strategically situated between EUR/NAT Region to the North, WACAF Region to the west ESAF Region to the South East and APAC Region to the East. In 2010 in excess of ----- 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 MID Regional Air Traffic Management Operational Contingency Plan is primarily for the information of 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.

The Manual has been produced with the approval and on behalf 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 Organisation (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.

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This Document will be made available to users from a number of web sites including the ICAO MID website [http:// www.icao.int/mid/](http://www.icao.int/mid/)

To assist with the editing of this Manual and to ensure the currency and accuracy of future editions it would be appreciated if readers would submit their comments/suggestions for possible amendments/additions, to the ICAO MID Regional Office at the above Email address.

RECORD OF AMENDMENTS

Amendment Number	Effective Date	Initiated by	Paragraph/ Reference	Remarks

ATM CONTINGENCY PLAN
FOR FLIGHTS OPERATING
WITHIN THE MID REGIONAL CONTINENTAL CONTROL AREAS

Objective

The Air Traffic Management (ATM) Contingency Plan contains details of the arrangements in place to ensure, as far as possible, the continued safety of air navigation in the event of partial or total disruption of Air Traffic Services within the MID region. This document is produced in accordance with the requirement of ICAO Annex 11 – Air Traffic Services, Chapter 2, paragraph 2.30.

This plan details both common procedures throughout the NAT region and the procedures specific to the individual ANSPs within the MID region. The plan is presented in two parts:

Part 1 – Contingency Situations Affecting ATC Facilities

ATC services within the MID region are provided from a number of geographical locations and this plan details the contingency arrangements at each of these facilities. It is considered unlikely that any physical contingency at one particular facility will affect another directly, hence in Part 1 of this document the procedures for each ACC are considered independently.

Part 2 – Contingency Situations Affecting Multiple FIRs

This part of the plan considers events which are likely to affect more than one facility within the MID region. In particular these include the contingency arrangements in place to deal with;

- the airspace suffering contamination by volcanic ash.
- the steps taken to deal with a mass turn back' of traffic over the MID region.

States and FIRs affected

This document contains contingency procedures for those Air Navigation Service Providers (ANSPs) who provide an ATC service within the MID region, and those ANSPs whose airspace has a common boundary with the MID region for which supporting procedures are published.

The states, FIRs and ACCs affected by this contingency plan and for which procedures are promulgated are as follows:

Bahrain

- Bahrain FIR

Egypt

- Cairo FIR

Iran, Islamic Republic of

- Tehran Control

Iraq

- Baghdad Control

Jordan

- Amman Control

Kuwait

- Kuwait Control

Lebanon

- Beirut Control

Libya

- Tripoli Control

Oman

- Muscat Control

Qatar

- Bahrain Control

Saudi Arabia

- Jeddah Control
- Riyadh Control

Sudan

- Khartoum Cotrol

Syrian Arab Republic

- Damascus Control

United Arab Emirates

- Emirates Control

Yemen

- Sana'a Control

DRAFT

PART 1 –

CONTINGENCY SITUATIONS AFFECTING ATC FACILITIES

SCOPE OF THE PLAN

This part of the Contingency Plan considers:

- Common procedures adopted by ATC facilities in the event of contingency situations.
- Detailed procedures adopted by individual ATC facilities in the event of contingency situations. The plan considers contingency situations which may result in a degradation of the ATC service provided (limited service) as well as situations where there is a total loss of the ability to provide ATC services (no service).

Where available, information is also provided outlining the steps taken by ANSPs to deal with a long term unavailability of an ATC facility. In particular the procedures detailed by each ATC facility will, insofar as possible, comprise the following:

- FIRs for which the Contingency Plan applies
- FIRs with supporting procedures
- Notification procedures
- Implementation of the plan
- Limited service
 - disruption of ground/air communication capability
 - disruption of ability to provide control services
- No service
 - loss of ground/air communication capability
 - loss of ability to provide control services
- Contingency Route Structure:
 - for activation within that FIR
 - for activation within adjacent FIR
- Long term contingency arrangements
- Contact details

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 respective entries in this plan, however the general format will be as follows:

Issue a NOTAM advising operators of the evacuation. The following is an example of the type of information which may be promulgated:

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

Broadcast an evacuation message on appropriate frequencies:

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

Traffic Information Broadcast by Aircraft (TIBA) procedures

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

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

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

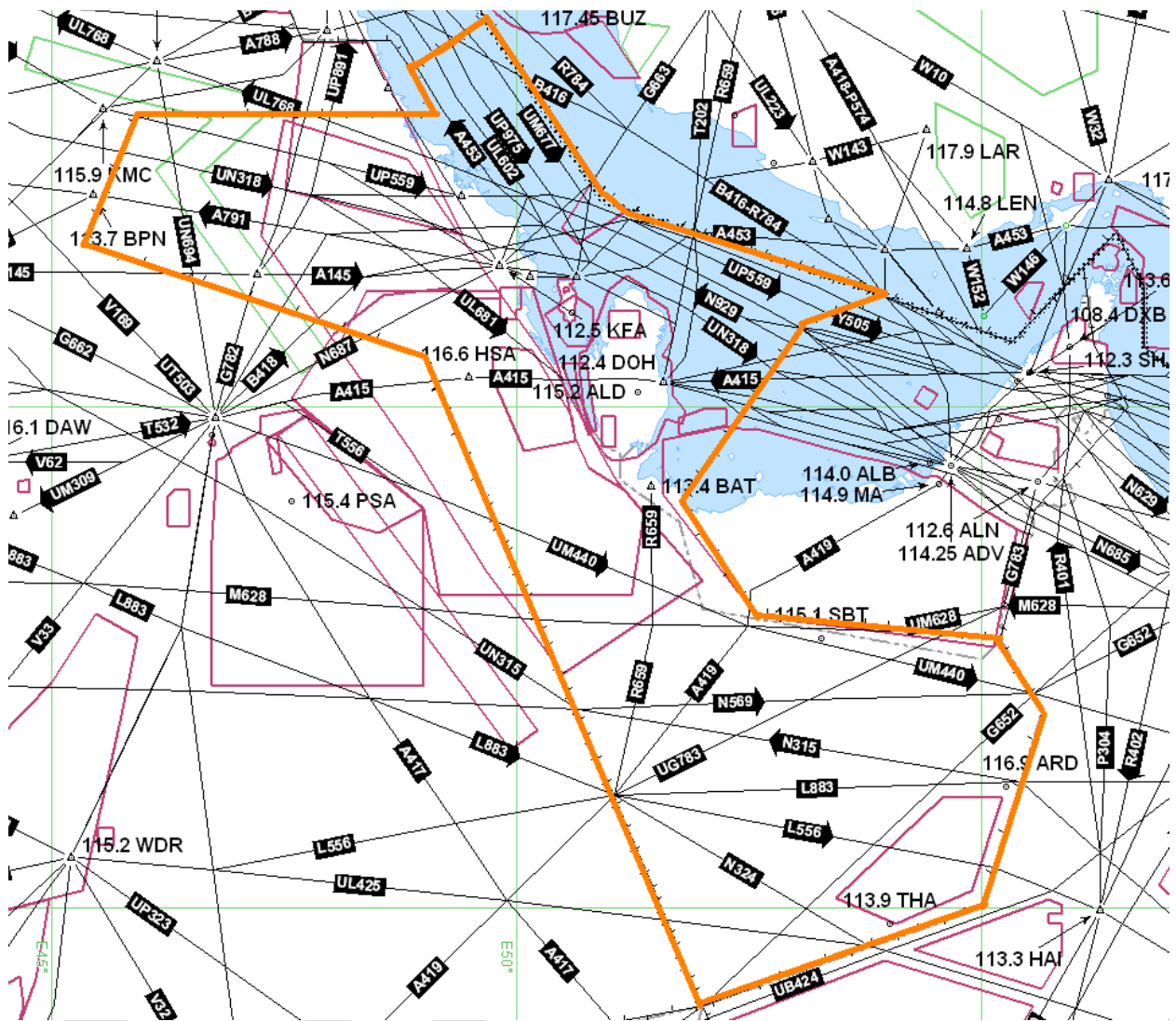
When the level change begins, the flight should make the following broadcast:

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

When level, the flight should make the following broadcast:

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

CHAPTER 1: DETAILED PROCEDURES – BAHRAIN FIR



1.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Bahrain FIR

1.2 FIRs WITH SUPPORTING PROCEDURES

Emirates FIR
Jeddah FIR
Kuwait FIR
Muscat FIR
Tehran FIR
Sana'a FIR

1.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

1.4 LIMITED SERVICE – PROCEDURES

1.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Bahrain frequency normally provided by Bahrain Control will be delegated as appropriate to the other ATS units namely Doha, Riyadh and Dhahran. Appropriate frequencies will be advised by Bahrain and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Bahrain Communications center and Bahrain ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

1.4.2 Disruption of ability to provide control services

Bahrain ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Bahrain ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Bahrain may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Bahrain ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Bahrain ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

1.5 NO SERVICE – PROCEDURES

1.5.1 Loss of ground/air communication capability

In the event of Bahrain ACC being unable to provide ground/air communications for Bahrain FIR ---- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)
 - Aerials (Loss of all Aerials)
 - Data Lines (Loss of data lines)
- b) Propagation;
 - Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.
- c) Staffing
 - No Staff
 - Illness (Seasonal Influenza)

- Weather
- Industrial Relations issues

d) Evacuation of Bahrain ACC

- Fire
- Bomb threat

Effect on flights

In the event of Bahrain ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Bahrain FIR.

ATFM measures may be imposed as necessary.

1.5.2 Loss of ability to provide control services

Should Bahrain ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Bahrain FIR.

In the event that Bahrain ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Bahrain Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Bahrain Contingency Procedures – Appendix xx. In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

1.6 FLIGHT CREW AND OPERATOR PROCEDURES

1.6.1 For flights within the Bahrain FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

1.6.2 For flights within the Bahrain FIR – Westbound

Muscat ACC, Emirates ACC and Tehran ACC will endeavour to provide an ATC service throughout the Bahrain FIR as soon as evacuation commences. These procedures are detailed at Bahrain Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Tehran ACC	0098 21 44544116 or 44554060 44544133 (Sector Controller)	0098 21 44544117	maj.alireza@yahoo.com alireza.majzoubi@gmail.com	OIIIZGZX
Muscat ACC	00968 24 519 550	00968 24 519 - ---		OOMMZQZX
Riyadh ACC	00966	00966		
Jeddah ACC	00966	00966		
Sana'a ACC	00967 1345402/3	00967 1344047	atccns@gmail.com	OYSNZQZX OYSNZQZA
Bahrain ACC	00973 1732 1080/1081	00973 1732 1029	bahatc@caa.gov.bh	OBBBZQZX OBBBZQZA
UAE ACC	00971	00971		OMAEZQZX OMAEYAYH

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

1.6.3 For flights within the Bahrain FIR – Eastbound

Jeddah ACC, Riyadh ACC and Kuwait ACC will endeavour to provide an ATC service throughout the Bahrain FIR as soon as evacuation commences. These procedures are detailed at Bahrain Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

1.6.4 For flights approaching the Bahrain FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Bahrain ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Bahrain FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Bahrain FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Bahrain FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Bahrain FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

1.7 BAHRAIN FIR – CONTINGENCY ROUTE STRUCTURE

1.7.1 For activation within Bahrain FIR

In a **limited service** contingency situation Bahrain ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Bahrain FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

1.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Bahrain FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

1.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Bahrain loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Bahrain facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Bahrain FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Bahrain FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE BAHRAIN FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE BAHRAIN FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN BAHRAIN FIR ALL ACFT ARE ADVISED THAT THE Bahrain FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY BAHRAIN AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE BAHRAIN FIR.

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CHAPTER 2: DETAILED PROCEDURES – CAIRO FIR

2.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Cairo FIR

2.2 FIRs WITH SUPPORTING PROCEDURES

Athens FIR
Nicosia FIR
Amman FIR
Jeddah FIR
Riyadh ACC,
Khartoum FIR
Tripoli FIR

2.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

2.4 LIMITED SERVICE – PROCEDURES

2.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Cairo frequency normally provided by Cairo Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Cairo and the assisting stations.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Cairo Communications center and Cairo ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness

Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

2.4.2 Disruption of ability to provide control services

Cairo ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Cairo ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Cairo may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Cairo ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Cairo ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

2.5 NO SERVICE – PROCEDURES

2.5.1 Loss of ground/air communication capability

In the event of Cairo ACC being unable to provide ground/air communications for Cairo FIR ----- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)
 - Aerials (Loss of all Aerials)
 - Data Lines (Loss of data lines)
- b) Propagation;
 - Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.
- c) Staffing
 - No Staff
 - Illness (Seasonal Influenza)
 - Weather
 - Industrial Relations issues
- d) Evacuation of Cairo ACC
 - Fire
 - Bomb threat

Effect on flights

In the event of Cairo ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Cairo FIR.

ATFM measures may be imposed as necessary.

2.5.2 Loss of ability to provide control services

Should Cairo ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Cairo FIR.

In the event that Cairo ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Egypt Contingency Plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Cairo Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix **XX**.

2.6 FLIGHT CREW AND OPERATOR PROCEDURES

2.6.1 For flights within the Cairo FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

2.6.2 For flights within the Cairo FIR – Westbound

Jeddah ACC, Riyadh ACC, Amman and Tel Aviv ACC will endeavour to provide an ATC service throughout the Cairo FIR as soon as evacuation commences. These procedures are detailed at Cairo Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Athens ACC				
Nicosia ACC				
Amman ACC				
Jeddah ACC	00966	00966		
Riyadh ACC	00966	00966		
Khartoum ACC				
Tripoli ACC				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

2.6.3 For flights within the Cairo FIR – Eastbound

Athens ACC, Nicosia ACC and Tripoli ACC will endeavour to provide an ATC service throughout the Cairo FIR as soon as evacuation commences. These procedures are detailed at Bahrain Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

2.6.4 For flights approaching the Cairo FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Cairo ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Cairo FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Cairo FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Cairo FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Cairo FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

2.7 CAIRO FIR – CONTINGENCY ROUTE STRUCTURE

2.7.1 For activation within Cairo FIR

In a **limited service** contingency situation Cairo ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Cairo FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

2.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Cairo FIR should use the following contingency routes:

CONTINGENCY ROUTE STRUCTURE FOR CAIRO FIR

CONTINGENCY ROUTES IN CAIRO (CRC)	ATS ROUTES	FL ASSIGNMENT
CRC1	PASAM-A411-CVO-IMRUT-UL617-TANSA	FLs 380,340 and 280
CRC 2	PASAM-A411-CVO-A16-RASDA	FLs 380,340 and 280
CRC 3	PASAM-A411-CVO-A727-OTIKO- W725-BRN-A411-LOSUL	FLs 380,340 and 280
CRC 4	METSA-W733-NWB-A791-MENLI-A411-CVO-A727-IMRUT- L617/UL617-TANSA	FLs 360 and 240
CRC 5	METSA-W733-NWB-A791-MENLI-A411-CVO-A1-BOPED- W725-BRN- A411-LOSUL	FLs 360 and 240
CRC 6	RASDA-A16-CVO-A727-SEMRU-B418-SILKA	FLs 350 and 270
CRC 7	RASDA-A16-CVO-A727-LXR-R775-DEDLI	FLs 350 and 270
CRC 8	RASDA-A16-CVO-A727-SML	FLs 350 and 270
CRC 9	LOSUL-A411-BRN-UP751-LXR-A145-IMRAD	FLs 370 and 310
CRC 10	LOSUL-A411-BRN-UP751-LXR-R775-DEDLI	FLs 370 and 310
CRC 11	LOSUL-A411-BRN-A145-KHG-B12-SML	FLs 370 and 310

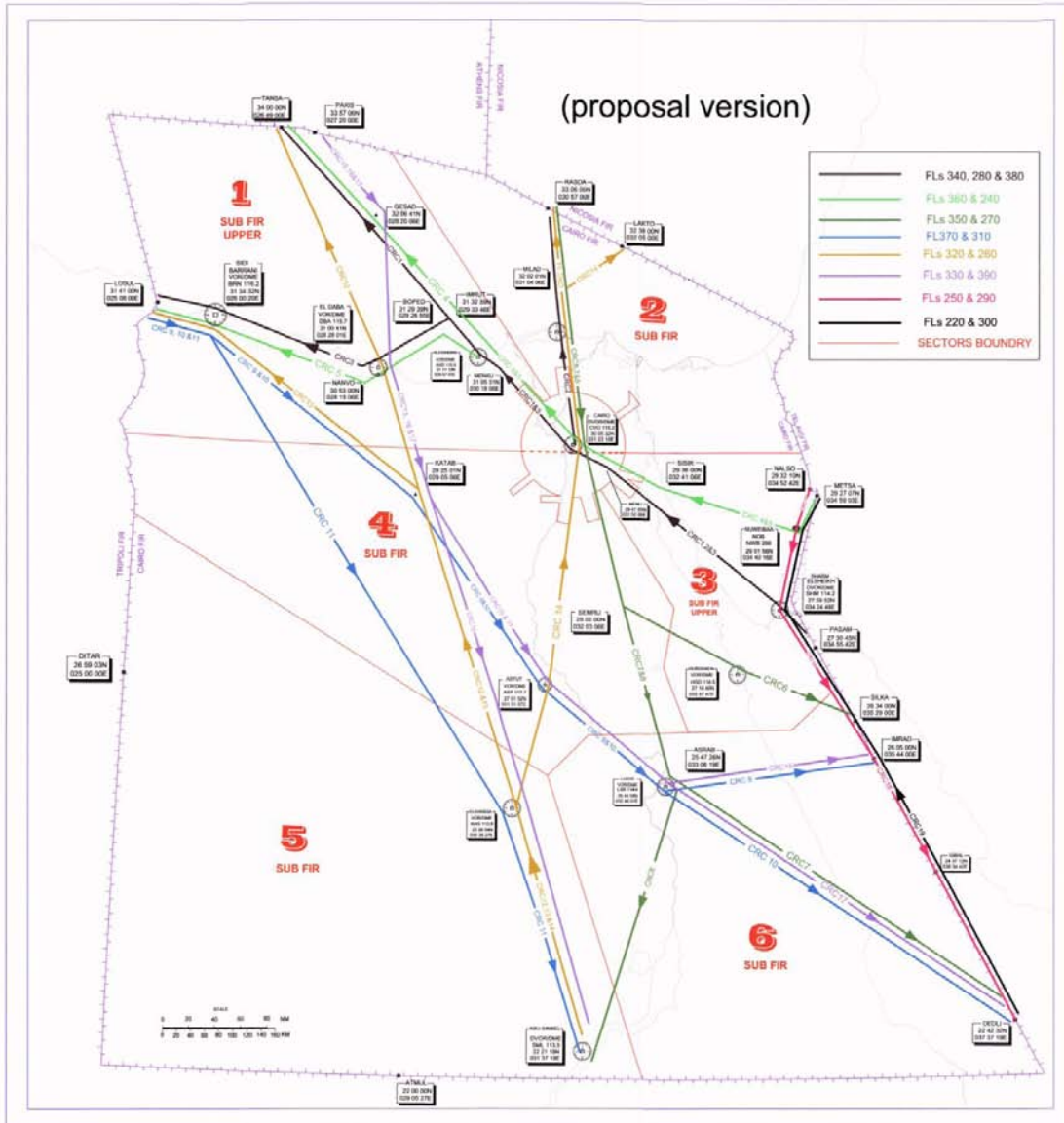
CRC 12	SML-B12-DBA-UL613-TANSA	FLs 320 and 260
CRC 13	SML-B12-KATAB-UP751-BRN-A411-LOSUL	FLs 320 and 260
CRC14	SML-B12-KHG-W8-CVO-A16-MILAD-A16-RASDA OR N307-LAKTO	FLs 320 and 260
CRC15	PAXIS-UL607-GESAD-L551-DBA-B12-KATAB- UP751-LXR-A145-IMRAD	FLs 330 and 390
CRC16	PAXIS-UL607-GESAD-L551-DBA-B12-SML	FLs 330 and 390
CRC17	PAXIS-UL607-GESAD-L551-DBA-B12-KATAB- UP751-LXR-R775-DEDLI	FLs 330 and 390
CRC18	NALSO-NWB-SHM-IMRAD-GIBAL-DEDLI	FLs 290 and 250
CRC19	DEDLI-GIBAL-IMRAD-SHM-NWB-NALSO	FLs 300 and 220

This CRCs table does not include any eastbound routes to AMMAN FIR.

Appendix

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CONTINGENCY ROUTES WITHIN CAIRO FIR



Communications with the next ATSU should be established at the earliest opportunity.

APPENDIX

CONTINGENCY FREQUENCIES FOR CONTROL AND/OR FLIGHT MONITORING SERVICES

CONTINGENCY ROUTES IN CAIRO (CRC)	ATS ROUTES	COM
CRC1	PASAM-A411-CVO-IMRUT-UL617-TANSA	126.6Mhz/CVO/127.7Mhz
CRC 2	PASAM-A411-CVO-A16-RASDA	126.6Mhz/CVO/124.7Mhz
CRC 3	PASAM-A411-CVO-A727-OTIKO-W725-BRN-A411-LOSUL	126.6Mhz/CVO/127.7Mhz

CRC 4	METSA-W733-NWB-A791-MENLI-A411-CVO-A727-IMRUT-L617/UL617-TANSA	126.6Mhz/CVO/127.7Mhz
CRC 5	METSA-W733-NWB-A791-MENLI-A411-CVO-A1-BOPED- W725-BRN-A411-LOSUL	126.6Mhz/CVO/127.7Mhz
CRC 6	RASDA-A16-CVO-A727-SEMRU-B418-SILKA	124.7Mhz/CVO/132.2Mhz/ SEMRU/126.6Mhz
CRC 7	RASDA-A16-CVO-A727-LXR-R775-DEDLI	124.7Mhz/CVO/132.2Mhz/ SEMRU/129.4Mhz
CRC 8	RASDA-A16-CVO-A727-SML	124.7Mhz/CVO/132.2Mhz/ SEMRU/129.4Mhz
CRC 9	LOSUL-A411-BRN-UP751-LXR-A145-IMRAD	127.7Mhz/KATAB/132.2Mhz/ AST/129.4Mhz
CRC 10	LOSUL-A411-BRN-UP751-LXR-R775-DEDLI	127.7Mhz/KATAB/132.2Mhz/ AST/129.4Mhz
CRC 11	LOSUL-A411-BRN-A145-KHG-B12-SML	127.7Mhz/DANAD/132.2Mhz/ ABM AST/129.4Mhz
CRC 12	SML-B12-DBA-UL613-TANSA	129.4Mhz/ABM AST/ 132.2Mhz/KATAB/127.7Mhz
CRC 13	SML-B12-KATAB-UP751-BRN-A411-LOSUL	129.4Mhz/ABM AST/ 132.2Mhz/KATAB/127.7Mhz
CRC14	SML-B12-KHG-W8-CVO-A16-MILAD-A16-RASDA OR N307-LAKTO	129.4Mhz/AST/132.2mhz/CVO/ 124.7Mhz
CRC15	PAXIS-UL607-GESAD-L551-DBA-B12-KATAB-UP751-LXR-A145-IMRAD	127.7Mhz/KATAB/132.2Mhz/ AST /129.4Mhz
CRC16	PAXIS-UL607-GESAD-L551-DBA-B12-SML	127.7Mhz/KATAB/132.2Mhz/ABM AST/129.4Mhz
CRC17	PAXIS-UL607-GESAD-L551-DBA-B12-KATAB-UP751-LXR-R775-DEDLI	127.7Mhz/KATAB/132.2Mhz/ AST/129.4Mhz
CRC18	NALSO-NWB-SHM-IMRAD-GIBAL-DEDLI	126.6Mhz/SILKA/129.4Mhz
CRC19	DEDLI-GIBAL-IMRAD-SHM-NWB-NALSO	129.4Mhz/SILKA/126.6Mhz

Note; Cairo FIR served as well by HF Frequency 11300 KHz

2.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Egypt loses the ability to provide an ATC service in the Cairo FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Cairo facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Cairo FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Cairo FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE CAIRO FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE CAIRO FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN CAIRO FIR ALL ACFT ARE ADVISED THAT THE Cairo FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY CAIRO AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE CAIRO FIR

CHAPTER 3: DETAILED PROCEDURES – TEHRAN FIR

3.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Tehran FIR

3.2 FIRs WITH SUPPORTING PROCEDURES

Ankara FIR
Baghdad FIR
Bahrain FIR
Baku FIR
Emirates FIR
Kabul FIR
Karachi FIR
Kuwait FIR
Muscat FIR
Turkmenbashi FIR
Yerevan FIR

3.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

3.4 LIMITED SERVICE – PROCEDURES

3.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Tehran frequency normally provided by Tehran Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Tehran and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Tehran Communications center and Tehran ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

3.4.2 Disruption of ability to provide control services

Tehran ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Tehran ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Tehran may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Tehran ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Tehran ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

3.5 NO SERVICE – PROCEDURES

3.5.1 Loss of ground/air communication capability

In the event of Tehran ACC being unable to provide ground/air communications for Tehran FIR -----
- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

a) Equipment Failure;

- Transmitters (Loss of all Transmitters)
- Receivers (Loss of all Receivers)
- Aerials (Loss of all Aerials)
- Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Tehran ACC

- Fire
- Bomb threat

Effect on flights

In the event of Tehran ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Tehran FIR.

ATFM measures may be imposed as necessary.

3.5.2 Loss of ability to provide control services

Should Tehran ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Tehran FIR.

In the event that Tehran ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Tehran Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Tehran Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSU's will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

3.6 FLIGHT CREW AND OPERATOR PROCEDURES

3.6.1 For flights within the Tehran FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

3.6.2 For flights within the Tehran FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Tehran FIR as soon as evacuation commences. These procedures are detailed at Tehran Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Ankara FIR				
Baghdad FIR				
Bahrain ACC	00973 1732 1080/1081	00973 1732 1029	bahatc@caa.gov.bh	OBBBZQZX OBBBZQZA
Baku FIR				
UAE ACC	00971	00971		OMAEZQZX OMAEYAYH
Kabul FIR				
Karachi FIR				
Kuwait FIR				
Muscat ACC	00968 24 519 550	00968 24 519 - ---		OOMMZQZX
Turkmenbashi FIR				
Yerevan FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

3.6.3 For flights within the Tehran FIR – Eastbound

----- ACC will endeavour to provide an ATC service throughout the Bahrain FIR as soon as evacuation commences. These procedures are detailed at Bahrain Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

3.6.4 For flights approaching the Tehran FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Tehran ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Tehran FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Tehran FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Tehran FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Tehran FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

3.7 TEHRAN FIR – CONTINGENCY ROUTE STRUCTURE

3.7.1 For activation within Tehran FIR

In a **limited service** contingency situation Tehran ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Tehran FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

3.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Tehran FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

3.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Tehran loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Tehran facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will

be available in the Tehran FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Tehran FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE TEHRAN FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE TEHRAN FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN TEHRAN FIR ALL ACFT ARE ADVISED THAT THE TEHRAN FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY TEHRAN AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE TEHRAN FIR.

CHAPTER 4: DETAILED PROCEDURES – BAGHDAD FIR

4.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Baghdad FIR

4.2 FIRs WITH SUPPORTING PROCEDURES

Amman FIR
Ankara FIR
Damascus FIR
Jeddah FIR
Kuwait FIR
Tehran FIR

4.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

4.4 LIMITED SERVICE – PROCEDURES

4.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Baghdad frequency normally provided by Baghdad Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Baghdad and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Baghdad Communications center and Baghdad ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

4.4.2 Disruption of ability to provide control services

Baghdad ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Baghdad ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Baghdad may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Baghdad ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Baghdad ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

4.5 NO SERVICE – PROCEDURES

4.5.1 Loss of ground/air communication capability

In the event of Baghdad ACC being unable to provide ground/air communications for Baghdad FIR -- ---- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;

- Transmitters (Loss of all Transmitters)
- Receivers (Loss of all Receivers)
- Aerials (Loss of all Aerials)
- Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Baghdad ACC

- Fire
- Bomb threat

Effect on flights

In the event of Baghdad ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Baghdad FIR.

ATFM measures may be imposed as necessary.

4.5.2 Loss of ability to provide control services

Should Baghdad ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Baghdad FIR.

In the event that Baghdad ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Baghdad Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Baghdad Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

4.6 FLIGHT CREW AND OPERATOR PROCEDURES

4.6.1 For flights within the Baghdad FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

4.6.2 For flights within the Baghdad FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Baghdad FIR as soon as evacuation commences. These procedures are detailed at Baghdad Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Amman FIR				
Ankara FIR				
Damascus FIR				
Jeddah FIR				
Kuwait FIR				
Tehran FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

4.6.3 For flights within the Baghdad FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Baghdad FIR as soon as evacuation commences. These procedures are detailed at Baghdad Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

4.6.4 For flights approaching the Baghdad FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Baghdad ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Baghdad FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Baghdad FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Baghdad FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Baghdad FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

4.7 BAGHDAD FIR – CONTINGENCY ROUTE STRUCTURE

4.7.1 For activation within Baghdad FIR

In a **limited service** contingency situation Baghdad ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Baghdad FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

4.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Baghdad FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

4.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Baghdad loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Baghdad facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Baghdad FIR within **48** hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Baghdad FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE BAGHDAD FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE BAGHDAD FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN BAGHDAD FIR ALL ACFT ARE ADVISED THAT THE Baghdad FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY TEHRAN AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE BAGHDAD FIR.

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CHAPTER 5: DETAILED PROCEDURES – AMMAN FIR

5.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Cairo FIR

5.2 FIRs WITH SUPPORTING PROCEDURES

Jeddah FIR
Riyadh ACC
Baghdad FIR
Damascus FIR
Tel Aviv FIR
Cairo FIR

5.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

5.4 LIMITED SERVICE – PROCEDURES

5.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Amman frequency normally provided by Amman Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Amman and the assisting stations.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Amman Communications center and Amman ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness

Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

5.4.2 Disruption of ability to provide control services

Amman ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Amman ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Amman may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Amman ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Amman ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

5.5 NO SERVICE – PROCEDURES

5.5.1 Loss of ground/air communication capability

In the event of Amman ACC being unable to provide ground/air communications for Amman FIR ---- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)
 - Aerials (Loss of all Aerials)
 - Data Lines (Loss of data lines)

- b) Propagation;
 - Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

- c) Staffing
 - No Staff
 - Illness (Seasonal Influenza)
 - Weather
 - Industrial Relations issues

- d) Evacuation of Amman ACC
 - Fire
 - Bomb threat

Effect on flights

In the event of Amman ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Cairo FIR.

ATFM measures may be imposed as necessary.

5.5.2 Loss of ability to provide control services

Should Amman ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Cairo FIR.

In the event that Amman ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Jordan Contingency Plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Amman Contingency Procedures – Appendix xx. In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix **XX**.

5.6 FLIGHT CREW AND OPERATOR PROCEDURES

5.6.1 For flights within the Amman FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

5.6.2 For flights within the Cairo FIR – Westbound

Cairo, Damascus, Jeddah ACC and Tel Aviv ACC will endeavour to provide an ATC service throughout the Amman FIR as soon as evacuation commences. These procedures are detailed at Cairo Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Jeddah ACC	00966	00966		
Riyadh ACC	00966	00966		
Baghdad ACC				
Damascus ACC				
Tel Aviv ACC				
Cairo ACC				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

5.6.3 For flights within the Amman FIR – Eastbound

Cairo, Damascus, Jeddah ACC and Tel Aviv ACC will endeavour to provide an ATC service throughout the Amman FIR as soon as evacuation commences. These procedures are detailed at Bahrain Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

5.6.4 For flights approaching the Amman FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Amman ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Amman FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Amman FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Amman FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Amman FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

5.7 AMMAN FIR – CONTINGENCY ROUTE STRUCTURE

5.7.1 For activation within Amman FIR

In a **limited service** contingency situation Amman ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Amman FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

5.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Amman FIR should use the following contingency routes:

CONTINGENCY ROUTE STRUCTURE FOR AMMAN FIR

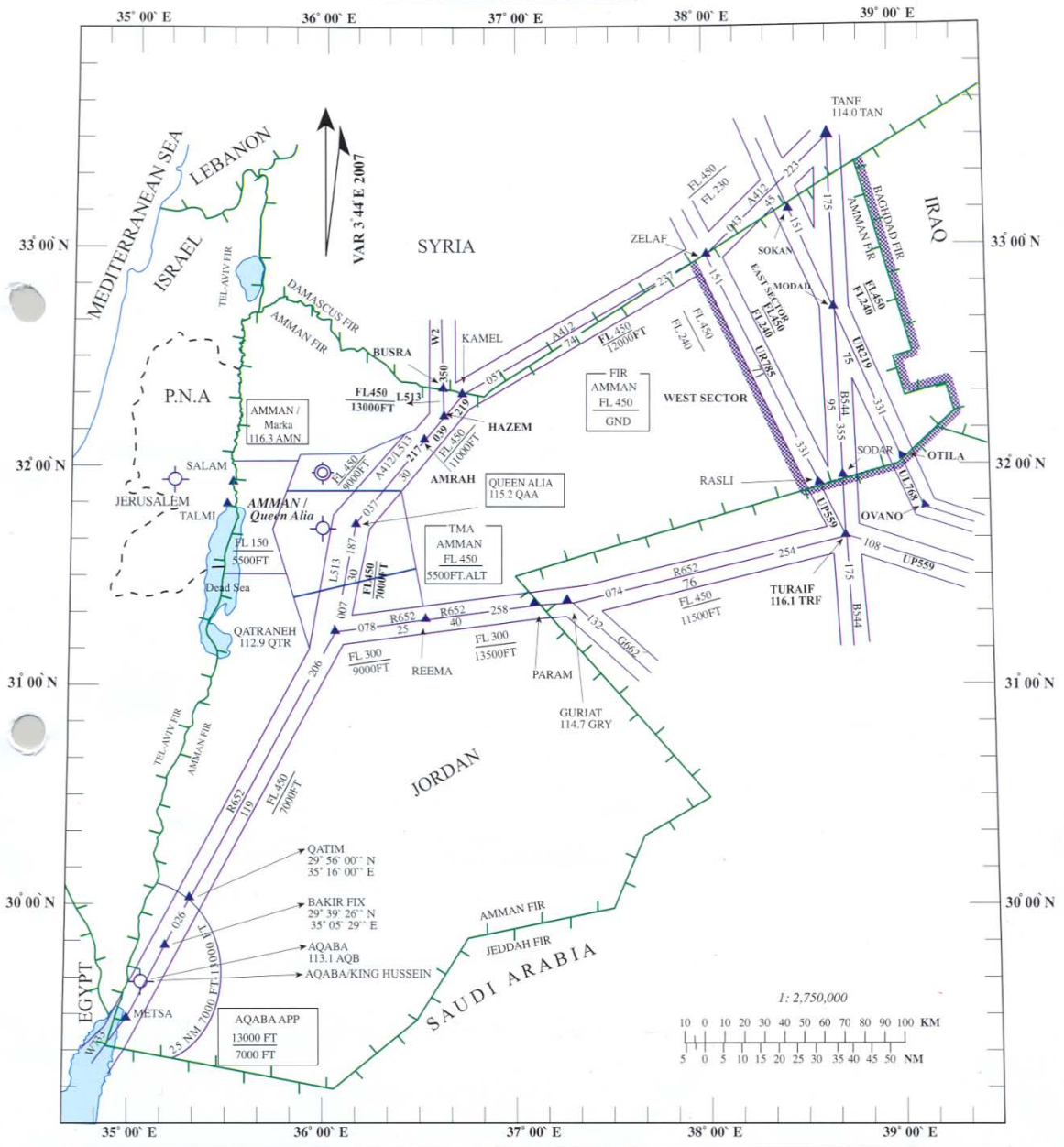
Present ATS Route	Contingency Routings	FIRs Involved
<p><u>EAST SECTOR:</u> ATS routes B544, UR219, UR785 In case of closure: these routes, all traffic will have to be re routed as follows:</p>	<p>a) East Bound Traffic: all traffic has to follow the routes: L513 to BUSRA and HAZEM, A412/L513 to QAA–GRY, W333/R652 in JEDDAH FIR. Other traffic coming from the north through ZELAF or TANF will have to continue on A412/L513 to QAA–GRY, W333/R652 in JEDDAH FIR.</p> <p>b) West Bound Traffic: all traffic has to come through GRY/ ATS route R652 then on W333/A412/L513, GRY – QAA then L513 HAZEM to BUSRA and DAMASCUS FIR.</p>	<ul style="list-style-type: none"> • Damascus FIR • Jeddah FIR
<p><u>WEST SECTOR</u> : this sector has four outlets: North Border: ATS route A412/L513 and W2 with DAMASCUS in case of closure</p>	<p>a) All west bound traffic has to go through TALMI. Or ATS route A412/L513 – QTR then ATS route R652 to METSA and CAIRO FIR. As for the east bound traffic it will, be through SALAM or METSA on route R652 - QTR, thereafter to QAA or to continue to GRY in JEDDAH.FIR.</p>	<ul style="list-style-type: none"> • Tel Aviv FIR • CAIRO FIR • JEDDAH FIR

<p>West Border Air Corridors with TELAVIV FIR: in case of being closed, east bound traffic has to follow:</p>	<p>b) A412/L513 to HAZEM then L513 to BUSRA and DAMASCUS or to continue on A412/L513 to ZELAF or TANF in DAMASCUS FIR. West bound traffic will use A412/L513 to QTR then R652 to METSA and CAIRO FIR. Arrivals have to come through A412/L513 or L513 - BUSRA and QAA or on R652 from CAIRO FIR through METSA.</p>	<ul style="list-style-type: none"> • Damascus FIR • Cairo FIR
<p>South border METSA and R652 to and from CAIRO FIR: in case of closure</p>	<p>Departures or arrivals have to use W2 to BUSRA – HAZEM – A412/L513 to QAA and vice versa. OR via TELAVIV FIR instead of L513 or A412</p>	<ul style="list-style-type: none"> • Damascus FIR • Tel Aviv FIR
<p>East border ATS route R652 QTR – PARAM – GRY in case of closure</p>	<p>c) East bound traffic has to use A412/L513 to ZELAF then UR785 to JEDDAH FIR. West bound traffic will proceed through OTILA to SOKAN UR219 to ZELAF then A412 to QAAVOR.</p>	<ul style="list-style-type: none"> • DAMASCUS FIR • Jeddah FIR

Communications with the next ATSU should be established at the earliest opportunity.

Appendix

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Within East Sector, Non Rnav equipped ACFT may operate only along Airway B544.

APPENDIX

CONTINGENCY FREQUENCIES FOR CONTROL AND/OR FLIGHT MONITORING SERVICES

CONTINGENCY ROUTES IN AMMAN (CRJ)	ATS ROUTES	COM

5.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Jordan loses the ability to provide an ATC service in the Amman FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Amman facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Amman FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Amman FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE AMMAN FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE AMMAN FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN AMMAN FIR ALL ACFT ARE ADVISED THAT THE AMMAN FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY AMMAN AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE AMMAN FIR

CHAPTER 6: DETAILED PROCEDURES – KUWAIT FIR

6.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Kuwait FIR

6.2 FIRs WITH SUPPORTING PROCEDURES

Baghdad FIR
Bahrain FIR
Jeddah FIR
Tehran FIR

6.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

6.4 LIMITED SERVICE – PROCEDURES

6.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Kuwait frequency normally provided by Kuwait Control will be delegated as appropriate to the other ATS units namely [REDACTED]. Appropriate frequencies will be advised by Kuwait and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Kuwait Communications center and Kuwait ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

6.4.2 Disruption of ability to provide control services

Kuwait ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Kuwait ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Kuwait may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Kuwait ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Kuwait ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

6.5 NO SERVICE – PROCEDURES

6.5.1 Loss of ground/air communication capability

In the event of Kuwait ACC being unable to provide ground/air communications for Kuwait FIR -----
- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)

- Aerials (Loss of all Aerials)
- Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Kuwait ACC

- Fire
- Bomb threat

Effect on flights

In the event of Kuwait ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Kuwait FIR.

ATFM measures may be imposed as necessary.

6.5.2 Loss of ability to provide control services

Should Kuwait ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Kuwait FIR.

In the event that Kuwait ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Kuwait Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Kuwait Contingency Procedures – Appendix xx.‘ In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

6.6 FLIGHT CREW AND OPERATOR PROCEDURES

6.6.1 For flights within the Kuwait FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

6.6.2 For flights within the Kuwait FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Kuwait FIR as soon as evacuation commences. These procedures are detailed at Kuwait Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Baghdad FIR				
Bahrain FIR				
Jeddah FIR				
Tehran FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

6.6.3 For flights within the Kuwait FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Kuwait FIR as soon as evacuation commences. These procedures are detailed at Kuwait Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

6.6.4 For flights approaching the Kuwait FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Kuwait ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Kuwait FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Kuwait FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Kuwait FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Kuwait FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

6.7 KUWAIT FIR – CONTINGENCY ROUTE STRUCTURE

6.7.1 For activation within Kuwait FIR

In a **limited service** contingency situation Kuwait ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Kuwait FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

6.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Kuwait FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

6.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Kuwait loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Kuwait facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Kuwait FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Baghdad FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE KUWAIT FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE KUWAIT FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN KUWAIT FIR ALL ACFT ARE ADVISED THAT THE Kuwait FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY KUWAIT AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE KUWAIT FIR

DRAFT

CHAPTER 7: DETAILED PROCEDURES – BEIRUT FIR

7.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Beirut FIR

7.2 FIRs WITH SUPPORTING PROCEDURES

Damascus FIR
Nicosia FIR

7.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

7.4 LIMITED SERVICE – PROCEDURES

7.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Beirut frequency normally provided by Beirut Control will be delegated as appropriate to the other ATS units namely [REDACTED]. Appropriate frequencies will be advised by Beirut and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Beirut Communications center and Beirut ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

7.4.2 Disruption of ability to provide control services

Beirut ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Beirut ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Beirut may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Beirut ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Beirut ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

7.5 NO SERVICE – PROCEDURES

7.5.1 Loss of ground/air communication capability

In the event of Beirut ACC being unable to provide ground/air communications for Beirut FIR ----- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)
 - Aerials (Loss of all Aerials)
 - Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Beirut ACC

- Fire
- Bomb threat

Effect on flights

In the event of Beirut ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Beirut FIR.

ATFM measures may be imposed as necessary.

7.5.2 Loss of ability to provide control services

Should Beirut ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Beirut FIR.

In the event that Beirut ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Beirut Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Beirut Contingency Procedures – Appendix xx. In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

7.6 FLIGHT CREW AND OPERATOR PROCEDURES

7.6.1 For flights within the Beirut FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

7.6.2 For flights within the Beirut FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Beirut FIR as soon as evacuation commences. These procedures are detailed at Beirut Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Damascus FIR				
Nicosia FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

7.6.3 For flights within the Beirut FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Beirut FIR as soon as evacuation commences. These procedures are detailed at Beirut Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

7.6.4 For flights approaching the Beirut FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Beirut ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Beirut FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Beirut FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Beirut FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Beirut FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

7.7 BEIRUT FIR – CONTINGENCY ROUTE STRUCTURE

7.7.1 For activation within Beirut FIR

In a **limited service** contingency situation Beirut ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Beirut FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

7.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Beirut FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

7.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Beirut loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Beirut facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Beirut FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Beirut FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE BEIRUT FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE BEIRUT FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN BEIRUT FIR ALL ACFT ARE ADVISED THAT THE Beirut FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY BEIRUT AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE BEIRUT FIR

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CHAPTER 8: DETAILED PROCEDURES – TRIPOLI FIR

8.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Tripoli FIR

8.2 FIRs WITH SUPPORTING PROCEDURES

Algiers FIR
Cairo FIR
Khartoum FIR
Malta FIR
N'Djamena FIR
Niamey UIR
Nicosia FIR
Tunis FIR

8.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

8.4 LIMITED SERVICE – PROCEDURES

8.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Tripoli frequency normally provided by Tripoli Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Tripoli and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Tripoli Communications center and Tripoli ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing

Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

8.4.2 Disruption of ability to provide control services

Tripoli ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Tripoli ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Tripoli may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Tripoli ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Tripoli ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

8.5 NO SERVICE – PROCEDURES

8.5.1 Loss of ground/air communication capability

In the event of Tripoli ACC being unable to provide ground/air communications for Tripoli FIR ----- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)
 - Aerials (Loss of all Aerials)
 - Data Lines (Loss of data lines)

- b) Propagation;
 - Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

- c) Staffing
 - No Staff
 - Illness (Seasonal Influenza)
 - Weather
 - Industrial Relations issues

- d) Evacuation of Tripoli ACC
 - Fire
 - Bomb threat

Effect on flights

In the event of Tripoli ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Tripoli FIR.

ATFM measures may be imposed as necessary.

8.5.2 Loss of ability to provide control services

Should Tripoli ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Tripoli FIR.

In the event that Tripoli ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Tripoli Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Tripoli Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

8.6 FLIGHT CREW AND OPERATOR PROCEDURES

8.6.1 For flights within the Tripoli FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

8.6.2 For flights within the Tripoli FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Tripoli FIR as soon as evacuation commences. These procedures are detailed at Tripoli Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Algiers FIR				
Cairo FIR				
Khartoum FIR				
Malta FIR				
N'Djamena FIR				
Niamey UIR				
Nicosia FIR				
Tunis FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

8.6.3 For flights within the Tripoli FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Tripoli FIR as soon as evacuation commences. These procedures are detailed at Tripoli Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

8.6.4 For flights approaching the Tripoli FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Tripoli ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Tripoli FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Tripoli FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Tripoli FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Tripoli FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

8.7 TRIPOLI FIR – CONTINGENCY ROUTE STRUCTURE

8.7.1 For activation within Tripoli FIR

In a **limited service** contingency situation Tripoli ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Tripoli FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

8.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Tripoli FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

8.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Tripoli loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Tripoli facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Tripoli FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Tripoli FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE TRIPOLI FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE TRIPOLI FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN TRIPOLI FIR ALL ACFT ARE ADVISED THAT THE Tripoli FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY TRIPOLI AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE TRIPOLI FIR

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CHAPTER 9: DETAILED PROCEDURES – MUSCAT FIR

9.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Muscat FIR

9.2 FIRs WITH SUPPORTING PROCEDURES

Bahrain FIR
Emirates FIR
Jeddah FIR
Karachi FIR
Mumbai FIR
Tehran FIR
Sana'a FIR

9.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

9.4 LIMITED SERVICE – PROCEDURES

9.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Muscat frequency normally provided by Muscat Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Muscat and the assisting stations.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Muscat Communications center and Muscat ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness

Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

9.4.2 Disruption of ability to provide control services

Muscat ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Muscat ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Muscat may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Muscat ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Muscat ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

9.5 NO SERVICE – PROCEDURES

9.5.1 Loss of ground/air communication capability

In the event of Muscat ACC being unable to provide ground/air communications for Muscat FIR -----
- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)
 - Aerials (Loss of all Aerials)
 - Data Lines (Loss of data lines)
- b) Propagation;
 - Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.
- c) Staffing
 - No Staff
 - Illness (Seasonal Influenza)
 - Weather
 - Industrial Relations issues
- d) Evacuation of Muscat ACC
 - Fire
 - Bomb threat

Effect on flights

In the event of Muscat ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Cairo FIR.

ATFM measures may be imposed as necessary.

9.5.2 Loss of ability to provide control services

Should Muscat ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Muscat FIR.

In the event that Muscat ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Oman Contingency Plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Muscat Contingency Procedures – Appendix xx. In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix **XX**.

9.6 FLIGHT CREW AND OPERATOR PROCEDURES

9.6.1 For flights within the Muscat FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

9.6.2 For flights within the Muscat FIR – Westbound

Mumbai ACC, Karachi ACC, Sana'a ACC and Tehran ACC will endeavour to provide an ATC service throughout the Muscat FIR as soon as evacuation commences. These procedures are detailed at Muscat Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Tehran ACC	0098 21 44544116 or 44554060 44544133 (Sector Controller)	0098 21 44544117	maj.alireza@yahoo.com alireza.majzoubi@gmail.com	OIIIZGZX
Karachi ACC	0092 21 9248 756	0092 21 9248 758	gmats@cyber.net.pk	OPKCZQZX OPKCZQZA
Mumbai ACC	0091 22 26828088	0091 22 26828066	WSOMUM@AAI.AERO	VABFZQZX VABFZQZA
Sana'a ACC	00967 1345402/3	00967 1344047	atccns@gmail.com	OYSNZQZX OYSNZQZA
Bahrain ACC	00973 1732 1080/1081	00973 1732 1029	bahatc@caa.gov.bh	OBBBZQZX OBBBZQZA
UAE ACC	00971 2 4054 501	00971 2 4054 316	hkaram@gcaa.ae	OMAEZQZX OMAEYAYH
Jeddah ACC				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

9.6.3 For flights within the Muscat FIR – Eastbound

Bahrain ACC, Emirates ACC and Sana'a ACC will endeavour to provide an ATC service throughout the Muscat FIR as soon as evacuation commences. These procedures are detailed at Bahrain Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

9.6.4 For flights approaching the Muscat FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Cairo ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Muscat FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Muscat FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Muscat FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Muscat FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

9.7 MUSCAT FIR – CONTINGENCY ROUTE STRUCTURE

9.7.1 For activation within Muscat FIR

In a **limited service** contingency situation Muscat ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Muscat FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

9.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Muscat FIR should use the following contingency routes:

CONTINGENCY ROUTE STRUCTURE FOR MUSCAT FIR

ATS WAYPOINT	DIRECTION	FL ASSIGNMENT	NEXT ACC	COM
RASKI/PARAR	WESTBOUND	240 (Muscat arrivals only) 300 and 380	UAE	
TOTOX REXOD	WESTBOUND	220 (Muscat	UAE	

LOTAV KITAL		arrivals only) 320 and 400		
TAPDO	WESTBOUND	200 (Muscat arrivals only) 260 and 340	UAE	
DENDA	WESTBOUND	180 (Muscat arrivals only) 280 and 360	UAE	
IMLOT	WESTBOUND (NOT FOR UAE ARRIVALS)	ALL LEVELS	UAE	
SOUTHBOUND TRAFFIC TO HAI VOR (ONLY FROM LABRI P304)	WESTBOUND	180 AND 280	SANA'A	
NORTHBOUND TRAFFIC TO MUSAP/SODEX	WESTBOUND	160/260	UAE	
DEPARTURES FROM MUSCAT VIA B400	WESTBOUND	240 and 300 cross 20nm south of IZXI 200 or below and to be level 20nm before KEBAS	SALALAH APP OR SANA'A	
ASPUX	WESTBOUND	340 AND ABOVE	BAHRAIN	

Communications with the next ATSU should be established at the earliest opportunity.

APPENDIX

CONTINGENCY FREQUENCIES FOR CONTROL AND/OR FLIGHT MONITORING SERVICES

ATS WAYPOINT	DIRECTION	FL ASSIGNMENT	NEXT ACC	COM
RASKI/PARAR	EASTBOUND		MUMBAI	
TOTOX REXOD LOTAV KITAL	EASTBOUND		MUMBAI	
ALPOR	EASTBOUND	330 AND 370	KARACHI	128.3, 123.7
DENDA	EASTBOUND		TEHRAN	
IMLOT	EASTBOUND		TEHRAN	
ASPUX	EASTBOUND		MUMBAI	

9.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Egypt loses the ability to provide an ATC service in the Muscat FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Muscat facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Muscat FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Muscat FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE MUSCAT FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE MUSCAT FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN MUSCAT FIR ALL ACFT ARE ADVISED THAT THE Cairo FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY MUSCAT AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE MUSCAT FIR.

CHAPTER 10: DETAILED PROCEDURES – JEDDAH FIR

10.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Jeddah FIR

10.2 FIRs WITH SUPPORTING PROCEDURES

Amman FIR
Asmara FIR
Bahrain FIR
Baghdad FIR
Cairo FIR
Khartoum FIR
Kuwait FIR
Sana'a FIR

10.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

10.4 LIMITED SERVICE – PROCEDURES

10.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Jeddah frequency normally provided by Jeddah Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Jeddah and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Jeddah Communications center and Jeddah ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness

Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

10.4.2 Disruption of ability to provide control services

Jeddah ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Jeddah ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Jeddah may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Jeddah ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Jeddah ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

10.5 NO SERVICE – PROCEDURES

10.5.1 Loss of ground/air communication capability

In the event of Tripoli ACC being unable to provide ground/air communications for Jeddah FIR ----- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

a) Equipment Failure;

- Transmitters (Loss of all Transmitters)
- Receivers (Loss of all Receivers)
- Aerials (Loss of all Aerials)
- Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Jeddah ACC

- Fire
- Bomb threat

Effect on flights

In the event of Jeddah ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Jeddah FIR.

ATFM measures may be imposed as necessary.

10.5.2 Loss of ability to provide control services

Should Jeddah ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Jeddah FIR.

In the event that Jeddah ACC are evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Jeddah Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Jeddah Contingency Procedures – Appendix xx. In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

10.6 FLIGHT CREW AND OPERATOR PROCEDURES

10.6.1 For flights within the Jeddah FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

10.6.2 For flights within the Jeddah FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Jeddah FIR as soon as evacuation commences. These procedures are detailed at Jeddah Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Amman FIR				
Asmara FIR				
Bahrain FIR				
Baghdad FIR				
Cairo FIR				
Khartoum FIR				
Kuwait FIR				
Sana'a FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

10.6.3 For flights within the Jeddah FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Jeddah FIR as soon as evacuation commences. These procedures are detailed at Jeddah Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

10.6.4 For flights approaching the Jeddah FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Jeddah ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Jeddah FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Jeddah FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Jeddah FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Jeddah FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

10.7 JEDDAH FIR – CONTINGENCY ROUTE STRUCTURE

10.7.1 For activation within Jeddah FIR

In a **limited service** contingency situation Jeddah ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Jeddah FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

10.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Jeddah FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

10.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Jeddah loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Jeddah facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Jeddah FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Jeddah FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE JEDDAH FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE JEDDAH FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN JEDDAH FIR ALL ACFT ARE ADVISED THAT THE Tripoli FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY JEDDAH AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE JEDDAH FIR

CHAPTER 11: DETAILED PROCEDURES – KHARTOUM FIR

11.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Khartoum FIR

11.2 FIRs WITH SUPPORTING PROCEDURES

Cairo FIR
Jeddah FIR
Ndjamena FIR
Tripoli FIR
Asmara FIR
Addis Ababa FIR
Nairobi FIR
Entebbe FIR
Kinshasa FIR
Brazzaville ACC

11.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

11.4 LIMITED SERVICE – PROCEDURES

11.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Khartoum frequency normally provided by Khartoum Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Cairo and the assisting stations.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Khartoum Communications center and Khartoum ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

11.4.2 Disruption of ability to provide control services

Khartoum ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Khartoum ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Khartoum may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Khartoum ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Khartoum ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

11.5 NO SERVICE – PROCEDURES

11.5.1 Loss of ground/air communication capability

In the event of Khartoum ACC being unable to provide ground/air communications for Khartoum FIR ----- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;
 - Transmitters (Loss of all Transmitters)
 - Receivers (Loss of all Receivers)
 - Aerials (Loss of all Aerials)
 - Data Lines (Loss of data lines)
- b) Propagation;
 - Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.
- c) Staffing
 - No Staff
 - Illness (Seasonal Influenza)
 - Weather
 - Industrial Relations issues
- d) Evacuation of Khartoum ACC
 - Fire
 - Bomb threat

Effect on flights

In the event of Khartoum ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Cairo FIR.

ATFM measures may be imposed as necessary.

11.5.2 Loss of ability to provide control services

Should Khartoum ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Khartoum FIR.

In the event that Khartoum ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Sudan Contingency Plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Khartoum Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSU's will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix **XX**.

11.6 FLIGHT CREW AND OPERATOR PROCEDURES

11.6.1 For flights within the Khartoum FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

11.6.2 For flights within the Khartoum FIR – Westbound

Jeddah ACC, Asmara ACC, Addis Ababa ACC, Nairobi ACC and Entebbe ACC will endeavour to provide an ATC service throughout the Khartoum FIR as soon as evacuation commences. These procedures are detailed at Cairo Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Cairo ACC	TBN	Fax: (20) 2-2665435	E-mail: egoca@idsc.gov.eg	HECAYAYX
Tripoli ACC	TBN	Fax: (218) 37454	TBN	HLLTYAYX
Jeddah ACC	TBN	Fax: (966) 2-6401477	TBN	OEJDYAYX
Ndjamena ACC	+253522520830	+253522526231	TBN	TBN
Asmara ACC	(291) 1-124334	Fax: (291) 1-181255	TBN	HHAAYAYX
Addis Ababa ACC	TBN	Fax: (251) 1-612533	E-mail: civil-aviation@telecom.net.et	HAAAYAYX
Nairobi ACC	TBN	Fax: (254) 20-822300	E-mail: info@kcaa.or.ke	HKNCYAYD
Entebbe ACC				
Kinshasa ACC				
Brazzaville ACC	+242055478182	+242069920433	TBN	FCCCZRZX

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

11.6.3 For flights within the Khartoum FIR – Eastbound

Tripoli ACC, Ndjamena ACC, Kinshasa and Brazzaville ACC will endeavour to provide an ATC service throughout the Khartoum FIR as soon as evacuation commences. These procedures are detailed at Bahrain Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

11.6.4 For flights approaching the Khartoum FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Khartoum ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Cairo FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Khartoum FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Khartoum FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Khartoum FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

11.7 Khartoum FIR – CONTINGENCY ROUTE STRUCTURE

11.7.1 For activation within Khartoum FIR

In a **limited service** contingency situation Khartoum ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Khartoum FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

11.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Khartoum FIR should use the following contingency routes:

INTERNATIONAL ROUTE STRUCTURE AND COMMUNICATIONS FOR TRANSIT OF THE KHARTOUM FIR WHEN NO ATS AVAILABLE IN SUDAN AIRSPACE

Contingency Routes Khartoum (CRK)	ATS Route	Direction	FL Assignment (FLAS)	ACCs	COM (Frequency Details in Appendix X)

CRK	UR611	N/S One way	Odd F370 ,F350 ,F330	CAIRO	HF, VHF
CRK	UB612	N/S Two ways	Odd F330 ,F350 Even F320,F360	CAIRO	HF, VHF
CRK	UA451	N/S Two ways	Odd F370 ,F350 ,F330 Even F300	CAIRO	HF, VHF
CRK	UG660	E/W Two ways	Even F400 ,F340 ,F280 Odd F290,F310	CAIRO	HF, VHF
CRK	UB736	E/W Two ways	Even F340 ,F260 Odd F390,F410	NIROBI	HF, VHF
CRK	UB527	N/S Two ways	Odd F370 Even F380	NIROBI	HF, VHF
CRK	UT267	E/W One way	Even F400,F340,F280	CAIRO	HF, VHF
CRK	UT124	E/W One way	Even F320, F360	NIROBI	HF, VHF

Communications with the next ATSU should be established at the earliest opportunity.

APPENDIX

CONTINGENCY FREQUENCIES FOR CONTROL AND/OR FLIGHT MONITORING SERVICES

CONTINGENCY ROUTE KHARTOUM (CRK)	ATS ROUTE	ACC	COM
CRK	UR611	CAIRO	HF, VHF HF 11300, VHF: Primary 129.4 MHz Secondary 130.9 MHz
CRK	UB612	CAIRO	HF, VHF HF 11300, VHF: Primary 129.4 MHz Secondary 130.9 MHz
CRK	UB612 SOUTH SECTOR	NAIROBI	HF, VHF HF 11300, VHF: Primary 121.3 MHz
CRK	UB736	NAIROBI	HF, VHF HF 11300, VHF: Primary 129.4 MHz

			Secondary 130.9 MHz,
CRK	UA451	CAIRO	HF, VHF HF 11300, VHF: Primary 129.4 MHz Secondary 130.9 MHz,
CRK	UG660	CAIRO	HF, VHF HF 11300, VHF: Primary 129.4 MHz/ Secondary 130.9 MHz
CRK	UB736	NAIROBI	HF, VHF HF 11300, VHF: Primary 121.3 MHz
CRK	UB527	NAIROBI	HF, VHF HF 11300, VHF: Primary 121.3 MHz
CRK	UT124	CAIRO	HF, VHF HF 11300, VHF: Primary 121.3 MHz/ Secondary 130.9 MHz
CRK	UM863	CAIRO	HF, VHF HF 11300, VHF: Primary 121.3 MHz Secondary 130.9 MHz

11.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Sudan loses the ability to provide an ATC service in the Khartoum FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Khartoum facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Khartoum FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Cairo FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE KHARTOUM FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE KHARTOUM FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN KHARTOUM FIR ALL ACFT ARE ADVISED THAT THE SUDANESE INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY SUDANESE AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE KHARTOUM FIR

CHAPTER 8: DETAILED PROCEDURES – DAMASCUS FIR

12.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Damascus FIR

12.2 FIRs WITH SUPPORTING PROCEDURES

Amman FIR
Ankara FIR
Baghdad FIR
Beirut FIR
Nicosia FIR

12.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

12.4 LIMITED SERVICE – PROCEDURES

12.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Damascus frequency normally provided by Damascus Control will be delegated as appropriate to the other ATS units namely -----, Appropriate frequencies will be advised by Damascus and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Damascus Communications center and Damascus ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

12.4.2 Disruption of ability to provide control services

Damascus ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Damascus ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Damascus may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Damascus ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Damascus ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

12.5 NO SERVICE – PROCEDURES

12.5.1 Loss of ground/air communication capability

In the event of Damascus ACC being unable to provide ground/air communications for Damascus FIR ----- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;

- Transmitters (Loss of all Transmitters)
- Receivers (Loss of all Receivers)
- Aerials (Loss of all Aerials)
- Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Damascus ACC

- Fire
- Bomb threat

Effect on flights

In the event of Damascus ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Tripoli FIR.

ATFM measures may be imposed as necessary.

12.5.2 Loss of ability to provide control services

Should Damascus ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Damascus FIR.

In the event that Damascus ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Damascus Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Damascus Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

12.6 FLIGHT CREW AND OPERATOR PROCEDURES

12.6.1 For flights within the Damascus FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

12.6.2 For flights within the Tripoli FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Damascus FIR as soon as evacuation commences. These procedures are detailed at Damascus Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Amman FIR				
Ankara FIR				
Baghdad FIR				
Beirut FIR				
Nicosia FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

12.6.3 For flights within the Tripoli FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Damascus FIR as soon as evacuation commences. These procedures are detailed at Damascus Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

12.6.4 For flights approaching the Damascus FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Damascus ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Damascus FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Damascus FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Damascus FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Damascus FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

12.7 DAMASCUS FIR – CONTINGENCY ROUTE STRUCTURE

12.7.1 For activation within Damascus FIR

In a **limited service** contingency situation Damascus ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Damascus FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

12.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Tripoli FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

12.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Damascus loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Damascus facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Damascus FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Damascus FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE DAMASCUS FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE DAMASCUS FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN DAMASCUS FIR ALL ACFT ARE ADVISED THAT THE Damascus FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY DAMASCUS AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE DAMASCUS FIR

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CHAPTER 13: DETAILED PROCEDURES – EMIRATES FIR

13.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Emirates FIR

13.2 FIRs WITH SUPPORTING PROCEDURES

Bahrain FIR
Muscat FIR
Qatar TMA
Tehran FIR

13.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

13.4 LIMITED SERVICE – PROCEDURES

13.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Emirates frequency normally provided by Emirates Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Emirates and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Emirates Communications center and Emirates ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness
Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

13.4.2 Disruption of ability to provide control services

Emirates ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Emirates ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Emirates may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Emirates ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Emirates ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

13.5 NO SERVICE – PROCEDURES

13.5.1 Loss of ground/air communication capability

In the event of Emirates ACC being unable to provide ground/air communications for Emirates FIR -- ---- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

- a) Equipment Failure;

- Transmitters (Loss of all Transmitters)
- Receivers (Loss of all Receivers)
- Aerials (Loss of all Aerials)
- Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Emirates ACC

- Fire
- Bomb threat

Effect on flights

In the event of Emirates ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Emirates FIR.

ATFM measures may be imposed as necessary.

13.5.2 Loss of ability to provide control services

Should Emirates ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Emirates FIR.

In the event that Emirates ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Emirates Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Emirates Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

13.6 FLIGHT CREW AND OPERATOR PROCEDURES

13.6.1 For flights within the Emirates FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

13.6.1.1 For flights within the Emirates FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Emirates FIR as soon as evacuation commences. These procedures are detailed at Emirates Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Bahrain FIR				
Muscat FIR				
Qatar TMA				
Tehran FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

13.6.2 For flights within the Emirates FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Emirates FIR as soon as evacuation commences. These procedures are detailed at Emirates Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

13.6.3 For flights approaching the Emirates FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Emirates ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Emirates FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Emirates FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Emirates FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Emirates FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

13.7 EMIRATES FIR – CONTINGENCY ROUTE STRUCTURE

13.7.1 For activation within Emirates FIR

In a **limited service** contingency situation Emirates ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Emirates FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

13.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Emirates FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

13.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Emirates loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Tripoli facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Emirates FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Emirates FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE EMIRATES FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE EMIRATES FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN EMIRATES FIR ALL ACFT ARE ADVISED THAT THE Emirates FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY EMIRATES AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE EMIRATES FIR

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CHAPTER 14: DETAILED PROCEDURES – SANA’A FIR

14.1 FIR FOR WHICH THE CONTINGENCY PLAN APPLIES

Sana’a FIR

14.2 FIRs WITH SUPPORTING PROCEDURES

Addis Ababa FIR
Asmara FIR
Bahrain FIR
Jeddah FIR
Mogadishu FIR
Mumbai FIR
Muscat FIR

14.3 NOTIFICATION PROCEDURES

In a limited service situation notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

In a no service situation the ACC is likely to have been evacuated. As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP’s and operators. An evacuation message will be broadcast on appropriate frequencies and operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

14.4 LIMITED SERVICE – PROCEDURES

14.4.1 Disruption of ground/air communication capability

A limited communication service will be maintained with the assistance of adjacent Aerodromes. VHF services on the Sana’a frequency normally provided by Sana’a Control will be delegated as appropriate to the other ATS units namely ----- . Appropriate frequencies will be advised by Sana’a and the assisting ATS units.

Situations which could result in a Limited Service are:

Equipment Failure

- a) Transmitters (Loss of a number of Transmitters)
- b) Receivers (Loss of a number of Receivers)
- c) Aerials (Loss of a number of Aerials)
- d) Data Lines (Loss of data lines between Sana’a Communications center and Sana’a ACC)

Propagation

Radio Propagation resulting in partial fade-out can be affected by many factors including Solar Flares and Geomagnetic Storms.

Staffing

Reduced Staffing
Illness

Weather (Severe Weather i.e. Storm, Snow, Flooding)

Security Threat

Depending on the level of the Security threat and if essential staff are allowed to remain on Station

In the event that the operation is degraded substantially, ATFM measures may be imposed as necessary.

14.4.2 Disruption of ability to provide control services

Sana'a ACC shall determine, co-ordinate and promulgate any necessary restrictions to meet the service limitation. Traffic in possession of a valid ATC clearance shall have priority over any other traffic. Enroute reclearance of such traffic shall not be permitted except in emergency.

Traffic without a valid clearance may be subject to tactical traffic management measurements to meet the requirements of the service limitation.

Separation standards

Sana'a ACC will be responsible for ensuring the co-ordination and implementation of any additional separation requirements.

Contingency tracks

Dependant on the nature of the service limitation, Sana'a may promulgate and activate contingency tracks for use in addition to the normal ATS Routes available.

Air Traffic Flow Management

Sana'a ACC shall co-ordinate any necessary traffic management measures where necessary. Such measures may include, but are not limited to, temporary capacity restrictions and tactical rerouting measures.

Sana'a ACC shall co-ordinate these restrictions where necessary with adjacent ANSPs where they may affect the flow of traffic through these units airspace.

Responsibilities of adjacent ANSPs

The action required of adjacent ANSPs will vary dependant on the nature of the service limitation. Where such action is not contained within the inter-centre Letters of Agreement (LOAs) the requirement will be promulgated within the initial failure and restrictions message.

14.5 NO SERVICE – PROCEDURES

14.5.1 Loss of ground/air communication capability

In the event of Sana'a ACC being unable to provide ground/air communications for Sana'a FIR ----- ATC Unit will coordinate with adjacent FIR's to provide ground/communications to the best of their ability.

Situations which could result in No Service being provided are:

a) Equipment Failure;

- Transmitters (Loss of all Transmitters)
- Receivers (Loss of all Receivers)
- Aerials (Loss of all Aerials)
- Data Lines (Loss of data lines)

b) Propagation;

- Radio Propagation resulting in total fade-out which can be caused by many factors including Solar Flares and Geomagnetic Storms.

c) Staffing

- No Staff
- Illness (Seasonal Influenza)
- Weather
- Industrial Relations issues

d) Evacuation of Sana'a ACC

- Fire
- Bomb threat

Effect on flights

In the event of Sana'a ACC being unable to provide ground/air communications for a sustained period of time ----- ATC Unit in coordination with adjacent FIR's could provide a limited communications facility to flights in the Sana'a FIR.

ATFM measures may be imposed as necessary.

14.5.2 Loss of ability to provide control services

Should Sana'a ACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Sana'a FIR.

In the event that Sana'a ACC is evacuated, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication. The procedures to be adopted are detailed in the Sana'a Contingency plan.

As soon as possible after evacuation a contingency message will be sent to all adjacent ANSP's and operators as, detailed in the Sana'a Contingency Procedures – Appendix xx.' In turn they are expected to advise the affected traffic.

Other ATSUs will provide guidance as far as possible in the circumstances.

Contact information that may be used in the event of an emergency evacuation is provided in Appendix XX.

14.6 FLIGHT CREW AND OPERATOR PROCEDURES

14.6.1 For flights within the Sana'a FIR – General

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.5 and 123.45. A listening watch on these frequencies must be maintained.

14.6.2 For flights within the Tripoli FIR – Westbound

----- ACC's will endeavour to provide an ATC service throughout the Sana'a FIR as soon as evacuation commences. These procedures are detailed at Sana'a Contingency Procedures – Appendix x

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position.

Any flights involved in level changes should complete the manoeuvre as soon as possible in accordance with the clearance.

UNIT	TEL. No	FAX No	EMAIL	AFTN
Addis Ababa FIR				
Asmara FIR				
Bahrain FIR				
Jeddah FIR				
Mogadishu FIR				
Mumbai FIR				
Muscat FIR				

ICAO MID	0020 2 2267 4845/46/41	0020 2 2267 4843	
IATA	OO962 6 569 8728	OO962 6 560 4548	saidh@iata.org

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

14.6.3 For flights within the Sana'a FIR – Eastbound

----- ACC's will endeavour to provide an ATC service throughout the Sana'a FIR as soon as evacuation commences. These procedures are detailed at Sana'a Contingency Procedures – Appendix x

Flights operating with a received and acknowledged ATC clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

Communications with the next ATSU should be established at the earliest opportunity.

14.6.4 For flights approaching the Sana'a FIR when the contingency is activated.

Not in Receipt of an ATC Clearance

In the event that Sana'a ACC must be evacuated, only aircraft with received and acknowledged ATC clearances shall be permitted to transit Sana'a FIR.

If unable to obtain or acknowledge an ATC clearance, flights should plan to re-route around the Sana'a FIR or to land at an appropriate airfield.

In receipt of an acknowledged ATC Clearance outside Sana'a FIR

Aircraft operating with a received and acknowledged ATC clearance can, at pilot's discretion, continue, but must expect a limited ATC service or no service within the Sana'a FIR.

However, due to the uncertainty surrounding the contingency situation pilots are strongly advised to comply with the procedures detailed above for flights not in receipt of an ATC clearance even if they are in receipt of an acknowledged ATC clearance.

14.7 SANA'A FIR – CONTINGENCY ROUTE STRUCTURE

14.7.1 For activation within Sana'a FIR

In a **limited service** contingency situation Sana'a ACC may promulgate additional contingency tracks in addition to the published ATS Routes. Any contingency track design within the Sana'a FIR will be effected at the time of the event and be dependent on the nature of the service limitation. Promulgation will be via AFTN

14.7.2 For activation within adjacent FIR

Unless instructed otherwise, flights entering the Sana'a FIR should use the following contingency routes:

Communications with the next ATSU should be established at the earliest opportunity.

14.8 LONG TERM CONTINGENCY ARRANGEMENTS

In the event that Sana'a loses the ability to provide an ATC service in the FIR for an extended period, and contingency plans are in place to provide the service from an alternate location.

The facility will be or is established at another location but will take some time to put in place as equipment and communication links have to be brought into operation and staff relocated. The nature of the loss of the Sana'a facility may influence the time required to bring the contingency facility into service, but it is expected that under most circumstances an ATC service will be available in the Sana'a FIR within 48 hours. In the interim period no ATC service will be available and all flights will be required to route clear of the Sana'a FIR.

When established, the contingency facility will comprise a slightly reduced complement of control and support workstations, but with the existing range of communication facilities for clearance delivery.

Operators can expect that ATFM regulations will be in place throughout the period of the transition, with a gradual build up to near normal operating levels.

APPENDIX XX

SAMPLE NOTAMS

a) Avoidance of airspace

NOTAM.....DUE TO DISRUPTION OF ATS IN THE SANA'A FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

b) Airspace available with limited ATS

NOTAMDUE TO ANTICIPATED DISRUPTION OF ATS IN THE SANA'A FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency plan activated

NOTAMDUE TO DISRUPTION OF ATS IN SANA'A FIR ALL ACFT ARE ADVISED THAT THE Sana'a FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THE FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY SANA'A AIRSPACE.

d) Non adherence to the Contingency Plan

NOTAMOPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE SANA'A FIR

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CONTINGENCY ROUTING SCHEME FOR ASIA/MIDDLE EAST/EUROPE – 2003 (CRAME-03)

Version II

Approved by the President on behalf of the ICAO Council

DRAFT

Introduction

The Contingency Routing Scheme for Asia/Middle East/Europe – 2003 (CRAME-03) has the objectives of ensuring continued safety of air navigation within FIRs affected by airspace closures and minimising effects on international civil air transportation in the event of military action occurring in the Middle East area. The procedures contained in this document supplements or details, where so required, those actions and procedures prescribed in State specific contingency plans.

The contingency routing scheme is designed to provide alternative routes to/from Asia, Middle East, and Europe, which will allow aircraft operators to avoid airspace in the Middle East, as necessary, with a minimum of disruption to flight operations.

It is not possible to predict with certainty what airspace will remain open or closed to civil aviation and for what period of time. Experience from operating similar contingency plans under similar conditions shows that a flexible approach to airspace management is required. Frequent changes in military objectives and concentrations of military activities will affect the airspace available for civil operations. In this regard, the contingency routing scheme takes into account that States may need to modify the extent to which they can support the contingency arrangements. Accordingly, this contingency scheme has been designed to contain a variety of options, which can be used for varying scenarios.

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.

Airspace Definition

The contingency routing scenarios are designed for air traffic operating through the following flight information regions (FIRs) south and north of the Himalayas (see charts in **Appendix B**): Addis Ababa, Alma Ata, Asmara, Bahrain, Bangkok, Cairo, Colombo, Delhi, Emirates, Frunze, Jeddah, Kabul, Karachi, Khartoum, Kunming, Lahore, Lanzhou, Madras, Male, Mogadishu, Mumbai, Muscat, Sana'a, Semipalatinsk, Seychelles, Tehran, Ulaan Baatar, Urumqi and Vientiane.

Contingency Situation

These procedures have been developed to provide alternative routings for various scenarios in the event that military activity in the Middle East closes airspace to international civil aviation or where operators wish to avoid airspace due to a perceived risk to the safety of flight.

Responsibilities

Elements of this contingency scheme may be activated by NOTAM or Aeronautical Information Publication (AIP) Supplement as required and issued by the air traffic services (ATS) authorities responsible for the FIRs concerned. ATS authorities will notify by NOTAM any closures of ATS routes and airspace that become potentially hazardous to air traffic. The NOTAM should give information on any degradation of communications, navigation and surveillance services. The affected ATS unit should activate its contingency scheme by the most direct means possible (direct speech, AFTN (SS priority) or any other means of priority message) to the following:

- a) all airborne aircraft potentially affected by such closures or degradation of services
 - b) adjacent FIRs and air traffic control (ATC) Centres;
 - c) to the following ICAO Regional Offices:
 - 1) Bangkok (AFTN: VTBBICOX);
 - 2) Cairo (SITA: CAICAYA);
 - 3) Nairobi (SITA: NBOCAYA.); and
 - 4) Paris (SITA: PAREUYA); and
 - d) and to the following IATA Regional Offices:
 - 1) Singapore (WSSSIATA);
 - 2) Amman;
 - 3) Nairobi; and
 - 4) Brussels.
-

ICAO Approval

<i>Approval</i>	By agreement of States and international organizations through the ICAO Regional Offices of Asia/Pacific, Middle East and European and North Atlantic, this contingency scheme is approved by the President on behalf of the ICAO Council.
<i>Coordination</i>	The appropriate ICAO Regional Office will distribute this contingency scheme to all relevant States and international organisations within their regions.
<i>Amendment and Review</i>	This contingency scheme should be reviewed regularly and amended as appropriate. In addition, States should periodically review their own national contingency plan and coordinate any amendments with neighbouring States and ICAO.
<i>Revision Conditions</i>	Amendments and revisions are to be coordinated with affected States, organisations and ICAO. Proposed amendments to the contingency scheme should be forwarded to the relevant ICAO Regional Office for action.
<i>Contact Names and Telephone Numbers</i>	To be provided by State ATS Providers and international organizations to the relevant ICAO Regional Office for distribution. A list of contact details is contained in Appendix A .

Contingency Scenarios

Description	This contingency scheme provides a series of options for alternative routings where ATS routes and airspace are closed or operators choose to avoid airspace, which could pose a risk to the safety of flight.
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Airspace and Routes

Contingency routing scheme

This contingency scheme has been developed based on existing ATS routes and making use of appropriate contingency routes in the Contingency Routing Plan for Asia/Middle East/Europe (CRAME). Priority has been given to safety considerations and to ensuring that as far as possible, ATC operations are not complicated. Temporary routes are also 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 have been designed to be safe and instantly manageable by ATC. This may require additional track miles to be flown by the aircraft operator.

The contingency schemes were given CRAME designators based on various scenarios that may take place, which are:

Scenario 1 (Yellow routes): Flights planning to operate on existing routes to and from Gulf States aerodromes that are open to civil flights, and overflights are permitted over portions of the Arabian Peninsular.

Scenario 2 (Pink routes): Flights planning to avoid the Persian Gulf by operating on existing routes through Pakistan and Iran via the Arabian Sea.

Scenario 3 (Blue routes): Flights planning to avoid the Persian Gulf by operating through Pakistan, Iran and Turkey.

Scenario 4 (Orange routes): Flights planning to avoid the Persian Gulf, Iran and Turkey by operating through Afghanistan and India.

Scenario 5 (Red routes): Flights planning to avoid the Persian Gulf, Iran, Turkey and Afghanistan by operating across the Arabian Sea and Indian Ocean.

Scenario 6 (Green routes): Flights planning to avoid the Middle East entirely by operating north of the Himalayas or east and north of Afghanistan (Kabul FIR).

The scenarios above are further delineated in terms of alternative routes that are available to meet each scenario's stated objective. This will normally be in the form of a contingency route designator (e.g. *CS Green 6.4*) or an existing code where the route is already specified as a part of CRAME or the ATS route designator for established ATS routes. Details of these alternative routes that apply to each scenario are contained in the charts at **Appendix B**. Except for Scenarios 5 and 6, which are limited to existing route structures, the route details and procedures associated with each contingency route is at **Appendix C**.

Special Note:

Under Scenarios 1 to 5 above, airline company policy may dictate that their aircraft avoid the Middle East area completely as well as operations over Afghanistan, which may require them to plan via China, North of the Himalayas in accordance with Scenario 6.

Air Traffic Management

ATS Responsibilities

Normal communications, navigation and surveillance (CNS) and air traffic management (ATM) are expected to be provided for the FIRs concerned.

It should be noted that tactical air traffic control considerations during periods of over-loading may require re-assignment of routes or portions thereof. Where possible, the designated alternative routes have been designed to maximize the use of existing ATS route structures and communication services.

The State ATS provider should issue NOTAMs detailing the services and facilities not available, including where known, an expected date of restoration, and giving information on the arrangements for the provision of alternative services where appropriate. In addition, if a disruption to service is anticipated, the State ATS provider should publish a NOTAM that alerts the operator to the possible disruption and what actions are expected to take place. This will allow both operators and affected State ATS providers to prepare in advance of any such occurrence.

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:
Regional Route
Structure**

Wherever possible, aircraft on long-haul international flights shall be given priority and cleared to optimum cruising levels, i.e. at FL 280 and above.

Air Traffic Flow Management

Air traffic flow management (ATFM) measures will be introduced as required to ensure an optimum flow of air traffic to and through areas during times when demand exceeds or is expected to exceed the available capacity. ATFM also should ensure that safety is not compromised by the development of unacceptable levels of traffic congestion. During the implementation of this contingency scheme there could be periods of traffic build up that would require implementation of ATFM.

ATS providers with responsibility for contingency routes should coordinate in advance appropriate ATFM arrangements that include setting acceptable traffic flow rates for the various routing scenarios. An example of traffic flow rates based on applying 10 minute and 15 minute longitudinal separation is provided in **Appendix F**. Flow rates would need to be established for each contingency route by States concerned.

In order to regulate and maximise the airspace capacity and make use of available flight levels, it may be necessary to impose speed restrictions/requirements on some routes for specific time periods.

Tactical flow management measures which monitor the progress of individual aircraft will intervene when required to meet ATM constraints.

States should review the airport traffic movement curfew hours, with a view to providing leniency during the critical period when the contingency routes are activated so as to allow for late arrivals or departures as a result of flow control measures.

Transition to contingency scheme the event of airspace closure

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

In the event of an 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 ATC instructions.

ATS providers should recognize that when closure of airspace or airports are promulgated, individual airlines may 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 Co-ordination

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

Communications

Flight Monitoring In areas where a control service is not available, a flight monitoring and broadcast procedure should be used. The ICAO Traffic Information Broadcast by Aircraft (TIBA) procedure as shown in **Appendix D** should be used for flights in the Asia Pacific and Middle East Regions on VHF 128.95 MHz and the IATA In-flight Broadcast Procedure (IFBP) is used for flights in African/Indian Ocean FIRs as specified in **Appendix E**, Paragraph 6.1 on VHF 126.9 MHz.

Pilot and Operator Procedures

Intercept Operations

Pilots need to be aware that a contingency situation involving military activity carries the possibility of being intercepted by military aircraft. Aircraft operators must therefore be familiar with international intercept procedures contained in Annex 2 to the Chicago Convention, paragraph 3.8 and Appendix 2, Sections 2 and 3 as shown in **Appendix G**, as well as specific intercept procedures that may be contained in a State AIP.

Pilots need to continuously guard the VHF emergency frequency 121.5 MHz and should operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on a discrete code assigned by ATC or select code 2000 if ATC has not assigned a code.

If an aircraft is intercepted by another aircraft, the pilot shall immediately:

- a) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with international procedures;
- b) notify, if possible, the appropriate air traffic services unit;
- c) attempt to establish radio communication with the intercepting aircraft by making a general call on the emergency frequency

121.5 MHz and 243 MHz if equipped; and

- d) set transponder to Code 7700, unless otherwise instructed by the appropriate ATS unit.

If any instructions received by radio from any sources conflict with those given by the intercepting aircraft, the intercepted aircraft shall request immediate clarification while continuing to comply with the instructions given by the intercepting aircraft.

Overflight Approval

Overflight approval requirements Aircraft operators are to obtain overflight approval from States for flights operating through their FIRs, where required. In a contingency situation, flights may be rerouted at short notice and it may not be possible for operators to give the required notice to obtain approval. This would be a particular problem when airspace is closed at short notice. States responsible for the FIRs in which contingency routes are established should consider making special arrangements to expedite flight approvals in these contingency situations.

States should facilitate the entry/overflight of humanitarian flights within their territorial airspace/FIRs in case be requested by Humanitarian Agencies.

Appendices

Appendix A	<i>List of contact persons and details</i>
Appendix B	Chart(s) of Contingency routes
Appendix C	Matrix containing details of contingency routes
Appendix D	ICAO Contingency TIBA Procedures
Appendix E	IATA In-flight Broadcasting Procedures
Appendix F	ATFM air traffic flow rates

Appendix G

ICAO Interception Procedures

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Appendix A

List of Contacts

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ATC Supervisor (on duty)	99412 971 673					
BAHRAIN						
Mr. Mohamed Ahmed Juman	973 321 031/80 INMARSAT: 873 763 688 478 (H24)			973 321 029 INMARSAT: 873 763 688 479	cmcan@bahrain.gov.bh	Air Navigation Crisis Management Centre Operational on H24
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Mr. Aly Hussien Aly	202 637 3950	202 417 8460	201 01609 760	202 268 0627		
GEORGIA						
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Mr. Momenirokh Deputy of CAO in Operation		21 440 0753	98 913 227 4798	98 214 527 194		
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Appendix B

Contingency Routes

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CONTINGENCY SCHEME ROUTE DETAILS

1. INTRODUCTION

1.1 The following scenarios provide aircraft operators with alternative routings to their normal routes that may be affected by airspace closures.

ROUTES — DESCRIPTION

Scenario 1 (Yellow routes): Flights planning to operate on existing routes to and from Gulf State aerodromes that are open to civil flights, and overflights are permitted over portions of the Arabian Peninsular

Scenario 2 (Pink routes): Flights planning to avoid the Gulf area on existing routes through Pakistan and Iran via the Arabian Sea

Scenario 3 (Blue routes): Flights planned to avoid the Gulf area by operating through Pakistan, Iran and Turkey

3.1	TIGER/G452	TIGER-G452-RK-ZAHEDAN
3.2	P628/ZAHEDAN	P628-ASOPO-A791-BHOPAL-'PRA' VOR-A791/R462-CHOR-B210-NAWABSHAH-PG-G208-ZAHEDAN
3.3	AAE/ZAHEDAN	AAE-N895W-SASRO-G208(W)-CHOR-KC-PARET-PG-ZAH
3.4	ZAHEDAN/AAE	ZAH-G208-PG-P318 (S)-DOSTI-M638-KC-G208(E)-AAE
3.5	KC/JI	KC-A791(W)-PARET-JI
3.6	JI/KC	JI-A791(E)-LATEN-KC

Appendix C

Contingency Scheme Route Details

Scenario 4 (Orange routes): Flights planned to avoid the Gulf area, Iran and Turkey by operating through India, Pakistan and Afghanistan

4.1	G500	DELHI-A466-LAHORE-A466-DERA ISMAIL KHAN (DI)-P500-PADDY-FIRUZ-P500/G500 <i>Note:— Contingency levels FL310-FL390 within Kabul FIR.</i>
4.2	M881	DELHI-A466-LAHORE-A466-DERA ISMAIL KHAN (DI)-P500-BANNU (BN)-M881-GARRI <i>Note 1:— Contingency levels FL280-FL290 within Kabul FIR.</i> <i>Note 2:— M881 conflicts laterally with ATS route P500.</i>
4.3	A466	DELHI-A466-LAHORE-A466-DI-AMDAR-TERMEZ <i>Note:— Contingency flight levels FL290-FL390.</i>
4.4	N644	DERA ISMAIL KHAN (DI)-N644-PAVLO-LEMOD <i>Note:— Contingency levels FL310-FL390.</i> <i>RNP 10 approved aircraft only</i>
4.5	L750	TIGER-G202N-ZHOB-L750-ROSIE-RANAH <i>Note:— Contingency levels FL310-FL390</i> <i>RNP 10 approved aircraft only</i>
4.6	B466/V390	NAWABSHAR-B466-KANDAHAR-V390-CHARN-G792-MASHHAD-GIRUN or MASHHAD-G775-ASHGABAT <i>Note:— Contingency levels FL310-FL350.</i> <i>RNP 10 approved aircraft only</i>
4.7	P628/B466/V390	P628-ASOPO-A791-BHOPAL-‘PRA’ VOR-A791W-CHOR-B210-NAWABSHAR-B466-KANDAHAR-V390-CHARN-G792-MASHHAD-GIRUN or MASHHAD-G775-ASHGABAT <i>Note 1:— Contingency levels FL310-FL350 within Kabul FIR.</i> <i>Note 2:— Within Tehran FIR G792 minimum enroute altitude FL310.</i>

Appendix C

Contingency Scheme Route Details

Scenario 5 (Red routes): Flights planned to avoid the Persian Gulf, Iran, Turkey, and Afghanistan by operating across the Arabian Sea and the Indian Ocean

<p>CRAME 3A and 2C — as amended</p>	<p>Mumbai (BBB)–A451–BOLUR (1700.7N 063 07.4E)–ASPUX (1744.1N 06000.1E)–UN315–Haima (HAI)–LOTOS (N22 00.0 E050 39.2)</p> <p><i>Note 1:— CRAME 3A is identical to CRAME 2C.</i></p> <p><i>Note 2:— Traffic may route beyond LOTOS (N22:00.0 E050:39.2) via:</i></p> <ul style="list-style-type: none"> i) LOTOS–UL300–Luxor (LXR)–A727–Cairo (CAI). <i>Westbound routing only;</i> ii) LOTOS–UL300–Yenbo (YEN)–A411–WEJ–A411–Sharm el Sheikh (SHM)–A411–Cairo (CAI). <i>Westbound routing only;</i> iii) Cairo (CAI)–A727–SEMRU (N28:02.0 E032:03.1)–B418–WEJH (WEJ)–UL573–Dafinah (DFN)–UL300–LOTOS (N22 12.7 E045 48.0). <i>Eastbound routing only;</i> iv) LOTOS–UL300–KANOP (N22 12.7 E045 48.0)–Dafinah (DFN)–G782–Jeddah (JDW). <i>Westbound routing only;</i> v) Jeddah (JDW)–B417–TALMA (N2329.6 E04052.0)–UL300–LOTOS. <i>Eastbound routing only;</i> and vi) LOTOS–Y100–KFA for flights to/from Bahrain, Dammam and Doha airports (consult local NOTAMs).
<p>CRAME 3B</p>	<p>Katunayake (KAT)–G462–TVM– UL425–ASPUX (1744.1N 06000.1E)–UN315–HAI–LOTOS (N22 00.0 E050 39.2) then flight plan route to destination (consult local NOTAMs).</p> <p><i>Note:— This is the most northerly route available. Traffic may route beyond LOTOS (N22:00.0 E050:39.2) via:</i></p> <ul style="list-style-type: none"> i) LOTOS–UL300–Luxor (LXR)–A727–Cairo (CAI). <i>Westbound routing only;</i> ii) LOTOS–UL300–Yenbo (YEN)–A411–WEJ–A411–Sharm el Sheikh (SHM)–A411–Cairo (CAI). <i>Westbound routing only;</i> iii) Cairo (CAI)–A727–SEMRU (N28:02.0 E032:03.1)–B418–WEJH (WEJ)–UL573–Dafinah (DFN) –UL300–LOTOS (N22 12.7 E045 48.0). <i>Eastbound routing only;</i> iv) LOTOS–UL300–KANOP (N22 12.7 E045 48.0)–UL300–Dafinah (DFN)–G782–Jeddah (JDW). <i>Westbound routing only;</i> v) Jeddah (JDW)–B417–TALMA (N2329.6 E04052.0)–UL300–LOTOS. <i>Eastbound routing only;</i> and

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Contingency Scheme Route Details

	vi) LOTOS–Y100–KFA for flights to/from Doha (consult local NOTAMs).
CRAME 4A	<p>Mumbai (BBB)–A451–ODAKA (N14:40.6 E052:34.0)–B526–RIYAN (RIN)–SAA–UR777–DANAK–UB413/R776–Port Sudan then flight plan route to destination (consult local NOTAMs).</p> <p><i>Note:— CRAME 4A assumes that the Sanaa and Jeddah FIRs are available. Traffic may also route beyond ODAKA (N14:40.6 E052:34.0) as follows:</i></p> <ul style="list-style-type: none"> - ODAKA–A451–Aden (KRA)–B413– DANAK–B413/R776–Port Sudan then flight plan route to destination (consult local NOTAMs).
CRAME 4 B	<p>Katunayake (KAT)–G462–Trivandrum (TVM) –UL425–DONSA (N14:35.2 E065:11.6)–UP323– DCT–MOORI (Socotra) (approximately N12 38.47 E54 01.07)–V629F– RASEM (N14:11.5 E0050:28.6) –V629F–RIN–B526–SAA–UR777–DANAK–UB413/R776–Port Sudan then flight plan route to destination (consult local NOTAMs).</p> <p><i>Note: — CRAME 4B assumes the Sanaa and Jeddah FIRs are open. Traffic may also route beyond RASEM (N14:11.5 E0050:28.6) as follows:</i></p> <ul style="list-style-type: none"> - RASEM– A451–Aden (KRA) – B413/R776–Port Sudan then flight plan route to destination (consult local NOTAMs).
Flights departing/arriving/overflying from/to Hong Kong, Thailand and northern India.	
CRAME 5A	Mumbai (BBB)–G450–ORLID (N11 17.1 E060 00.1)–T930–DCT–Hargeisa (HG) then flight plan route to destination (consult local NOTAMs).
CRAME 5B	<p>Male (MLE)–DCT–GAGDO (N08 00.0 E048 45.0)–Hargeisa (HG) then flight plan route to destination (consult local NOTAMs).</p> <p><i>Note:— Traffic may route beyond Hargeisa via–DCT–Dire–Dawa (DWA) – W886–Addis Ababa (ADS)–UR2–TIKAT (N12:24.3 E035:38.2) then flight plan route to destination (consult local NOTAMs).</i></p>

Appendix C

Contingency Scheme Route Details

Scenario 6 (Green routes): Flights planned to avoid the Middle East entirely by flying north of the Himalayas or east and north of Afghanistan (Kabul FIR)

6.1	L888/A360	BANGKOK (BKK)–B346–LUANG PRABANG (LPB)–B218–SAGAG–A581–BIDRU–L888–KUQA–A460–REVKI–A360
6.2	B330/A368	BANGKOK (BKK)–B346–LUANG PRABANG (LPB)–B218–SAGAG–BIDRU–A581–KUNMING (KMG)–G212–JINTANG–B330–YABRAI–B215–FUKANG–A368–SARIN
6.3	B330	BANGKOK (BKK)–B346–LUANG PRABANG (LPB)–B218–SAGAG–BIDRU–A581–KUNMING (KMG)–G212–JINTANG–B330–YABRAI–MORIT
6.4	B215/A364	DELHI–A466–LAHORE–J121–BATAL–J131–GILGIT–G325–PURPA–B215–SACHE–A364–KURUM–R/UR356
6.5	B215/A360	DELHI–A466–LAHORE–J121–BATAL–J131–GILGIT–G325–PURPA–B215–KUQA–A460–REVKI–A360
6.6	B215/A368	DELHI–A466–LAHORE–J121–BATAL–J131–GILGIT–G325–PURPA–B215–FUKANG–A368–SARIN
6.7	B215/B206	DELHI–A466–LAHORE–J121–BATAL–J131–GILGIT–G325–PURPA–B215–FUKANG–B206–ALTAY

**TRAFFIC INFORMATION BROADCASTS BY
AIRCRAFT (TIBA) AND RELATED OPERATING PROCEDURES**

(See Annex 11, Chapter 4, 4.2.2, Note 2)

**1. Introduction and applicability
of broadcasts**

1.1 Traffic information broadcasts by aircraft are intended to permit reports and relevant supplementary information of an advisory nature to be transmitted by pilots on a designated VHF radiotelephone (RTF) frequency for the information of pilots of other aircraft in the vicinity.

1.2 TIBAs should be introduced only when necessary and as a temporary measure.

1.3 The broadcast procedures should be applied in designated airspace where:

- a) there is a need to supplement collision hazard information provided by air traffic services outside controlled airspace; or
- b) there is a temporary disruption of normal air traffic services.

1.4 Such airspaces should be identified by the States responsible for provision of air traffic services within these airspaces, if necessary with the assistance of the appropriate ICAO Regional Office(s), and duly promulgated in aero-nautical information publications or NOTAM, together with the VHF RTF frequency, the message formats and the procedures to be used. Where, in the case of 1.3 a), more than one State is involved, the airspace should be designated on the basis of regional air navigation agreements and promulgated in Doc 7030.

1.5 When establishing a designated airspace, dates for the review of its applicability at intervals not exceeding 12 months should be agreed by the appropriate ATS authority(ies).

2. Details of broadcasts

2.1 VHF RTF frequency to be used

2.1.1 The VHF RTF frequency to be used should be determined and promulgated on a regional basis. However, in the case of temporary disruption occurring in controlled airspace, the States responsible may promulgate, as the VHF RTF frequency to be used within the limits of that airspace, a frequency used normally for the provision of air traffic control service within that airspace. (For the purpose of this contingency scheme, broadcasts shall be made on 128.95 MHz).

2.1.2 Where VHF is used for air-ground communications with ATS and an aircraft has only two serviceable VHF sets, one should be tuned to the appropriate ATS frequency and the other to the TIBA frequency.

2.2 Listening watch

A listening watch should be maintained on the TIBA frequency 10 minutes before entering the designated airspace until leaving this airspace. For an aircraft taking off from an aerodrome located within the lateral limits of the designated airspace listening watch should start as soon as appropriate after take-off and be maintained until leaving the airspace.

2.3 Time of broadcasts

2.3.1 A broadcast should be made:

- a) 10 minutes before entering the designated airspace or, for a pilot taking off from an aerodrome located within the lateral limits of the designated airspace, as soon as appropriate after take-off;
- b) 10 minutes prior to crossing a reporting point;
- c) 10 minutes prior to crossing or joining an ATS route;
- d) at 20-minute intervals between distant reporting points;
- e) 2 to 5 minutes, where possible, before a change in flight level;
- f) at the time of a change in flight level; and
- g) at any other time considered necessary by the pilot.

2.4 Forms of broadcast

2.4.1 The broadcasts other than those indicating changes in flight level, i.e. the broadcasts referred to in 2.3 a), b), c), d) and g), should be in the following form:

ALL STATIONS (necessary to identify a traffic information broadcast)

(call sign)

FLIGHT LEVEL (number) (or CLIMBING* TO FLIGHT LEVEL (number))

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

POSITION (position**) AT (time)

ESTIMATING (next reporting point, or the point of crossing or joining a designated ATS route) AT (time)

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ICAO Traffic Information Broadcasts by Aircraft

(call sign)

FLIGHT LEVEL (number)

(direction)

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Fictitious example:

“ALL STATIONS WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND DIRECT FROM PUNTA SAGA TO PAMPA POSITION 5040 SOUTH 2010 EAST AT 2358 ESTIMATING CROSSING ROUTE LIMA THREE ONE AT 4930 SOUTH 1920 EAST AT 0012 WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND OUT”

2.4.2 Before a change in flight level, the broadcast (referred to in 2.3 e)) should be in the following form:

ALL STATIONS

(call sign)

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (position and time)

2.4.3 Except as provided in 2.4.4, the broadcast at the time of a change in flight level (referred to in 2.3 f)) should be in the following form:

ALL STATIONS

(call sign)

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)

followed by:

ALL STATIONS

(call sign)

MAINTAINING FLIGHT LEVEL (number)

2.4.4 Broadcasts reporting a temporary flight level change to avoid an imminent collision risk should be in the following form:

ALL STATIONS

(call sign)

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)

followed as soon as practicable by:

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ALL STATIONS

(call sign)

RETURNING TO FLIGHT LEVEL (number) NOW

2.5 Acknowledgement of the broadcasts

The broadcasts should not be acknowledged unless a potential collision risk is perceived.

3. Related operating procedures

3.1 Changes of cruising level

3.1.1 Cruising level changes should not be made within the designated airspace, unless considered necessary by pilots to avoid traffic conflicts, for weather avoidance or for other valid operational reasons.

3.1.2 When cruising level changes are unavoidable, all available aircraft lighting which would improve the visual detection of the aircraft should be displayed while changing levels.

3.2 Collision avoidance

If, on receipt of a traffic information broadcast from another aircraft, a pilot decides that immediate action is necessary to avoid an imminent collision risk, and this cannot be achieved in accordance with the right-of-way provisions of Annex 2, the pilot should:

- a) unless an alternative manoeuvre appears more appropriate, immediately descend 150 m (500 ft), or 300m (1 000 ft) if above FL 290 in an area where a vertical separation minimum of 600 m (2 000 ft) is applied;
- b) display all available aircraft lighting which would improve the visual detection of the aircraft;
- c) as soon as possible, reply to the broadcast advising action being taken;
- d) notify the action taken on the appropriate ATS frequency; and
- e) as soon as practicable, resume normal flight level, notifying the action on the appropriate ATS frequency.

3.3 Normal position reporting procedures

Normal position reporting procedures should be continued at all times, regardless of any action taken to initiate or acknowledge a traffic information broadcast.

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ICAO Traffic Information Broadcasts by Aircraft

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IATA IN-FLIGHT BROADCAST PROCEDURE (IFBP) AFI REGION

1. LISTENING WATCH

1.1 A listening watch should be maintained on the designated frequency (126.9MHz in AFI Region), 10 minutes before entering the designated airspace until leaving this airspace. For an aircraft taking-off from an aerodrome located within the lateral limits of the designated airspace, listening watch should start as soon as appropriate and be maintained until leaving the airspace.

2. TIME OF BROADCAST

2.1 A broadcast should be made in English:

- a) 10 minutes before entering the designated airspace or, for a pilot taking-off from an aerodrome located within the lateral limits of the designated airspace, as soon as appropriate;
- b) 5 minutes prior to crossing a reporting point;
- c) 5 minutes prior to crossing or joining an ATS route;
- d) at 20 minute intervals between distant reporting points;
- e) 2 to 5 minutes, where possible, before a change in flight level;
- f) at the time of a change in flight level; and
- g) at any other time considered necessary by the pilot.

3. OPERATING PROCEDURES

3.1 Changes of Cruising Level

3.1.1 Cruising level change should not be made within the designated airspace unless considered necessary by pilots to avoid traffic conflicts, for weather avoidance, or for other valid operational reasons.

3.1.2 When cruising level changes are unavoidable, all available aircraft lighting which would improve the visual detection of the aircraft should be displayed while changing levels.

3.2 Collision Avoidance

3.2.1 If, on receipt a traffic information broadcast from another aircraft, a pilot decides that immediate action is necessary to avoid an imminent collision risk to his aircraft, and this cannot be achieved in accordance with the right-of-way provisions of Annex 2, he should:

- a) unless an alternative manoeuvre appears more appropriate descend immediately 1000 ft if above FL290 or 500 ft if at or below FL290;
- b) display all available aircraft lighting which would improve the visual detection of the aircraft;
- c) as soon as possible reply to the broadcast advising action being taken;
- d) notify the action taken on the appropriate ATS frequency; and
- e) as soon as situation has been rectified, resume normal flight level, notifying the action on the appropriate ATS frequency.

3.3 Normal Position Reporting Procedures

3.3.1 Normal position reporting procedures should be continued at all times, regardless of any action taken to initiate or acknowledge a traffic information broadcast.

3.4 Operation of Transponders

3.4.1 Pilots should ensure that transponder procedures as contained in ICAO PANS OPS Doc 8168 are complied with and in the absence of other directions from ATC, operate the transponder on Mode A and C Code 2000¹.

3.5 Use of TCAS

3.5.1 TCAS equipped aircraft should have TA/RA mode selected at maximum range.

4. **THE IFBP IN AFI**

4.1 In many FIRs in the AFI Region communications both fixed and mobile have either not been implemented or operate well below the required reliability. This has an impact on the proper provision of Air Traffic Services, especially flight information service. Consequently, the AFI Regional Technical Conference has decided that the IATA In-Flight Broadcast Procedure (IFBP) should be used within designated FIRs in the region as an interim measure until such time as communications facilities affecting the FIR in question have been improved.

5. **DESIGNATED FREQUENCY IN AFI**

5.1 In the AFI Region the designated frequency for the IFBP is 126.9 MHz.

¹ Pilots are advised to ensure operation of transponders even when outside radar coverage in order to enable TCAS equipped aircraft to identify conflicting traffic.

6. AREA OF APPLICATION

6.1 In the AFI Region the IFBP should be applied in the following FIRs and airspaces:

Accra	Beira	Entebbe	Lilongwe	N'Djamena
Addis Ababa	Brazzaville	Kano	Luanda	Nairobi
Alger	Bujumbura	Khartoum	Lusaka	Niamey
Antananarivo	Dakar	Kigali	Mauritius	Roberts
Asmara	Dar es Salaam	Kinshasa	Mogadishu	Tripoli

6.2 The In-Flight Broadcast Procedure need not be applied in the following FIRs:

Bloemfontein	Casablanca	Harare	Port Elizabeth	Tunis
Canaries	Dakar Oceanic	Johannesburg	Sal Oceanic	Windhoek
Cape Town	Durban			

7. ENFORCEMENT

7.1 All airlines operating in the AFI region are requested to:

- a) ensure that their air crews are fully briefed on the procedure and area of application described;
- b) ensure that their charts and flight documentation are fully amended to reflect the foregoing;

7.2 Any operator reported to IATA as not applying the procedure shall be contacted immediately, informed of the procedure, and requested to apply it.

7.3 Attention is drawn to the fact that during the Haj Pilgrimage period the number of east-west flights in the North-Central part of the AFI Region increases dramatically and with it the risk of ATS incidents and the importance of the In-Flight Broadcast Procedure.

8. REVIEW

8.1 The procedure and its area of applicability shall be reviewed by the AFI Regional Coordination Group from time to time and FIRs in which the procedure is to be applied may be added or excluded as necessary.

9. DISTRIBUTION

9.1 To assist in ensuring its widest possible applicability the procedure is distributed to all known operators in the AFI Region, as well as to the following agencies/organizations:

ATLAS	KSS (Chart department)	IBAA	Jeppesen
IAOPA	FAA	IACA	NATO

EXAMPLE OF A BROADCAST

- a) “ALL STATIONS” *given only once to attract attention;*
 - b) “THIS IS AZ.....” (*callsign*);
 - c) “FL.....”;
 - d) “NORTHEASTBOUND LAGOS-ROME VIA UA400”;
 - e) “POSITION.....AT.....(UTC)”;
 - f) “ESTIMATING POSITION.....AT.....(UTC)”;
 - g) “AZ.....” (*callsign*)
 - h) “FL.....”
 - i) “NORTHEASTBOUND” (*direction of flight through the area*).
-

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ICAO INTERCEPTION PROCEDURES

Article 3 bis*

- a) The contracting States recognize that every State must refrain from resorting to the use of weapons against civil aircraft in flight and that, in case of interception, the lives of persons on board and the safety of aircraft must not be endangered. This provision shall not be interpreted as modifying in any way the rights and obligations of States set forth in the Charter of the United Nations.

(Extract from ICAO Annex 2 — *Rules of the Air*)

3.8 Interception

Note.— The word “interception” in this context does not include intercept and escort service provided, on request, to an aircraft in distress, in accordance with Volumes II and III of the International Aeronautical and Maritime Search and Rescue Manual (Doc 9731).

3.8.1 Interception of civil aircraft shall be governed by appropriate regulations and administrative directives issued by Contracting States in compliance with the Convention on International Civil Aviation, and in particular Article 3(d) under which Contracting States undertake, when issuing regulations for their State aircraft, to have due regard for the safety of navigation of civil aircraft. Accordingly, in drafting appropriate regulations and administrative directives due regard shall be had to the provisions of Appendix 1, Section 2 and Appendix 2, Section 1.

Note.— Recognizing that it is essential for the safety of flight that any visual signals employed in the event of an interception which should be undertaken only as a last resort be correctly employed and understood by civil and military aircraft throughout the world, the Council of the International Civil Aviation Organization, when adopting the visual signals in Appendix 1 to this Annex, urged Contracting States to ensure that they be strictly adhered to by their State aircraft. As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council has also formulated special recommendations which Contracting States are urged to apply in a uniform manner. These special recommendations are contained in Attachment A.

3.8.2 The pilot-in-command of a civil aircraft, when intercepted, shall comply with the Standards in Appendix 2, Sections 2 and 3, interpreting and responding to visual signals as specified in Appendix 1, Section 2.

Note.— See also 2.1.1 and 3.4.

* On 10 May 1984 the Assembly amended the Convention by adopting the Protocol introducing Article 3 bis. **Under Article 94 a) of the Convention, the amendment came into force on 1 October 1998 in respect of States which have ratified it.**

INTERCEPTION OF CIVIL AIRCRAFT

(Appendix 2 of ICAO Annex 2 — *Rules of the Air*)

(*Note.*— See Chapter 3, 3.8 of the Annex)

1. Principles to be observed by States

1.1 To achieve the uniformity in regulations which is necessary for the safety of navigation of civil aircraft due regard shall be had by Contracting States to the following principles when developing regulations and administrative directives:

- a) interception of civil aircraft will be undertaken only as a last resort;
- b) if undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome;
- c) practice interception of civil aircraft will not be undertaken;
- d) navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established; and
- e) in the case where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned.

Note.— In the unanimous adoption by the 25th Session (Extraordinary) of the ICAO Assembly on 10 May 1984 of Article 3 bis to the Convention on International Civil Aviation, the Contracting States have recognized that “every State must refrain from resorting to the use of weapons against civil aircraft in flight.”

1.2 Contracting States shall publish a standard method that has been established for the manoeuvring of aircraft intercepting a civil aircraft. Such method shall be designed to avoid any hazard for the intercepted aircraft.

Note.— Special recommendations regarding a method for the manoeuvring are contained in Attachment A, Section 3.

1.3 Contracting States shall ensure that provision is made for the use of secondary surveillance radar, where available, to identify civil aircraft in areas where they may be subject to interception.

2. Action by intercepted aircraft

2.1 An aircraft which is intercepted by another aircraft shall immediately:

- a) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in Appendix 1;

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Traffic Acceptance Rates

- b) notify, if possible, the appropriate air traffic services unit;
- c) attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz; and
- d) if equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit.

2.2 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

2.3 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

3. Radio communication during interception

If radio contact is established during interception but communication in a common language is not possible, attempts shall be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in Table 2.1 and transmitting each phrase twice:

Table 2.1

<i>Phrases for use by INTERCEPTING aircraft</i>			<i>Phrases for use by INTERCEPTED aircraft</i>		
<i>Phrase</i>	<i>Pronunciation¹</i>	<i>Meaning</i>	<i>Phrase</i>	<i>Pronunciation¹</i>	<i>Meaning</i>
CALL SIGN	<u>KOL</u> SA-IN	What is your call sign?	CALL SIGN (call sign) ²	<u>KOL</u> SA-IN (call sign)	My call sign is (call sign)
FOLLOW	<u>FOL</u> -LO	Follow me	WILCO	<u>VILL</u> -KO	Understood Will comply
DESCEND	DEE- <u>SEND</u>	Descend for landing	CAN NOT	<u>KANN</u> NOTT	Unable to comply
YOU LAND	<u>YOU</u> LAAND	Land at this aerodrome	REPEAT	REE- <u>PEET</u>	Repeat your instruction
PROCEED	PRO- <u>SEED</u>	You may proceed	AM LOST	<u>AM</u> LOSST	Position unknown
			MAYDAY	<u>MAYDAY</u>	I am in distress
			HIJACK ³	<u>HI</u> -JACK	I have been hijacked
			LAND (place name)	LAAND (place name)	I request to land at (place name)
			DESCEND	DEE- <u>SEND</u>	I require descent

.In the second column, syllables to be emphasized are underlined.

2.The call sign required to be given is that used in radiotelephony communications with air traffic services units and corresponding to the aircraft identification in the flight plan.

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Traffic Acceptance Rates

3. *Circumstances may not always permit, nor make desirable, the use of the phrase "HIJACK".*

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Traffic Acceptance Rates

CONTINGENCY CONTACT DETAILS

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
BAHRAIN						
Mr. Mohamed Ahmed Juman	973 321031/80 INMARSAT: 873 763688478 (H24)			973 321029 INMARSAT: 873 763688 479	cmcan@bahrain.gov.bh	Air Navigation Crisis Management Centre Operational on H24
EGYPT						
Mr. Mohamed Alkady	2022657849	202 6391792	20 106504438	202 2680627	elkady@nansceg.org mielkady@hotmail.com	
Mr. Aly Hussien Aly	202 6373950	202 4178460	20101609760	202 2680627		
IRAN Mr. M. Rasouli Nejad Deputy of IAC in Operations	+98214454435		+989123874921			
Mr. E. Shoustari General Director Of ATS	+982144544101		+989121861900	+982144544102		
Mr. A. Majzoubi Chief of ACC	+982144544114		+989123053095			
Mr. A. Golmohammadi DG of Operations	98214525493					<i>Note during New Year Holidays in Iran (20 March – 5 April) Contact the Dep. of CAO in Operation or the Deps. of ATS</i>
Mr. Momenirokh Deputy of CAO in Operation		21 4400753	98 9132274798	98214527194		
Mr. E. Shoushtari Deputy of ATS Dept.		21 6014235	98 911286100			
Mr. Khodakarami		21 4087386	98 9132843796			

Appendix F
Traffic Acceptance Rates

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
Deputy of ATS Dept.						
JORDAN						
Mr. Majed Yousef Aqeel Director, ATM	9626 4897729		0795020100	9626 4891266	majedaqeel@yahoo.com	
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IATA – MID						
Faqir Jihad	962 6 5698728	962 6 5811 994	962 79 5966559	962 6 5604548	Faqirj@iata.org	
ICAO Cairo						
S. Al Adhoobi (RO/ATM)	202 267 4845 ext 104		201 113910327	202 267 4843	sadhoobi@cairo.icao.int	
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Appendix F
Traffic Acceptance Rates

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
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Gustavo De Leon (TO/ATM)	1 514 954-8219 ext. 6199	1 514 482-7182	1 514 883-4847	1-514-954 8197	gdeleon@icao.int g_deleon_p@hotmail.com	
Aleksandar Pavlovic (C/AIS/MAP)	1-514 954 8162	1-514 932 7632		1-514-954 6077	apavlovic@icao.int	
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APPENDIX 4A

AIR TRAFFIC MANAGEMENT CONTINGENCY PLAN FOR VOLCANIC ASH

(DRAFT TEMPLATE, 10 JUNE 2011)

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APPENDIX A Anticipated pilot issues when encountering volcanic ash

Editorial note: Eventual inclusion of any or all of the appendices listed below is to be determined.

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APPENDIX C	Action to be taken by the volcanic ash advisory centres (VAACs) in the event of a volcanic eruption
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1. FOREWORD

1.1 This plan sets out standardised guidelines for the alerting of aircraft when eruptions occur, and procedures to be followed. Volcanic ash may be a hazard for flight operations; the issue cannot be resolved in isolation but through collaborative decision making (CDM) involving all entities concerned. Encounters with volcanic ash may result in one or more of the following and other problems:

- 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;
- blockage of pitot and static sensors resulting in unreliable airspeed indications and erroneous warnings;
- windscreens to be rendered partially or completely opaque;
- smoke, dust and/or toxic chemical contamination of cabin air requiring crew use of oxygen masks, thus impacting communications; electronic systems may also be affected;
- erosion of external and internal aircraft components;
- reduced electronic cooling efficiency leading to a wide range of aircraft system failures;
- aircraft to be manoeuvred in a manner that conflicts with other aircraft;
- deposits of volcanic ash on a runway degrading braking performance, most significantly if the ash is wet; in extreme cases, this can lead to runway closure.

1.2 Regulatory authorities of State of the Operator, or State of Registry as appropriate, should therefore prescribe appropriate operational procedures for flight crew to be followed in case of operation in or near airspaces that are contaminated by volcanic ash. Operators are required by ICAO Annex 6 – *Operation of Aircraft* to assess the risk of operation in volcanic ash and to implement appropriate mitigation measures in accordance with their safety management system (SMS) as approved by the State of the Operator/Registry, as appropriate.

1.3 It should be noted that this document is a contingency plan including its interfaces with supporting services such as Aeronautical Information Service (AIS) and Meteorological (MET) and that the plan therefore primarily addresses the provider States. Where distinct actions by the Meteorological Watch Offices (MWOs) are described, these are additional procedures to be considered by MWOs. Where actions by Volcanic Ash Advisory Centres (VAACs) and operators are described, these are for clarification only.

1.4 Volcanic ash can also affect the operation of aircraft on aerodromes. In extreme cases, aerodromes might no longer be available for operation at all, resulting in repercussions on the air traffic management (ATM) system; e.g. diversions, revised traffic flows, etc.

1.5 These suggested procedures are not intended to establish or confirm a safe level of ash concentration. Operation through any area where volcanic ash is forecast is at the discretion of the operator. Considering that a commercial aircraft will travel about 150 km (80 NM) in 10

minutes and that volcanic ash can rise to flight levels commonly used by turbine-engine aeroplanes in half that time, a timely response to reports of volcanic ash is essential.

1.6 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 messages (SIGMET, NOTAM, and ASHTAM), a series of templates should be available for different stages of the volcanic activity. [Examples of SIGMET, NOTAM and ASHTAM announcing operational measures and volcanic activities in the different stages and are contained in Appendix X.] A list of ICAO registered volcanoes should be available at the international NOTAM office with volcano name, number and nominal position. In order to ensure the smooth implementation of the contingency plan in case of an actual volcanic eruption, annual VOLCEX exercises should be conducted.

2. TERMINOLOGY

2.1 AREAS OF CONTAMINATION

Area of low contamination: An airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or less than $X \times 10^{-3} \text{ g/m}^3$.

Area of medium contamination: An airspace of defined dimensions where volcanic ash may be encountered at concentrations greater than $X \times 10^{-3} \text{ g/m}^3$, but less than $X \times 10^{-3} \text{ g/m}^3$.

Area of high contamination: An airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or greater than $X \times 10^{-3} \text{ g/m}^3$, or areas of contaminated airspace where no ash concentration guidance is available.

Note. – The term “defined dimensions” refers to horizontal and vertical limits.

2.2 PHASES OF AN EVENT

2.2.1 The response to a volcanic event that affects air traffic has been divided into three distinct phases as described briefly below. Volcanic activity at many locations is continuously monitored by the scientific community. Furthermore, flight crew are required to report observations of significant volcanic activity by means of a Special Air Report (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.

ALERTING PHASE: The initial response, “raising the alert”, commences when a volcanic eruption is expected. Alerting information will be provided by SIGMET, NOTAM or ASHTAM as appropriate and disseminated to affected aircraft in flight by the most expeditious means. In addition to the normal distribution list, the NOTAM/ASHTAM will be addressed to meteorological/volcanological agencies.

2.2.2 If it is considered that the event could pose a hazard to aviation, a danger area¹ will be declared by NOTAM around the volcanic source. Normally, clearances will not be issued through the danger area.

OUTBREAK PHASE: The outbreak phase commences at the outbreak of the volcanic eruption and entrance of volcanic ash into the atmosphere and mainly pertains to aircraft in flight. A “Start of Eruption SIGMET” will be issued and a danger area will be declared by NOTAM. Normally, clearances will not be issued through the danger area.

ONGOING ERUPTION PHASE: The ongoing eruption phase commences with the issuance of the first VAA after completion of reactive responses. The T+0 hours and T+6 hours forecasts of the contaminated area are to be issued as SIGMET. The T+12 hours and T+18 hours (and further into the future) forecasts of contaminated areas are to be issued as NOTAM/ASHTAM. Significant changes may result in a reversion to a temporary outbreak phase situation and unscheduled issuance of VAA, SIGMET and NOTAM/ASHTAM. As appropriate, danger areas will be notified via NOTAM.

¹ 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.

3. ALERTING PHASE

3.1 GENERAL

3.1.1 Where flight operations are planned in areas that are susceptible to volcanic eruptions, a system of monitoring volcanoes should be established. As the lack of resources results in a large number of volcanoes unmonitored locally, pilots of aircraft passing by are frequently the first source of information on an eruption. Therefore, pilots operating in areas with unmonitored volcanoes should always be vigilant for signs of an eruption and should fully understand their importance as information providers. Operators should provide them with the ICAO Volcanic Activity Report form (Doc 4444, Appendix 1, page A 1-6), preferably in an easily useable electronic format, as part of the pre-flight briefing.

3.1.2 The focus of this phase is to gain early recognition of volcanic events. This phase is characterised by a limited availability of information on the extent and severity of the volcanic event. The purpose of this phase is to ensure the safety of aircraft in flight and to promulgate information as a matter of urgency. Regardless of the extent of information available the alerting phase actions should be carried out for every event.

3.1.3 The initial response, "raising the alert", commences when a volcanic eruption is expected or occurring unexpectedly. The source of this information can be pilots (AIREP/Volcanic Activity Report) and/or meteorological or volcanological agencies. Arrangements in each State between designated volcano observatories, meteorological and air traffic management agencies shall ensure that alerting information is provided by SIGMET, NOTAM or ASHTAM or re-transmitted AIREPs, as appropriate to affected aircraft in flight by the most expeditious means, and disseminated according to established procedures.

3.1.4 The focus of this phase is to raise awareness concerning the (potential) hazard and to protect aircraft in flight from the hazards of the eruption. The actions are based on well-prepared contingency plans and standard operating procedures. Aircraft are expected to clear or avoid the affected area based on standard operating procedures. The alerting will trigger action, such as the collection of additional data and the preparation of specific safety risk assessments (SRAs).

3.2 ORIGINATING ACC ACTIONS (*eruption in its own flight information region*)

3.2.1 In the event of significant pre-eruption volcanic activity, a volcanic eruption occurring, or a volcanic ash cloud being reported which could pose a hazard to aviation, an area control centre (ACC), on receiving information of such an occurrence, should carry out the following:

- a) define an initial danger area in accordance with established procedures. The size of the danger area should encompass a reasonable volume of airspace in accordance with the limited 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). If the eruption has not commenced or if no information on upper winds is available, the circle should be centred on the estimated location of the volcanic activity;

- ii) should a precautionary danger area be established, its size should encompass a reasonable volume of airspace in accordance with the limited information available aiming to avoid undue disruption of flight operations;

Note.— An area with a radius of 5 to 10 minutes flying time would result in only 2 – 3 minutes additional flying time.

- iii) If the eruption has started and predicted upper wind information is available, the circle should be centred xxx km (xx NM) downwind from the volcano whilst enclosing it. The purpose of this initial danger area is to ensure safety of flight in the absence of any prediction from a competent authority of the extent of contamination;
 - iv) although ATC would not normally initiate a clearance through a danger area, it is the responsibility of the pilot-in-command to determine the safest course of action.
- b) advise the associated Meteorological Watch Office (MWO) and the appropriate VAAC (unless the initial notification originated from either of these entities). The VAAC will then inform the appropriate air traffic flow management (ATFM) units.
 - c) alert flights already within the danger area and offer assistance to enable aircraft to exit the area in the most expeditious and appropriate manner. Aircraft that are close to the danger area should be offered assistance to keep clear of the area. Tactically re-clear flights which would penetrate the danger area onto routes that will keep them clear. The ACC should immediately notify other affected ACCs of the event and the location and dimensions of the danger area. It should also negotiate any re-routings necessary for flights already coordinated but still within adjacent flight information regions (FIRs). It is also expected that adjacent ACCs will be asked to reroute flights not yet coordinated to keep them clear of the danger area.
 - d) ensure that a NOTAM/ASHTAM is originated. This must provide as precise information as is available regarding the activity of the volcano. The name (where applicable), reference number and position of the volcano should be included along with the date and time of the start of the eruption (if appropriate). It is imperative that this information is issued by the international NOTAM office and disseminated as soon as possible.
 - e) in order to assist staff in expediting the process of composing the NOTAM/ASHTAM, a series of templates should be available for this stage of the volcanic activity. [Example NOTAM and ASHTAM are provided in Appendix xxx.]

3.2.2 In addition to sending the NOTAM/ASHTAM and any subsequent NOTAM/ASHTAM to the normal distribution list, it will be sent to the relevant meteorological agencies after adding the appropriate World Meteorological Organisation (WMO) header. [Example NOTAM and ASHTAM are provided in Appendix xxx.]

3.3 *ADJACENT ACC ACTIONS*

3.3.1 During the alerting phase ATC will not normally initiate clearances through the danger area; instead, aircraft should be tactically rerouted to avoid the area. Any ash contamination should be contained within a limited area and disruption to traffic should not be excessive. 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 danger area.
- b) unless otherwise instructed, continue normal operations except:
 - i) if one or more routes are affected by the danger area, stop clearing aircraft on these routes and take steps to reroute onto routes clear of the danger area; and
 - ii) initiate a running plot of the affected area.

3.4 *ATFM UNIT ACTIONS*

3.4.1 The ATFM unit and the 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 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 (ANSP), MWOs, VAACs and aircraft operators concerned.

4. **OUTBREAK PHASE**

4.1 *GENERAL*

4.1.1 This phase commences at the outbreak of volcanic eruption. The focus of the processes in this phase is to protect aircraft in flight and on aerodromes from the hazards of the eruption; to collect relevant information; and to combine the information available into reliable information about the volcanic cloud (horizontal and vertical extent; composition; ash concentration levels; etc.).

4.1.2 In addition to relevant actions described under the alerting phase, major activities of the outbreak phase are: Issuance of an eruption commenced SIGMET; eruption commenced NOTAM/ASHTAM; and rerouting of airborne traffic. As appropriate, danger areas will be notified via NOTAM. This phase will last until such time as the ongoing eruption phase can be activated.

4.2 *ORIGINATING ACC ACTIONS (eruption in its own FIR)*

4.2.1 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 conduct of flights.

4.2.2 Rerouting of traffic commences immediately or may be in progress if the alerting time has been sufficient to facilitate activation of the alerting 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.

4.2.3 During this phase the ACC should:

- a) maintain close liaison with its associated MWO. The MWO should issue a “start of eruption” SIGMET message by the most expeditious means. It may simply contain information that an ash cloud has been reported and the date/time and location. A “start of eruption” message may also be promulgated by a VAA. During this phase information on the extent and severity of the volcanic event may be limited; however, when possible, the message should contain information on the extent and forecast movement of the ash cloud based on appropriate sources of information.
- b) based on these forecasts and in cooperation (CDM) with aircraft operators and the adjacent ACCs, ATFM measures should be devised and updated when necessary to ensure safety of flight operations.
- c) ensure 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.
- 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) should significant reductions in intensity of volcanic activity take place during this phase and the airspace no longer is contaminated by volcanic ash, a NOTAMC cancelling the last active NOTAM shall be issued stating the cause for cancellation; new ASHTAM should be promulgated to update the situation. Otherwise, begin CDM planning for the ongoing eruption phase in conjunction with aircraft operators, the appropriate ATFM unit and the affected ACCs.

4.3 *ADJACENT ACC ACTIONS*

4.3.1 During the outbreak phase adjacent ACCs should take the following actions:

- a) maintain 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) in the event that tactical measures additional to those issued by the appropriate ATFM unit are required, the adjacent ACC should, in cooperation with the originating ACC and aircraft operators, impose such measures.
- c) maintain a running plot of the affected area.
- d) begin planning for the ongoing eruption phase in conjunction with the aircraft operators, the appropriate ATFM unit and ACCs concerned.

4.4 *ATFM UNIT ACTIONS*

4.4.1 During the outbreak phase, depending on the impact of the volcanic ash, the appropriate ATFM unit should organise the exchange of latest information on the developments with the VAAC, ANSPs, and MWOs and operators concerned in order to support CDM.

5. **ONGOING ERUPTION PHASE**

5.1 The ongoing eruption phase commences with the issuance of the first VAA/VAG by the VAAC after completion of the reactive responses. The VAA/VAG will contain the current position of the volcanic cloud and forecasts of the expected vertical and horizontal extent of the volcanic ash cloud, and its expected movement, at six-hourly time-steps for the period T+0 to T+18 hours. In addition, the meteorological office co-located with the VAAC will, where feasible, issue ash concentration forecasts to supplement the VAA/VAG information, at six-hourly intervals with a nominal validity time of 0000Z, 0600Z, 1200Z and 1800Z which will define areas of low, medium and high contamination. When the volcanic ash cloud is expected to move considerably during a 6 hour period, SIGMETs for shorter periods should be produced.

5.2 The volcanic cloud forecasts for T+12 and T+18 hours and further into the future (if available) are used for the preparation of NOTAM/ASHTAM. Volcanic cloud forecasts and/or VAA/VAGs may include (if available) quality indicators (e.g. accuracy, variability, etc.) and risk levels that can more easily be used in SRAs.

5.3 Following the outbreak phase, the VAA/VAG and (where available) ash concentration forecasts should be used to define airspace volumes encompassing the furthest extent of contamination predicted for that period. These volumes should be used to:

- a) publish NOTAM indicating the extent of danger areas, indicating which levels of contamination are forecasted therein;
- b) issue SIGMET warning of potential hazard from areas of volcanic ash contamination;
- c) publish NOTAM to separately indicate the extent of areas of medium contamination if not included in a danger area; and
- d) apply appropriate ATFM measures.

5.4 Longer term forecasts (i.e. beyond T+6 hours) should be used to generate NOTAM in order to ensure that adequate information is available to support flight planning. These messages should differentiate between levels of contamination.

5.5 Operators should use the information published regarding areas of low, medium and high contamination to plan their flights in accordance with their regulatory requirements and the service that will be provided in the airspace concerned. Operators should be aware that, depending on the State concerned, danger areas may be established to contain an area of high contamination, areas of medium/high contamination, or areas of low/medium/high contamination. During this phase, operators should only operate in the affected area in accordance with their SRA.

5.6 The volcanic ash may affect any combination of airspace; therefore, it is impossible to prescribe measures to be taken for any particular situation. Nor is it possible to detail the actions to be taken by any particular ACC. The following guidance may prove useful during the ongoing eruption phase but should not be considered mandatory:

- a) ACCs affected by the movement of the ash should ensure that NOTAM/ASHTAM continue to be originated at appropriate intervals. 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 of the volcanic ash, the appropriate ATFM unit may take the initiative to organise teleconferences to exchange latest information on the developments, in order to support CDM, with the VAACs, ANSPs and MWOs and operators concerned.
- c) during this phase the VAAC should endeavour to assess the vertical extent of the ash contamination and provide appropriate VAA/VAG to define the contaminated airspace as accurately as possible. For the purpose of flight planning, operators should treat the horizontal and vertical limits of the danger area to be over-flown as they would mountainous terrain. Operators are cautioned regarding the risk of cabin depressurisation or engine failure resulting in the inability to maintain level flight above the danger area, especially where extended range operations by turbine-engined airplanes (ETOPS) are involved.
- 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; and
- e) when the airspace is no longer contaminated by volcanic ash, a NOTAMC cancelling the active NOTAM shall be promulgated. New ASHTAM should be promulgated to update the situation.

6. ATFM PROCEDURES

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

6.2 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 NOTAM/ASHTAM and SIGMET for the area.

7. AIR TRAFFIC CONTROL PROCEDURES

7.1 If volcanic ash is reported or forecast in the FIR for which the ACC is responsible, the following procedures should be followed:

- a) relay all available information immediately to pilots whose aircraft could be affected to ensure that they are aware of the horizontal and vertical extent of the ash contamination;
- b) if requested, suggest appropriate rerouting to assist flights to avoid areas of known or forecast ash contamination;
- c) when appropriate, remind pilots that volcanic ash may not be detected by ATC radar systems;
- d) if modelled ash concentration charts are available showing areas of low, medium and high contamination, the provider State may establish danger areas. Depending on the State concerned, the danger areas will be established to contain an area of high contamination, areas of medium/high contamination, or areas of low/medium/high contamination;
- e) in the absence of ash concentration guidance, the entire area of forecast volcanic ash should be considered as an area of high contamination, for the purposes of applying ATC procedures, until ash concentration guidance is available;
- f) normally, ATC should not provide a clearance for an aircraft to enter or operate within a danger area. Assistance to enable an aircraft to exit a danger area in the most expeditious and appropriate manner should be provided; and
- g) if the ACC has been advised by an aircraft that it has entered an area of ash contamination and indicates that a distress situation exists:
 - i) consider the aircraft to be in an emergency situation;
 - ii) do not initiate any climb clearances to turbine-powered aircraft until the aircraft has exited the area of ash contamination; and

- iii) do not attempt to provide vectors without pilot concurrence.

7.2 Experience has shown that the recommended escape manoeuvre for an aircraft which has encountered volcanic ash is to reverse its course and begin a descent (if terrain permits). However, the final responsibility for this decision rests with the pilot.

8. GENERAL GUIDANCE FOR THE DEVELOPMENT OF ATS CONTINGENCY PLANS FOR VOLCANIC ASH

(This information is adapted from the *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds* (Doc 9691). Refer to this document for full details.)

8.1 In a contingency plan relating to volcanic ash 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 for the manager in charge, supervisors and air traffic controllers (ATCOs). 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.

8.2 ATCOs need to be trained and be made aware of the potential effects if aircraft encounter unsafe levels of volcanic ash.

8.3 Some particular points of guidance are as follows:

- a) volcanic ash contamination may extend for hundreds 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 airports 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. Pilots and ATCOs 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 aeroplane; and
- e) airports might have to be declared unsafe for flight operations. This might have consequences for the ATM system.

8.4 The ACC in conjunction with ATFM units serves as the critical communication link between the pilot, dispatcher and meteorologists during a volcanic eruption. During episodes of

volcanic ash contamination within the FIR, the ACC has two major communication roles. First and of greatest importance is its ability to communicate directly with aircraft en route which may encounter the ash. Based on the information provided in the volcanic ash SIGMET and VAAs and working with MWO, the ATCOs should be able to advise the pilot of which flight levels are affected by the ash and the projected trajectory and drift of the contamination. Through the use of radio communication, ACCs have the capability to coordinate with the pilot alternative routes which would keep the aircraft away from the volcanic ash.

8.5 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 pilots en route so that a coordinated decision can be made between the pilot, the dispatcher and ATC regarding alternative routes that are available. The ACC should advise the ATFM unit concerning the availability of alternative routes. It cannot be presumed, however, 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.

8.6 The NOTAM/ASHTAM for volcanic activity provide 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 vulcanologists and no ash is detectable or reported from the FIR concerned.

8.7 It is essential that the procedures to be followed by ACC personnel, including supporting services such as MET, AIS and ATFM should follow during a volcanic eruption/ash cloud event described in the foregoing paragraphs are translated into local staff instructions (adjusted as necessary to take account of local circumstances). It is also essential that these procedures/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.

DRAFT

APPENDIX A**ANTICIPATED PILOT ISSUES WHEN ENCOUNTERING VOLCANIC ASH**

1. ATCOs 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) cockpit windows could be rendered completely opaque; 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, ATC can expect pilots to be executing contingency procedures. This may include a possible course reversal and/or an emergency descent.

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REPORT ON AGENDA ITEM 9: SEARCH AND RESCUE AND CIVIL/MILITARY COORDINATION

Search And Rescue Provision in the MID Region

9.1 The meeting recalled that MIDANPIRG/12 noted the difficulties facing States to comply with Annex 12 and MID Basic ANP provisions related to SAR agreements and recognized that the process of signing such agreements should be facilitated through the promulgation of enabling legislation/regulations.

9.2 The meeting noted that MIDANPIRG/12 encouraged States to use the Sample Legislation for establishing a SAR Organization, contained in Document 9731 (IAMSAR).

9.3 The meeting noted that as a follow-up action to MIDANPIRG/12 Conclusions 12/22 and 12/23, the ICAO MID Regional Office issued State Letters Ref.: AN 13/1 – 10/433 dated 16 December 2010 and AN 13/1 – 11/143 dated 7 June 2011, in order to collect information on the status of implementation of SAR provisions in the MID Region. The meeting was informed that six (6) States provided replies as at **Appendix 9A** to the Report on Agenda Item 9. Furthermore, the meeting updated the SAR Point of Contacts as at **Appendix 9B** to the Report on Agenda Item 9.

9.4 The meeting recalled that, in accordance with the MIDANPIRG/12 Conclusion 12/22, those States that have not provided the required information on the status of implementation of SAR provisions, would be included in the list of air navigation deficiencies for non provision of required SAR services.

9.5 The meeting noted the requirements to carry ELTs as specified in Annex 6, Part I, paragraph 6.17 and Part II, paragraph 6.12 and they shall be operated in accordance with the provisions of Annex 10, Volume III, Part II, Chapter 5. In particular, it was noted that all aircraft shall be equipped with ELT capable of operating on 406 and 121.5 MHz as of 1 January 2005. In addition, States shall make arrangements for a 406 MHz ELT register that would be immediately available to Search and Rescue Authorities. This data should therefore, be shared with COSPAS/SARSAT in order to expedite any SAR activity when required. The meeting agreed that the non-compliance with the above-mentioned provision should be reflected in the future in the list of air navigation deficiencies.

9.6 The meeting noted that the main deficiency related to the SAR in the MID Region is the lack of signature of SAR agreements. The meeting then reviewed and updated the Table at **Appendix 9C** to the Report on Agenda Item 9, reflecting the status of signature of SAR agreements in the MID Region.

Civil/Military Coordination

9.7 The meeting recalled that MIDANPIRG/12 emphasized on the need of sharing airspace between civil and military. Accordingly, it urged 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).

9.8 The meeting noted that MIDANPIRG/12 meeting was apprised of the outcome of the Global Air Traffic Management Forum on Civil/Military Cooperation which was held in ICAO HQ in Montréal, from 19 to 21 October 2009.

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9.9 The meeting noted that as a follow-up action to MIDANPIRG/12 Conclusion 12/25, State Letter Ref.: AN 6/13 – 11/137 dated 2 June 2011 was sent to MID States urging them to support ICAO's vision for an integrated, harmonized and globally interoperable ATM system, and to facilitate effective civil/military cooperation and joint use of airspace.

9.10 The meeting noted that the ICAO MID Regional Office will organize a Civil/Military Coordination Seminar, in September 2012. Accordingly, in accordance with the MIDANPIRG/12 Conclusion 12/25, the meeting urged States to coordinate with their Military Authorities for an active participation in this Seminar.

9.11 Based on the above, the meeting re-iterated the MIDANPIRG/12 Conclusion 12/25, which was considered to be still valid:

CONCLUSION 12/25: CIVIL/MILITARY COOPERATION

That, in order to facilitate effective civil/military cooperation and joint use of airspace in accordance with ICAO provisions, and in support of the ICAO's vision for an integrated, harmonized and globally interoperable air traffic management system as laid out in the ATM Operational Concept and in the Global Air Navigation Plan, MID States that have not yet done so, be urged to:

- a) manage the airspace in a flexible manner with an equitable balance between civil and military users through strategic 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 according to their needs;*
- b) develop necessary institutional arrangements to foster civil/military cooperation; and*
- c) take steps and 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 and training sessions, as appropriate.*

9.12 The meeting was informed that ICAO has issued recently a new Circular on Civil/Military Cooperation in Air Traffic Management (Cir 330). The meeting encouraged States to use the guidance contained in this Circular to improve the Civil/Military Cooperation.

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9.13 The meeting noted that, as a follow-up action to MIDANPIRG/12 Conclusion 12/26, the ICAO MID Regional Office has processed a Proposal for Amendment to the Supplementary Procedures (Doc 7030) related to the “Uncoordinated flights over the Red Sea Area”, which has been already approved by the President of the Council on 11 May 2011

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SURVEY ON THE PROVISION OF SAR IN THE MID REGION

State	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Bahrain	YES	YES	YES Bahrain ACC Duty Supervisor	YES Please refer to Bahrain AIP GEN3.6-2(AIRAC 33) Dated 10 March 2011	YES Ref. : Bahrain - AIR NAVIGATION TECHNICAL REGULATIONS (ANTER) Regulation on ELT / ANTR OPS 1.820 Emergency Locator Transmitter	YES Bahrain ACC is acting as an alerting unit and not involved in the SAR missions	NO	YES SAR Agreements not signed yet.	YES SAR exercises are arranged /conducted between Bahrain Defense Force, Ministry of Interior and other friendly organizations based in the Kingdom of Bahrain
Egypt	YES	YES	YES	YES	YES	YES	YES	----	----
Iran									
Iraq									
Jordan	YES The Hashemite Kingdom of Jordan is committed to the Chicago convention. Civil	YES High committee of SAR supervises the implementation of all plans to provide SAR services. Agencies	YES CARC nominated Mr. Khalil Younis as point of contact for receipt of COSPAS-SARSAT distress data. Contact details Office Tel: - 00962-6-4892282 ext 3354	YES Mr. Khalil Younis as point of contact for SAR Contact details Office Tel: - 00962-6-4892282 ext 3354 Mobile 00962777715125 Email:	YES Jordan has taken an appropriate action to ensure that owners and operators of Emergency Locator Transmitters	YES Jordan Agencies mandated to make SAR services have the capacity and	YES The high committee for SAR has the authority to request all the capabilities	YES For the purpose of coordination regarding SAR operations between Jordan and neighboring	YES Higher Committee for SAR ensures that SAR personnel organize exercises regularly to

State	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
	Aviation Regulatory Commission (CARC) has been delegated the provision of Search and Rescue services for a number of Governmental entities with competence and efficiency within Jordan territory to all flights in need or to persons in distress on a 24 – hour basis	mandated to provide SAR services have the ability, capacity and efficiency and well trained for the provision of SAR services.	Mobile 00962777715125 Email: pnas_ops@carc.gov.jo SAR@carc.gov.jo	pnas_ops@carc.gov.jo SAR@carc.gov.jo	(ELT) have upgraded to the 406MHz ELT's (Jordan Civil Aviation Regulations (JCAR-OPS.17 JCAR Part 171). SAR/JORDAN will take appropriate action by issuing a special regulation to ensure all operators/owners of ELT are registered with international beacon registration database (IBIRD) 7 SAR data base too.	efficiency and well trained for the provision of SAR. SAR unit elements are suitably located and equipped fo SAR operation up to the required standard	es of government agencies available to and put at the disposal of SAR operations.	countries, the Government of Jordan held three memorandums of understanding (MOU) with each of Syria, Egypt and Saudi Arabia. Regarding the other two neighboring countries (Israel and Iraq), SAR agreements are still in the stage of preparation where there is coordination with these countries to meet the required needs of SAR	make sure the goals of readiness and preparedness to all members; communication exercises included as well as airports annual emergency drills.

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State	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
								operations.	
Kuwait	NO Only during day time	YES	NO Still no contact with CO	NO	NO	NO	NO	NO	YES
Lebanon									
Oman	Yes Search and Rescue (SAR) services are provided on a 24-hour basis within the Muscat FIR by the Royal Air Force of Oman as stipulated in the CAA and Royal Air Force of Oman Letter of Agreement	Yes The SAR service system is operated by the Royal Air Force of Oman and includes a responsible authority, organized available resources and a workforce skilled in coordination and operational functions	Yes it is documented in the Oman AIP – GEN 3.6 SEARCH AND RESCUE	Yes it is documented in the Oman AIP – GEN 3.6 SEARCH AND RESCUE	Yes it is stipulated in the Oman Civil Aviation Regulation CAR-OPS 1.820	Yes As stipulated in the CAA and Royal Air Force of Oman Letter of Agreement	YES as stipulate d in the CAA and Royal Air Force of Oman Letter of Agreement	Yes as stipulated in the CAA and Royal Air Force of Oman Letter of Agreement. SAR agreements have been coordinated with UAE, Bahrain, Saudi Arabia and Kuwait. Coordination is pending with India, Pakistan, Iran and	YES as stipulated in the CAA and Royal Air Force of Oman Letter of Agreement

State	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
								Yemen	
Qatar									
Saudi Arabia	YES	YES	YES	YES	YES	YES	----	----	----
Syria									
UAE									
Yemen									

- Q1- *Has your State established an entity which provides, on a 24 hour basis, Search and Rescue (SAR) services within its territory to ensure that assistance is rendered to persons in distress?*
- Q2- *Does the SAR services system include a responsible authority, organized available resources and a workforce skilled in coordination and operational functions?*
- Q3 *Has your State designated a SAR Point of Contact (SPOC) for the receipt of COSPAS-SARSAT distress data?*
- Q4- *Has your State designated a SAR point of contact? If yes, provide details.*
- Q5- *Has your State taken appropriate action to ensure that all owners/operators of Emergency Locator Transmitters (ELT) have upgraded to the 406 MHz ELTs and registered them with the International Beacon Registration Database (IBRD) and established your own database?*
- Q6- *Has your State designated, as SAR units, elements of public or private services suitably located and equipped for SAR operations?*
- Q7- *Can 7- Has your Rescue Coordination Centre (RCC) prepared detailed plans of operation for the conduct of SAR operations within its Search and Rescue Region (SRR)?*
If Yes, as part of your National SAR Plan, are arrangements made for all aircraft, vessels and facilities, which do not form part of SAR organization to cooperate fully with the latter in SAR to extend any possible assistance to the survivors of aircraft accidents?
- Q8- *Does your State coordinate its SAR organization with those of neighbouring States?*
If Yes, what is the status of SAR agreements with your neighboring States?
- Q9- *Does your State ensure that SAR personnel are regularly trained and that appropriate SAR exercises are arranged?*

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 Appendix 9B to the Report on Agenda Item 9

SAR POINT OF CONTACT

STATE	NAME	TITLE	ADDRESS	EMAIL	FAX	TEL	MOBILE
Bahrain	ACC Duty Supervisor	ACC Duty Supervisor	Bahrain CAA P.O.Box – 586 Kingdom Of Bahrain	bahatc@caa.gov.bh	+973 17321029	+97317321081 +97317321080	
Egypt	Mr. Ibrahim Khalifa Mahmoud	General Director of Operations Centers & Crisis Management	Ministry of Civil Aviation Cairo - EGYPT	crisar@civilaviation.gov.eg	202 2268 1371	202 2267 8548	20124469052
Iran							
Iraq							
Israel							
Jordan	Mr. Khalaf Al- Shawabka	Chief Amman TACC and SAR	Queen Alia Airport	kshowbki@yahoo.co.nz	+962 445132	+ 962 4451672	96) 77790 4724
Kuwait							
Lebanon							

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STATE	NAME	TITLE	ADDRESS	EMAIL	FAX	TEL	MOBILE
Libya							
Oman	Rescue Coordination Centre (RCC) HQ RAFO		P.O.Box 722 Muscat P.C. 111 Sultanate Of Oman AFS:- OOMSYCYX	Hq.rafo.@rafo.gov.om	+968 24334776	+968 24334211 +968 24334212	
Qatar							
Saudi Arabia	Mr. Ahmad B. Altunisi	Manager SAR Head of SAMCC	General Authority of Civil Aviation	jaf-2010@hotmail.com	966-2 671 9041	966-2 671 7717/1840	966-50 460 1445
Sudan							
Syria	Mr. Monif Abdulla	Head of S.A.R. Department Syrian Civil Aviation Authority	Damascus Airport	monif77@hotmail.com	963-11 540 0312	963-11 540 0312	963 932 710351
UAE							
Yemen							

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Appendix 9C to the Report on Agenda Item 9

SAR AGREEMENT STATUS

STATE	CORRESPONDING STATES	STATUS
BAHRAIN	IRAN KUWAIT OMAN QATAR SAUDI ARABIA UAE	No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement
EGYPT	GREECE ISRAEL JORDAN LYBIA CYPRUS SAUDI ARABIA SUDAN	No Agreement No Agreement No Agreement No Agreement Agreement signed No Agreement No Agreement
IRAN	ARMENIA AZERBAIJAN TURKMANISTAN AFGHANISTAN BAHRAIN IRAQ KUWAIT OMAN PAKISTAN TURKEY UAE	No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement
IRAQ	IRAN JORDAN KUWAIT SAUDI ARABIA SYRIA TURKEY	No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement

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STATE	CORRESPONDING STATES	STATUS
JORDAN	EGYPT IRAQ ISRAEL SAUDI ARABIA SYRIA	No Agreement No Agreement No Agreement No Agreement No Agreement
KUWAIT	BAHRAIN IRAN IRAQ SAUDI ARABIA	No Agreement No Agreement No Agreement No Agreement
LEBANON	ISRAEL CYPRUS SYRIA	No Agreement Agreement signed No Agreement
OMAN	BAHRAIN INDIA IRAN PAKISTAN SAUDI ARABIA UAE YEMEN	No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement
QATAR	BAHRAIN	No Agreement
SAUDI ARABIA	BAHRAIN EGYPT ERITREA IRAQ JORDAN KUWAIT OMAN SUDAN YEMEN	No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement
SYRIA	IRAQ ISRAEL JORDAN LEBANON CYPRUS	No Agreement No Agreement No Agreement No Agreement Agreement signed

STATE	CORRESPONDING STATES	STATUS
	TURKEY	Agreement signed
UAE	BAHRAIN IRAN OMAN SAUDI ARABIA	To be updated No Agreement To be updated No Agreement
YEMEN	DJIBOUTI ERITREA ETHIOPIA INDIA OMAN SAUDI ARABIA SOMALIA	No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement No Agreement

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Report on Agenda Item 10

REPORT ON AGENDA ITEM 10: AIM Issues

10.1 The meeting was informed about the latest developments related to AIM at the global level and reiterated the need for a strategic and harmonized transition from AIS to AIM. In this regard, the meeting was apprised of the outcome of the fourth and fifth meetings of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG).

10.2 The meeting reviewed the outcome of the Sixth Meeting of the MIDANPIRG AIS/MAP Task Force held in Cairo, Egypt, from 6 to 8 June 2011.

10.3 The meeting recalled that MIDANPIRG through Conclusion 12/34 urged MID States, that have not yet done so, to develop national plans for the transition from AIS to AIM.

10.4 The meeting noted that only Bahrain, Iran, Kuwait, Oman, Qatar, UAE provided their National AIM Plan/Roadmap to the ICAO MID Regional Office. Accordingly and as a follow-up action to the MIDANPIRG/12 Conclusion 12/34, the ICAO MID Regional Office issued on 14 April 2011 State Letter Ref.: AN 8/4 – 11/091, requesting States to complete the questionnaire at **Appendix 10A** to the Report on Agenda Item 10, and send it back to the Regional Office prior to 15 May 2011.

10.5 The meeting noted that further to the AIS/MAP TF/6 Draft Conclusion 6/1, Bahrain, Egypt, Iran, Kuwait, Lebanon, Oman, Qatar and UAE replied to the questionnaire. However, it was highlighted that some updates might be necessary.

10.6 The meeting, then, reviewed the progress made towards the implementation of the different phases and steps of the ICAO Roadmap for the transition from AIS to AIM in the MID Region:

Phase 1 — Consolidation

10.7 The meeting re-iterated that the implementation of the current ICAO Annex 4 and Annex 15 provisions represents a pre-requisite for the transition from AIS to AIM. This concerns mainly the following steps of Phase 1 — Consolidation:

- P-03 — AIRAC adherence monitoring;
- P-04 — Monitoring of States' differences to Annex 4 and Annex 15;
- P-05 — WGS-84 implementation;
- P-17 — Quality.

AIRAC adherence monitoring (P-03)

10.8 The meeting recalled that MIDANPIRG/12 noted that the late receipt of aeronautical information continues to be a problem for the aviation community in the MID Region. It was also noted that the AIRAC procedures have not yet been fully adhered to by a number of MID States. Accordingly, MIDANPIRG, through Conclusion 12/27, urged States that have not yet done so, to fully comply with the AIRAC procedures; organize awareness campaigns involving AIS and all technical Departments providing the raw data to the AIS for promulgation; and arrange for the signature of Service Level Agreements (SLA) between AIS and the data originators.

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10.9 In the same vein, the meeting noted with concern that, frequently aeronautical information that should be published in accordance with the AIRAC system is published through normal AIP Amendments or even by NOTAM; and highlighted the safety implications of such proceedings. Furthermore, the meeting underlined that AIRAC adherence monitoring is a continuous task and accordingly, urged States, as part of their National performance monitoring process, to record and report all the cases of non-compliance with the AIRAC procedures, in order to take necessary preventive and corrective actions.

10.10 The meeting recognized that failure of a State to follow the AIRAC procedures is very troublesome for charts provided to the cockpits. In this respect, it was highlighted that the production, extraction and distribution of a navigation database is a complicated process which involves all players in the data supply chain – initial source providers (e.g. airports and ATM), State AIS/ANSPs, commercial data providers, Flight Management System (FMS) manufacturers and end users (e.g. airlines). It was underlined that the key element in this string of activities is the requirement for airlines to physically “load” databases into the FMS on every aircraft so it is available on the AIRAC effective date. The meeting further highlighted that once data is loaded in the FMS, it cannot be changed for 28 days. In addition, if data cannot be available on the AIRAC cycle, it has to wait another 28 days. This Annex 15 requirement is based on the complex set of steps it takes to get data loaded on aircraft on the 28-day cycle. It was re-iterated that, if data has been added to an AIRAC cycle and then postponed lately by the responsible State Authority, it would stay in the FMS for 28 days until it can be removed.

10.11 Based on the above, the meeting urged MID States to thoroughly plan all Aeronautical Information changes that fall under the AIRAC provisions, and publish them in compliance with the AIRAC procedures; in particular, when it comes to the planning of major changes for which a 56-day advanced notification is recommended. It was underlined that the planning process should involve all affected parties. The meeting urged MID States also to avoid late postponements of aeronautical information published through AIRAC AIP Amendment or Supplement.

10.12 The meeting noted that the system of AIRAC numbering differs from State to State and that many States are not complying with Annex 15 provisions related to NIL notification (para. 6.1.3). In this respect, it was underlined that, when information has not been submitted by the AIRAC date, a NIL notification shall be originated and distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned. The meeting urged States also to comply with ICAO 8126 provisions related to the numbering of AIRAC AIP Amendments, using consecutive numbers from 01-13 in line with the AIRAC cycle, followed by a two digit number to denote the year of issue or validity, e.g. AIRAC AIP AMDT 05/11.

10.13 In the same vein the meeting recalled that Annex 15 para . 5.2.13.3 states that: “A monthly **printed plain-language** list of valid NOTAM, including indications of the latest AIP Amendments, AIC issued and checklist of AIP Supplements, **shall** be prepared with a minimum of delay and forwarded by the **most expeditious means** to recipients of the Integrated Aeronautical Information Package”. In accordance with the provisions of the ICAO Doc 9855 – “Guidelines for the Use of Public Internet for Aeronautical applications”, and with a view to save time, environment, cost and manpower, the meeting agreed to the discontinuation of the dissemination by post of the monthly printed plain-language list of valid NOTAM and to use the internet (emails and/or websites) for the dissemination of such an AIS product.

10.14 The meeting re-iterated the need to use the web for the posting of the AIS publications. In this respect, the meeting was informed that the new ICAO MID Forum, which is currently under a “Test” phase will offer this functionality.

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

DRAFT CONCLUSION 12/9: MEANS OF DISSEMINATION OF THE LIST OF VALID NOTAM

That, States be encouraged to:

- a) *discontinue the dissemination by post of the monthly printed plain-language list of valid NOTAM and to use the internet (emails and/or websites) for the dissemination of such an AIS product; and*
- b) *make available on the web on a daily or at least on a weekly basis an updated list of valid NOTAM.*

10.16 The meeting emphasized that States should inform all the users of their aeronautical information publications (subscribers), through Aeronautical Information Circular (AIC), about the means used for the dissemination of the different elements of the Integrated Aeronautical Information Package (IAIP).

10.17 The meeting recalled that Annex 15 para . 6.1.3 states that: “*When information has not been submitted by the AIRAC date, a NIL notification shall be originated and distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned*”. The meeting recognized that the inclusion of “other suitable means” in para 6.1.3 of Annex 15 is creating some confusion and questioned if the AIRAC NIL notifications should be disseminated only by NOTAM. The meeting agreed that this should be raised to the attention of ICAO HQ and the AIS-AIMSG for further review and possible amendment of this Annex 15 provision related to AIRAC NIL notification.

10.18 The meeting recalled that Amendment No. 1 to the Fifteenth Edition of the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444, which encompasses a substantial revision to the ICAO flight plan (FPL), will become applicable on 15 November 2012. Taking into consideration the worldwide impact of the ICAO New FPL format implementation, the meeting agreed that States should avoid the use of the AIRAC date 15 November 2012 as an effective date for the introduction of significant changes to the aeronautical information publications. Accordingly, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 12/10: AVOIDANCE OF THE AIRAC DATE 15 NOVEMBER 2012

That, taking into consideration the worldwide impact of the ICAO New FPL format implementation, MID States be invited to avoid the use of the AIRAC date 15 November 2012 as an effective date for the introduction of significant changes to the aeronautical information publications.

WGS-84 implementation (P-05)

10.19 The meeting reviewed and updated the status of implementation of WGS-84 in the MID Region as at **Appendix 10B** to the Report on Agenda Item 10. In this respect, it was highlighted that WGS-84 has been fully implemented by seven (7) States; however, although, the remaining six (6) States have implemented the majority of WGS-84 requirements; some elements such as the geoid undulation, are yet to be implemented.

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10.20 The meeting recalled that MIDANPIRG/11 and MIDANPIRG/12 underlined that the implementation of WGS-84 is an important pre-requisite for the implementation of Performance Based Navigation (PBN); and agreed that although the status of implementation of WGS-84 in the MID Region has been improved, it's deemed necessary that States that have not yet fully implemented the system, take all necessary measures to expedite the completion of WGS-84 implementation.

Quality (P-17)

10.21 The meeting recalled that Amendment 36 to Annex 15, which became effective on 18 November 2010, introduced new and revised provisions related to QMS. It was highlighted, in particular, that a new Recommended Practice was added stating that "*Quality management should be 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*". In addition, the meeting noted that the collection and management of metadata became also a standard.

10.22 The meeting underlined that the provision of quality assured and timely aeronautical information/data to the aviation community is a significant enabling activity for the globalization of ATM. In this respect, the meeting recalled that MIDANPIRG/12 recognized that, while the importance and need for the provision of high quality aeronautical information is gaining momentum, the implementation of quality system still represents a domain with low degree of implementation among MID States. The meeting reviewed and updated the status of implementation of QMS in the MID Region as follows:

	Not started	Planning	Ongoing/ partially implemented	Implemented	Certified	Remarks
Bahrain					√	
Egypt					√	
Iran					√	
Iraq	√					
Israel		√				
Jordan					√	
Kuwait		√				Dec 2013
Lebanon		√				
Oman			√			Dec 2012
Qatar					√	
Saudi Arabia			√			Dec 2013
Syria		√				

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	Not started	Planning	Ongoing/ partially implemented	Implemented	Certified	Remarks
UAE					√	The QMS implemented is not fully compliant with Annex 15 requirements
Yemen			√			Dec 2013

10.23 The meeting agreed that the lack of automated processes and lack of an effective Quality Management System that covers the data chain from data origination to AIS are the two most critical contributors to insufficient data quality.

10.24 In connection with the above, the meeting recalled that the QMS Action Group (QMS AG) was established with a view to support the implementation of QMS within MID States' AISs. The meeting further noted that MIDANPIRG, through Conclusion 12/31, invited States to organize at the National level, awareness campaigns and training programmes with the support of ICAO and the QMS AG, to promote and expedite the process of implementation of QMS for AIS. However, the meeting noted that the activities of the Action Group were very limited and that the tasks assigned to it were not completed. Accordingly, the meeting agreed to dissolve the QMS AG and encouraged States to exchange information related to QMS implementation and to share their experiences in this particular endeavour.

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

DRAFT DECISION 12/11: DISSOLUTION OF THE QMS ACTION GROUP
That, recognizing that the activities of the QMS AG were very limited, the QMS AG is dissolved.

10.26 The meeting re-emphasized the need for the provision of accurate, consistent, complete and timely digital aeronautical information and agreed that current limitations and drawbacks in the MID Region need to be eliminated or at least significantly reduced, in an expeditious manner, in order to support the expected growth in the region's aviation sector and to build a solid foundation for a rapidly increasing amount of PBN operations in an airspace that requires substantially an increasing capacity.

10.27 The meeting recalled that the implementation of QMS has been mandated by ICAO since 1997 and urged those States that have not yet done so, to take necessary measures to implement the required QMS in an expeditious manner. In this respect, the meeting agreed that as a regional performance target, all deficiencies related to the non-implementation of QMS should be eliminated by December 2013. Accordingly, the meeting agreed to the following Draft Conclusion, which is proposed to replace and supersede Conclusion 12/31:

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DRAFT CONCLUSION 12/12: QMS IMPLEMENTATION

That, in accordance with Annex 15 provisions, States, that have not yet done so, be urged to take necessary measures to:

- a) organize at the National level, awareness campaigns and training programmes to promote and expedite the process of implementation of QMS for AIS;*
- b) implement/complete the implementation of the required QMS in an expeditious manner;*
- c) arrange for an ISO 9001 certification by an accredited certification body; and*
- d) ensure that quality management is applicable to the whole aeronautical information data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data.*

10.28 Based on the review of the progress made towards the implementation of the ICAO Roadmap steps related to Phase 1 — Consolidation in the MID Region, the meeting recognized that deficiencies still exist with regard to the provision of AIS/MAP services in accordance with Annex 4 and Annex 15 requirements. In particular, it was highlighted that eight (8) States in the MID Region have not yet fully complied with Annex 15 provisions related to the implementation of QMS, while the provision of quality assured and timely aeronautical information/data to the aviation community is a significant enabling activity for the globalization of ATM.

10.29 In connection with the above, the meeting recalled the meeting recalled that, based on the analysis of the USOAP audit results in the different ANS fields, it was highlighted that the separation between the regulatory and service provisions functions and the non-establishment of an ANS safety oversight system represent the main reasons for the non-elimination of the identified deficiencies. In addition, the lack of national regulations is an important contributing factor in many States. Accordingly, it was reiterated that the most effective and transparent means of ensuring compliance with applicable specifications/regulatory provisions, is the availability of a separate safety oversight entity and a well-defined safety oversight mechanism with support of appropriate legislation/regulations.

10.30 The meeting noted that currently, the certification of the Air Navigation Services (ANS) is not yet mandated by ICAO. However, in Europe it has been mandated through EC Regulation No 2096/2005 since December 2005.

10.31 The meeting noted that certification of ANS has been already mandated by Egypt since 2005 Regulation Ref.: ECAR 173. It was also noted that UAE had developed Regulations related to certification of ANSPs providing safety critical services to aviation. The certification of AIS should be completed by end of 2011. The meeting was apprised of actions carried out by Oman for the preparation of the certification of the ANS Services. In particular, it was noted that Oman has already promulgated Regulations for the certification of ANSPs. The Regulation CAR 175 of 1 April 2011 is related to the certification of the AIS Organisations. The meeting further noted that Jordan and Saudi Arabia are also in the process of developing new Regulations related to ANS certification. In this respect, the meeting recalled that the DGCA-MID/1 meeting invited MID States to work together with ICAO, within the framework of MIDANPIRG for the development of a MID Region Strategy for the certification of ANSPs, taking into consideration UAE experience.

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10.32 Based on the above, the meeting agreed that the inclusion of a requirement for the certification of AIM Services in the national regulations will ensure that the AIM Service Providers meet their obligations in accordance with the terms and conditions of the AIM Certificate. It will also vest the regulatory authority with the necessary power to enforce compliance with the regulations. Accordingly, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 12/13: CERTIFICATION OF THE AIM SERVICES

That, in order to improve the level of compliance with the Standards and Recommended Practices of Annex 4 and Annex 15 and pave the way for the transition from AIS to AIM, ICAO consider the inclusion of a requirement for the certification of AIM Services in Annex 15.

Phase 2 — Going digital

10.33 The meeting recalled that during Phase 2 of the transition to AIM, the main focus will be on the establishment of data-driven processes for the production of the current products in all States. States are encouraged “to go digital” by using computer technology or digital communications and introducing structured digital data from databases into their production processes. The emphasis is, therefore, on the introduction of highly structured databases and tools such as geographic information systems.

10.34 The introduction of database-driven processes will improve the value of current products by improving their quality and availability for current users. This will concern mainly the creation of national or regional databases used to produce the existing products and services, but with better quality and availability.

10.35 In this respect, the meeting noted that States are at different stages for the implementation of the following steps that compose Phase 2 — Going digital, of the ICAO Roadmap for the transition from AIS to AIM:

- P-01 — Data quality monitoring;
- P-02 — Data integrity monitoring;
- P-06 — Integrated aeronautical information database;
- P-07 — Unique identifiers;
- P-08 — Aeronautical information conceptual model;
- P-11 — Electronic AIP;
- P-13 — Terrain;
- P-14 — Obstacles;
- P-15 — Aerodrome mapping.

10.36 With regard to P-01 and P-02, it was clarified that the requirement is to monitor aeronautical data quality and data integrity from data origination to distribution to the next intended user.

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10.37 It was also highlighted that for *P-06 — Integrated aeronautical information database (IAID)* and *P-08 — Aeronautical information conceptual model*, the establishment and maintenance of a database where digital aeronautical data from a State are integrated and used to produce current and future AIM products and services is the main step in Phase 2 of the transition to AIM. The meeting further noted that the database may be operated by States or by regional initiatives under delegation from States. In this respect, it was highlighted that the IAID of a State is a single access point for one or more databases (AIS, Terrain, Obstacles, AMDB, etc) and that in case some systems (ATS, PANS-OPS, etc) are using different databases, these systems should be interoperable with the IAID.

10.38 The meeting re-iterated 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.

10.39 In connection with the above, the meeting recalled that taking into consideration the limitations and drawbacks related to the current operational structure and provision of AIS/AIM services in the MID Region, and the experience of adjacent Regions in the implementation of Regional AIS databases, especially the European AIS Database (EAD), the DGCA-MID/1 meeting, through DGCA-MID/1 Conclusion 1/5, agreed that a study/business case be carried out in the MID Region pertaining to the establishment of a MID Region AIS Database (MIDAD). In this respect, the meeting noted with appreciation that Jordan and Bahrain volunteered to take the lead in carrying out the study with the support of appropriate Consultant and in close coordination with ICAO.

10.40 The meeting highlighted that the study at its first step would not tackle all issues in detail. The objective is to collect data from States to illustrate that MIDAD would be an advantageous and worthy solution for the Region and provide necessary information on the future of the project with different technical and financial options, in order to help States to decide about the most appropriate option. It was also noted that, as a second phase, a more detailed study would be necessary to cover all technical, financial, human, legal and institutional issues.

10.41 Accordingly, the meeting agreed that a MIDAD Study Group (MIDAD SG*) be established with Terms of Reference as at **Appendix 10C** to the Report on Agenda Item 10, to monitor the MIDAD Project and address all associated technical, operational, financial, legal and institutional issues. Accordingly, the meeting agreed to the following Draft Decision:

DRAFT DECISION 12/14: ESTABLISHMENT OF THE MIDAD STUDY GROUP

That, the MID Region AIS Database (MIDAD) Study Group (MIDAD SG) is established with Terms of Reference as at **Appendix 10C** to the Report on Agenda Item 10.*

10.42 The meeting noted that further to the AIS/MAP TF/6 meeting, a MIDAD Support Team (MIDAD ST) has been established in coordination between Bahrain, Jordan and the ICAO MID Regional Office, in order to carry out the missions to States and collect the necessary information. The MIDAD ST was composed of:

- Mrs. Hanan, Qabartai from Jordan;
- Mr. Salah Al-Humood from Bahrain;
- Mr. Mohamed Smaoui, RO/ANS/AIM, ICAO MID Office; and
- Mr. Peter Rudolph from Avitech AG, Germany (Consultant).

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10.43 The meeting noted that on 30 June 2011, the ICAO MID Regional Office issued State Letter Ref.: AN 8/4.2 – 11/174 for the conduct of missions to States, as part of the first phase of the MIDAD study/business case, requesting States to provide all necessary information and support to the MIDAD ST.

10.44 The meeting noted that, based on the DGCA-MID/1 Conclusion 1/5, the 13 MID States have been divided into two Groups, as follows:

- **Group lead by Jordan:**

Egypt, Iran, Iraq, Jordan, Lebanon and Syria; and

- **Group lead by Bahrain:**

Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE and Yemen.

10.45 The meeting was apprised of the questionnaire, which was developed by the MIDAD ST to support the interviews to be conducted during the missions to States in order to get a realistic and sound base about the situation in the AIS Offices in the Region in terms of organisation, staffing, facilities and infrastructure, workload, automation, transition to AIM, and particularly to identify the States' commitment, support and interest in MIDAD.

10.46 The meeting further noted that the missions to States were intentionally used by the MIDAD ST to explain the MIDAD concept and the different scenarios for the implementation of MIDAD as well as to clarify the different steps of the transition from AIS to AIM and answer States' questions in this respect.

10.47 In connection with the above, the meeting noted that Missions were conducted to Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia and Syria. The Missions to Iraq, UAE and Yemen could not be conducted; however, information has been/will be provided by these States through email/telephone. Further clarification or discussion will be undertaken, if necessary, before the MIDAD SG*/1 Meeting scheduled to be held in Cairo, 20-22 February 2012.

10.48 The meeting was informed that the full report of the MIDAD Study (First phase) containing detailed analysis of the information gathered from States will be presented to the MIDAD SG*/1 Meeting. However, the meeting noted that the analysis of the replies to the questions related to "Commitment/Vision" showed a general positive picture on interest and commitment by States. It was highlighted in this respect that the majority of States expect many advantages from MIDAD and would like to play an active role in the MIDAD Project, which is very encouraging. In particular, it was noted with appreciation that:

- a) 9 of 13 States* plan to include MIDAD into their national planning for AIS/AIM,
- b) 9 of 13 States* are committed to MIDAD,
- c) the overall success probability of MIDAD for 9 of the 11 States which have already sent back their Questionnaires is between 40% and 80%, in average 66,66%.

* Questionnaires from 2 States are not yet sent back, but it is expected that they arrive before MIDAD SG*/1 meeting

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10.49 Based on the above, the meeting urged States to support the MIDAD ST by providing additional information, as required; and encouraged them to support the MIDAD SG* by participating actively in the MIDAD SG* meetings. The meeting agreed also that a progress report on the MIDAD Study, including the main outcome of the MIDAD SG*/1 meeting, be reported directly to MIDANPIRG/13, if considered necessary by the MIDAD SG*/1 meeting.

10.50 In connection with the above, the meeting noted with concern that the activities of the AIS Automation Group (AISA AG), were very limited and that the tasks assigned to it were not completed. Accordingly, the meeting agreed to the following Draft Decision:

DRAFT DECISION 12/15: DISSOLUTION OF THE AIS AUTOMATION ACTION GROUP

That, recognizing that the activities of the AIS Automation Action Group (AISA AG) were very limited, the AISA AG is dissolved.

10.51 With regard to eTOD: P-13 — Terrain and P-14 — Obstacles, the meeting recalled that, as a follow-up action to MIDANPIRG/12 Conclusion 12/28 “*eTOD Checklist*” and Conclusion 12/29 “*eTOD Awareness Campaigns*”, a State Letter was issued on 19 April 2011 requesting States to inform the ICAO MID Regional Office, not later than 15 May 2011, about the actions taken/planned in order to implement these Conclusions; and send their updated eTOD implementation plan, specifying in particular, the status of implementation of Area 1 and Area 4, which are applicable since November 2008. The meeting noted that the number of replies to the above-mentioned State Letter was below expectation and accordingly updated the status of implementation of eTOD (Area 1 and Area 4).

10.52 In connection with the above, the meeting noted that:

- Bahrain has fully implemented eTOD for Area 1 and Area 4 and the data is available through an eTOD management system, which offers tailored requests for users. However, the cost-recovery issue for the provision of eTOD to the users is not yet finalized.
- Egypt has published in its AIP the information related to the availability of eTOD for Area 1 and Area 4. However, the cost-recovery issue for the provision of eTOD to the users is not yet finalized.
- Jordan has completed the work for Area 1 and expects to complete Area 4 by mid 2012, date at which the eTOD data related to both Area 1 and Area 4 would be made available to the users against fees that have not yet been determined.
- Qatar has fully implemented eTOD for Area 1, Area 3 and Area 4. The data will be available on the web free of charge by September 2011.
- Saudi Arabia has completed the work related to Area 1 and Area 4.
- UAE has made available the eTOD data related to Area 1 free of charge on the web, as part of the Integrated Aeronautical Information Package.

10.53 Based on the above, the meeting invited States to issue specific Aeronautical Information Circulars (AIC) related to the implementation of eTOD to inform the users about the availability and “price” of the eTOD data.

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Phase 3 — Information management

10.54 The meeting recalled that during Phase 3 of the transition to AIM, the digital databases introduced in Phase 2 will be used for the transfer of information in the form of digital data. This should be based on a Standard aeronautical data exchange model to ensure interoperability between all systems not only for the exchange of full aeronautical data sets, but also for short-term notification of changes.

10.55 The meeting noted that although one or two steps of Phase 3— Information management, are being partially implemented by a number of States in the MID Region; the entire scope of phase 3, which is composed of the following Steps, could not be achieved before 2016-2020:

- P-09 — Aeronautical data exchange;
- P-10 — Communication networks;
- P-12 — Aeronautical information briefing;
- P-16 — Training;
- P-18 — Agreements with data originators;
- P-19 — Interoperability with meteorological products;
- P-20 — Electronic aeronautical charts; and
- P-21 — Digital NOTAM.

10.56 Considering all of the foregoing, it was recognized that the the clarifications provided during the meeting related to the different steps of the ICAO Roadmap, were very useful and would help States to develop their National plans for the transition from AIS to AIM and provide updated information by completeing the questionnaire on the subject and provide MIDANPIRG/13 with more up-to-date information related to the transition from AIS to AIM in the MID Region.

Terms of Reference (TOR) of the AIM Task Force

10.57 The meeting recalled that the AIS/MAP TF/5 meeting (Tehran, Iran Islamic Republic of, 5 –7 May 2009) inquired if it was time to rename the AIS/MAP Task Force to AIM Task Force and agreed that this could be decided by the AIS/MAP TF/6 meeting.

10.58 The meeting noted that a proposal has been made during the AIS/MAP TF/6 meeting to change the AIS/MAP Task Force to a Sub Group; however the proposal was not supported and considered still premature.

10.59 Taking into consideration the latest development related mainly to the transition from AIS to AIM, the meeting agreed to rename the AIS/MAP Task Force to AIM Task Force with Terms of Reference (TOR) as at **Appendix 10D** to the Report on Agenda Item 10. Accordingly, the meeting agreed to the following Draft Decision, which is proposed to replace and supersede MIDANPIRG/12 Decision 12/37:

**DRAFT DECISION 12/16: TERMS OF REFERENCE OF THE AIM
TASK FORCE**

*That, the AIS/MAP Task Force be renamed AIM Task Force with Terms of Reference (TOR) as at **Appendix 10D** to the Report on Agenda Item 10.*

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 Appendix 10A to the Report on Agenda Item 10

QUESTIONNAIRE RELATED TO NATIONAL PLANS FOR THE TRANSITION FROM AIS TO AIM

Name of State	Date

Please answer the following questions and give details as appropriate:

1. National Plan for the transition from AIS to AIM	YES	NO
a) Have you developed a National Plan for the transition from AIS to AIM? If Yes, is it based on the ICAO Roadmap (Phases 1, 2 and 3) ?		

2. Phase 1 – Consolidation (2009)	
a) What do you consider a realistic timeframe for the implementation of Phase 1?	

b) What is the status of implementation of the following steps of Phase 1 in your State?			
Step	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
P-03 — AIRAC adherence monitoring			
P-04 — Monitoring of States' differences to Annex 4 and Annex 15			
P-05 — WGS-84 implementation			
P-17 — Quality			

3. Phase 2 – Going Digital (2009 - 2011)

a) What do you consider a realistic timeframe for the implementation of Phase 2?	
--	--

b) What is the status of implementation of the following steps of Phase 2 in your State?			
Step	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
P-01 — Data quality monitoring			

b) What is the status of implementation of the following steps of Phase 2 in your State?			
Step	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
P-02 — Data integrity monitoring			
P-06 — Integrated aeronautical information database			
P-07 — Unique identifiers			
P-08 — Aeronautical information conceptual model			
P-11 — Electronic AIP			
P-13 — Terrain			

b) What is the status of implementation of the following steps of Phase 2 in your State?			
Step	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
P-14 — Obstacles			
P-15 — Aerodrome mapping			

4. Phase 3 – Information Management (2011 - 2016)

a) What do you consider a realistic timeframe for the implementation of Phase 3?	
--	--

b) What is the status of implementation of the following steps of Phase 3 in your State?			
Step	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
P-09 — Aeronautical data exchange			
P-10 — Communication networks			
P-12 — Aeronautical information briefing			

b) What is the status of implementation of the following steps of Phase 3 in your State?			
Step	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
P-16 — TRAINING			
P-18 — Agreements with data originators			
P-19 — Interoperability with meteorological products			
P-20 — Electronic aeronautical charts			
P-21 — Digital NOTAM			

5. Do you expect any specific difficulty which could impede the transition from AIS to AIM?	YES	NO
.....		
.....		
.....		
.....		

6. What kind of assistance/support do you expect from ICAO to expedite the transition from AIS to AIM?
.....
7. Do you have any suggestion to update/improve the ICAO Roadmap for the Transition from AIS to AIM?
.....
8. Any other suggestion on the subject?
.....

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 Appendix 10B to the Report on Agenda Item 10

STATUS OF IMPLEMENTATION OF WGS-84 IN THE MID REGION

	FIR	ENR	TMA/CT A/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	REMARKS
BAHRAIN	F	F	F	F	F	F	F	F	F	
EGYPT	F	F	F	F	F	F	F	F	F	
IRAN	F	F	F	N	F	F	F	F	F	
IRAQ	P	P	P	P	P	P	N	N	P	
JORDAN	F	F	F	F	F	F	F	F	F	
KUWAIT	F	F	F	F	F	F	F	F	F	
LEBANON	F	F	F	F	F	F	N	N	F	
OMAN	F	F	F	F	F	F	F	F	F	
QATAR	F	F	F	F	F	F	F	F	F	
SAUDI ARABIA	F	F	F	F	F	N	N	N	F	
SYRIA	F	F	F	F	F	F	N	N	F	
UNITED ARAB EMIRATES	F	F	F	F	F	F	F	F	F	
YEMEN	F	F	F	F	F	F	F	N	F	

Legend:

F: Fully implemented

P: Partly implemented

N: Not implemented

MID REGION AIS DATABASE STUDY GROUP (MIDAD SG*)

1. TERMS OF REFERENCE

The terms of Reference of the MIDAD SG* are to:

- 1) carry out necessary coordination with States for the establishment of the MID Region AIS Database (MIDAD);
- 2) monitor the development of the MIDAD initial Study/Business case;
- 3) monitor the development of the detailed MIDAD study addressing all technical, operational, financial, human, legal and institutional issues, and provide necessary guidance;
- 4) develop the Call for Tender for the establishment of MIDAD;
- 5) negotiate the contract for the establishment of MIDAD with the chosen Contractor (MIDAD Service Provider); and
- 6) agree on the mechanism for the monitoring of MIDAD operations and maintenance.

2. COMPOSITION

The MIDAD SG* is composed of:

- a) all MID States; and
- b) concerned International/Regional Organizations as observers.

Other representatives from industry and user Organizations having a vested interest in Aeronautical Information Management and experience in the development of Regional AIS Databases, could participate as observers, as necessary.

**MIDANPIRG AERONAUTICAL INFORMATION MANAGEMENT
TASK FORCE (AIM TF)**

1. TERMS OF REFERENCE

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

- a) ensure that the planning and implementation of AIM in the MID Region is coherent and compatible with developments in adjacent regions, and that it is carried out within the framework of the ATM Operational Concept, the Global Air Navigation Plan and the associated Global Plan Initiatives (GPIs);
- b) seek to achieve common understanding and support from all stakeholders involved in or affected by the AIM developments/activities in the MID Region;
- c) provide expert inputs for AIM-related issues; and propose solutions for meeting ATM operational requirements;
- d) provide a platform for harmonization of developments and deployments in the AIM domain;
- e) monitor and review the latest developments in the area of AIM and procedure design issues associated to AIM, and provide regular progress reports to the ATM/SAR/AIS Sub Group and MIDANPIRG concerning its work programme, as appropriate; and
- f) review periodically its Terms of Reference and propose amendments as necessary.

1.2 In order to meet the Terms of Reference, the AIM Task force shall:

- a) monitor the status of implementation of the required AIM facilities and services and the transition from AIS to AIM in the MID Region, and provide necessary assistance and guidance to States in this respect;
- b) identify and review those specific deficiencies and problems that constitute major obstacles to the provision of efficient AIM services, and recommend necessary remedial actions;
- c) 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;
- d) develop proposals for the updating of relevant ICAO documentation, including the amendment of relevant parts of the MID Basic ANP and FASID, as deemed necessary;
- e) monitor and review technical and operating developments in the area of AIM and foster their implementation in the MID Region in a harmonized manner;
- f) foster the integrated improvement of AIM services through proper training and qualification of the AIM personnel; and
- g) establish and monitor AIM performance objectives for the MID Region.

2. COMPOSITION

2.1 The Task Force will compose of:

- a) MIDANPIRG Member States; and
- b) concerned International/Regional Organizations as observers.

Other representatives from industry and user Organizations having a vested interest in Aeronautical Information Management could participate as observers in the work of the Task Force, as appropriate.

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Report on Agenda Item 11

Report on Agenda Item 11: Review of Air Navigation Deficiencies in the ATM/SAR and AIS/MAP Fields

11.1 The meeting recalled that the DGCA-MID/1 meeting (Abu Dhabi, UAE, 22-24 March 2011) noted the concerns 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.

11.2 The meeting recalled that MIDANPIRG/12 (Amman, Jordan, 17-21 October 2010) noted with concern, that in many cases, two (2) or three (3) rationale for the non-elimination of deficiencies are reflected in the MID Air Navigation Deficiency Database (MANDD) (i.e.: F, H and O or F, H and S), which does not provide an accurate result, when carrying out an analysis related to the root-causes for non-elimination of deficiencies. Accordingly, the meeting agreed that, to the extent possible, it is preferable to reflect in the MANDD only the major factor/rationale for the non-elimination of the concerned deficiency.

11.3 It was further recalled that MIDANPIRG/12 underlined that the lack of sufficient number of qualified technical staff is the highest contributing factor for the non-elimination of the safety deficiencies in the MID Region (both air navigation deficiencies and USOAP findings). In this respect, the DGCA-MID/1 meeting noted that as part of the ICAO MID Regional Office Work Programme, Seminars, Workshops and Training Courses are being organized in the MID Region based on needs identified within the framework of MIDANPIRG or by ICAO (HQ and Regional Office). Nevertheless, it recognized that more effort should be put in the training of technical staff and re-iterated MIDANPIRG/12 recommendations and Conclusion on the subject, including, the call for States to organize at the National Level Seminars, Workshop and Training courses, in coordination with and with the support of the ICAO MID Regional Office, in order to touch a larger number of staff from the State.

11.4 The meeting noted that the DGCA-MID/1 meeting was of the view that a number of deficiencies were common to many States and accordingly encouraged States to work cooperatively towards the elimination of such deficiencies, in particular with a joint effort for the training of technical staff. It was also highlighted that the Regional Safety Oversight Organizations (RSOs) could play an important and effective role in this respect.

11.5 The meeting re-iterated that the identification and reporting of Air Navigation Deficiencies by User Organizations contribute significantly to the enhancement of air navigation safety in the MID Region. However, the non-attendance of IATA and IFALPA was noted with concern. In addition, it was highlighted that MANDD has not yet been used by IATA and IFALPA for the submission of requests for additions, updates and elimination of Air Navigation Deficiencies.

11.6 The meeting was apprised of the latest developments related to the establishment of a global air navigation deficiency database at the level of ICAO Headquarters accessible through iSTARS on the ICAO portal: <https://portal.icao.int>.

11.7 The meeting reviewed and updated the list of deficiencies in the ATM/SAR and AIS/MAP fields as at **Appendices 11A** and **11B** to the Report on Agenda Item 11, respectively, and urged States to use the MANDD for the online update of their deficiencies.

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Report on Agenda Item 11

11.8 The meeting noted with appreciation that 6 deficiencies in the AIS/MAP field have been eliminated; two (2) of them are Priority “U” and four (4) Priority “A”; and eighteen (18) deficiencies in the ATM field, have been eliminated, eleven (11) of them are Priority “U” and seven (7) Priority “B”.

11.9 The meeting recalled that MIDANPIRG/12 through Conclusion 12/47 agreed that the “*Percentage of air navigation deficiencies priority “U” eliminated*”, should be used as one Metric (MID Metric 6) for performance monitoring of the air navigation systems in the MID Region; and requested the MIDANPIRG subsidiary bodies to monitor the Metrics related to their work programmes and develop associated performance targets. In this respect, the meeting agreed that the elimination of **15%** of the deficiencies priority “U” is to be endorsed as an initial performance target, providing that this is endorsed by the CNS/ATM/IC SG for all technical areas (AOP, AIS, ATM, CNS and MET).

11.10 In connection with the above, the meeting urged States to take necessary follow-up actions to the following MIDANPIRG/12 Conclusion 12/75 and the DGCA-MID/1 Conclusion 1/2, as requested in the ICAO MID Regional Office State Letter issued on 25 May 2011:

*CONCLUSION 12/75: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE
MID REGION*

That, MID States be urged to:

- a) review their respective lists of identified deficiencies, define their root causes and forward an action plan for rectification of outstanding deficiencies to the ICAO MID Regional Office prior to 31 March 2011;*
- b) use the online facility offered by the ICAO MID Air Navigation Deficiency Database (MANDD) for submitting online requests for addition, update, and elimination of air navigation deficiencies;*
- c) accord high priority to eliminate all air navigation deficiencies with emphasis on those with priority “U”; in particular by allocating the necessary budget to ensure that their Civil Aviation Authorities have and retain a sufficient number of qualified technical personnel, who are provided with appropriate initial, on-the-job and recurrent training; and*
- d) seek support from regional and international organizations (i.e. ACAC, GCC, etc.) for the elimination of identified air navigation deficiencies.*

*DGCA-MID/1 CONCLUSION 1/2 - ELIMINATION OF AIR NAVIGATION DEFICIENCIES
IN THE MID REGION*

That, States:

- a) accord high priority to the elimination of air navigation deficiencies; in particular by allocating the necessary budget to ensure that their Civil Aviation Authorities have and retain a sufficient number of qualified technical personnel, and provide appropriate initial, on-the-job and recurrent training;*
- b) work cooperatively towards the elimination of common deficiencies; and*

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- c) *consider the use of the Regional Safety Oversight Organizations (RSOOs) as an efficient mechanism for, inter-alia, the provision of appropriate training to technical staff and elimination of common deficiencies.*

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Appendix 11A to the Report on Agenda Item 11

Deficiencies in the ATM/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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Bahrain with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Bahrain	Dec, 2011 Jun, 2012	A
2	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Under development : signed with Saudi Arabia, Qatar, Kuwait, Iran and Oman. Pending : Agreement yet to be signed with UAE	O	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services	Bahrain	Dec, 2011	A

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the ATM/SAR Field

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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Egypt has promulgated regulations and started development of SAR agreement with Cyprus and other States	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Egypt with neighboring States	Dec, 2011 Dec 2012	A
2	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	-	H	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services	Egypt ICAO	Dec, 2011	A
3	MID ANP Table ATS-1	-	ATS Route L/UL315 not implemented	Mar, 2007	The segments CAIRO-HURGHADA-GIBAL are not implemented (Alternative A727)	S	-	Egypt	Dec, 2011	B

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the ATM/SAR Field

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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Iran with neighboring States	Dec, 2011 Dec, 2102	A
2	Annex 11 Para. 2.30	-	Development of contingency plans	Nov, 2006	Ongoing	H O	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services	Iran	Dec, 2011 Jun 2012	A
3	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	Ongoing	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Iran	Dec, 2011 Jun 2012	U
4	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. Iran has no plan to implement the route segment	Iran and UAE	Dec, 2011 Dec, 2012	B

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action	
5	MID ANP Table ATS → extension of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route UP574 was extended beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	The segment ULDUS (380000N 0510100E) to DODAG (390956N 0510137E) was extended by Iran through NOTAM without prior coordination. The segment ULDUS (380000N 0510100E) to DODAG (390956N 0510137E) was extended by Iran through NOTAM without prior coordination.	○	Iran is required to revert back to the Original Exit point on ATS route UP574 until coordination with ICAO and concerned States is completed.	Iran	Dec, 2011	U
6	MID ANP Table ATS → extension of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route R794 was extended beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	The segment ULDUS (380000N 0510100E) to EGMIS (390153N 0503704E) was extended by Iran through NOTAM without prior coordination.	○	Iran is required to revert back to the Original Exit point on ATS route UP574 until coordination with ICAO and concerned States is completed. Iran is required to revert back to the Original Exit point on ATS route R794 until coordination with ICAO and concerned States is completed.	Iran	Dec, 2011	U

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

“H”= Human Resources

“S”= State (Military/political)

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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	MID ANP Table ATS extension of ATS route through the Unilateral Air Space Change of the Iran FIR		ATS route UN319 was extended beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	<p>The segment ULDUS (380000N 0510100E) to OTUNA (385037N 0500309E) was extended by Iran through NOTAM without prior coordination.</p> <p>The segment ULDUS (380000N 0510100E) to OTUNA (385037N 0500309E) was extended by Iran through NOTAM without prior coordination.</p>	○	Iran is required to revert back to the Original Exit point on ATS route UP574 until coordination with ICAO and concerned States is completed.	Iran	Dec, 2011	U

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action	
8	MID ANP Table ATS—1 extension of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route UP567 was extended beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	<p>The segment ULDUS (380000N 0510100E) to PAVUR (384506N 0494854E) was extended by Iran through NOTAM without prior coordination.</p> <p>The segment ULDUS (380000N 0510100E) to PAVUR (384506N 0494854E) was extended by Iran through NOTAM without prior coordination.</p>	⊖	<p>Iran is required to revert back to the Original Exit point on ATS route UP574 until coordination with ICAO and concerned States is completed.</p> <p>Iran is required to revert back to the Original Exit point on ATS route UP567 until coordination with ICAO and concerned States is completed.</p>	Iran	Dec, 2011	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
9	MID ANP Table ATS — 1 establishment of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route UN39 was established beyond Iran FIR during the Unilateral Change of the Iran FIR. This designator is not from the MID ATS Route designator list.	Jun, 2011	<p>The segment ULDUS (380000N 0510100E) to EGMIS (390153N 0503704E) was established by Iran through NOTAM without prior coordination.</p> <p>⊖</p> <p>The segment ULDUS (380000N 0510100E) to EGMIS (390153N 0503704E) was established by Iran through NOTAM without prior coordination.</p>	<p>Iran is required to revert back to the Original Exit point on ATS route UP574 until coordination with ICAO and concerned States is completed.</p> <p>Iran is required to revert back to the Original Exit point on ATS route UN39 until coordination with ICAO and concerned States is completed.</p>	Iran	Dec, 2011	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	
10	MID ANP Table ATS—1 establishment of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route UN23 was established beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	The segment ULDUS (380000N 0510100E) to ORMUN(385733N 0502357E) was extended by Iran through NOTAM without prior coordination.	⊖	Iran is required to revert back to the Original Exit point on ATS route UN23 until coordination with ICAO and concerned States is completed.	Iran	Dec, 2011	U
11	MID ANP Table ATS—1 establishment of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route G177 was ESTABLISHED beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	The segment ULDUS (380000N 0510100E) to OTUNA (385037N 0500309E) was extended by Iran through NOTAM without prior coordination. The designator does not form part of the MID ATS Route designator list.	⊖	Iran is required to delete and revert back to the Original FIR boundary point until coordination with ICAO and concerned States is completed.	Iran	Dec, 2011	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	
12	MID ANP Table ATS → extension of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route UN60 was extended beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	The segment LALDA (380000N 0510100E) to PAVUR (381615N 0494511E) was established by Iran through NOTAM without prior coordination. The designator is not from the MID ATS Route designator list.	⊖	Iran is required to revert back to the Original Exit point on ATS route UN60 until coordination with ICAO and concerned States is completed.	Iran	Dec, 2011	U
13	MID ANP Table ATS → extension of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route A357 was established beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	The segment LALDA (381615N 0494511E) to PAVUR (384506N 0494511E) was extended by Iran through NOTAM without prior coordination. The designator is not from the MID ATS Route designator list.	⊖	Iran is required to delete and revert back to the Original FIR boundary until coordination with ICAO and concerned States is completed	Iran	Dec, 2011	U

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

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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	
14	MID ANP Table ATS ↓ extension of ATS route through the Unilateral Air Space Change of the Iran FIR	-	ATS route UN25 was established beyond Iran FIR during the Unilateral Change of the Iran FIR	Jun, 2011	The segment LALDA (381615N 0494511E) to PUXOT(384125N 0493553E) was extended by Iran through NOTAM without prior coordination. The designator is not from the MID ATS Route designator list.	⊖	Iran is required to revert back to the Original Exit point on ATS route UN25 until coordination with ICAO and concerned States is completed.	Iran	Dec, 2011	U
15	MID ANP extension of FIR through the Unilateral Change of the Iran FIR	Change of the FIR Boundary	FIR was extended beyond the normal Iran FIR boundary during the Unilateral Change from those shown in the ANP Chart ATS ↓	Jun, 2011	The Iran FIR boundary was extended by Iran through NOTAM without prior coordination from those of the FIRs comprising the MID region in the Basic ANP as shown in Chart ATS ↓	⊖	Iran is required to revert back to the Original FIR Boundary until coordination with ICAO and concerned States is completed	Iran	Dec, 2011	U

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM/SAR Field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Iraq with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Iraq with neighboring States	Dec, 2011	A
2	MID ANP Table ATS-1 Plan of ATS Routes	-	ATS route G667 not implemented	Sep, 2006	Iraq has no plan to open the route	S	-	Iraq Iran Kuwait	Dec, 2011	B
3	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	-	S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services	Iraq ICAO	Dec, 2011	A
4	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	Dec, 2011	U

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action	
5	MID ANP Table ATS-1 Plan of ATS routes	Iraq and Syria	ATS route UP975 not implemented in the Baghdad and Damascus FIRs	Dec, 2003	Coordination between Iraq and Syria. Notam issued opening route in Baghdad FIR	S	States to negotiate with one another and coordinate opening of the route	Iraq/Syria	Dec, 2011	B
6	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	S	States to negotiate with one another and coordinate opening of the route	Iraq/Syria	Dec, 2011	B
7	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	Dec, 2011	B
8	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route A424 LOTAN - LOVEK segment (Baghdad FIR) not implemented	May, 2008	Communication problems between concerned FIRs	O	No plan to open the route.	Iraq	Dec, 2011	B
9	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route G669 segment Rafha SOLAT not implemented	May, 2008	-	S	-	Iraq	Mar, 2012	B
10	Annex 11 Para. 3.3.4.1	-	Non-provision of required data to the MIDRMA on regular basis and in a timely manner	Nov, 2011	-	O	Need to provide the MIDRMA with required data on regular basis, in order to enable it to discharge its functions and responsibilities	Iraq, MIDRMA	Apr, 2012	A

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

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"O"= Other unknown causes

Deficiencies in the ATM/SAR Field

JORDAN

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action	
1	MID ANP Table ATS-1 Plan of ATS routes	Jordan, Syria	ATS route G662 not implemented — Negotiations with military ongoing, in advanced stage	Dec, 1997	Not implemented Damascus to Guriat	S	States to continue coordination to achieve implementation	Jordan, Syria	Dec, 2011	B
2	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	National Contingency plan developed	H S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services	Jordan	Dec, 2011	A
3	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	Work in progress -- SMS developed and details will be forwarded to ICAO	F H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Jordan	Dec, 2011 Jun 2012	U
4	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, 2011 Dec, 2012	B

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the ATM/SAR Field

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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Kuwait with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Kuwait with neighboring States	Dec, 2011 Dec, 2012	A
2	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	Implementation of SMS is expected to start in April 2007	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Kuwait	Dec, 2011 Dec, 2012	U
3	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Contingency Plan was signed with Bahrain and Iran. Work is progressing for the coordination with other neighboring States	H S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services	Kuwait	Dec, 2011 Dec, 2012	A
4	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	Dec, 2011	B

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

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Deficiencies in the ATM/SAR Field

LEBANON

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action	
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Lebanon with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements. Agreement signed with Cyprus.	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Lebanon with neighboring States	Dec, 2012 Dec, 2011	A
2	MID ANP Table ATS - I 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. Lebanon intends to discuss realignment with Syria	Lebanon-Syria	Dec, 2011	B
3	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	H O S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services	Lebanon ICAO	Dec, 2011 Jun 2012	A
4	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 Dec, 2011	U

⁽¹⁾ 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	-	ATS Route UP559 not implemented	Mar, 2007	The segments TURAIF-TONTU-DAMASCUS-DAKWE-KHALDEH-KUKLA-LARNACA are not implemented	S	-	Jordan-Lebanon and Syria	Dec, 2011 <u>Jun 2012</u>	B

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM/SAR Field

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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Oman with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Oman with neighboring States	Jan, 2012 Dec 2012	A
2	Annex 11 Para. 2.30	-	Development of contingency plans	Nov, 2006	Under development : signed with Bahrain, Iran AND Yemen pending : Agreement yet to be signed with UAE, Pakistan and India	S H O	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services	Oman	Dec, 2011 Feb, 2012	A

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the ATM/SAR Field

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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Qatar and Bahrain with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Lack of SAR agreements can be detrimental to safety of persons in distress where searches overlap national boundaries. Draft Model SAR agreements adopted at MIDANPIRG/5. No significant progress achieved- ICAO to assist	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Qatar and Bahrain	Dec, 2011	A
2	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Work in progress; agreement signed with Bahrain	S	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services	Qatar Bahrain ICAO	Dec, 2011	A

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

"H"= Human Resources

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"O"= Other unknown causes

Deficiencies in the ATM/SAR Field

SAUDI ARABIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Saudi Arabia with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements. Ready to sign agreement as per drafted (model) agreement presented at ATM/SAR/AIS SG/10 SAR National Board established	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Saudi Arabia with neighboring States	Dec, 2011 <u>Dec, 2012</u>	A
2	MID ANP Table ATS I Plan of ATS routes	Qatar Saudi Arabia	ATS route A415 implemented with variance to Table ATS I	Dec, 1997	Doha to King Khalid implemented at variance with the Plan - slightly longer Military restrictions Economic impact - Not affecting safety. Negotiations with military ongoing	S	-	Saudi Arabia Qatar	Dec, 2011	B

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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	
3	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. <u>Signed with Bahrain and Jordan</u>	H ⊖ S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services	Saudi Arabia	<u>Dec, 2011</u> <u>Dec, 2012</u>	A
4	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	<u>Dec, 2011</u> <u>Dec, 2013</u>	U

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM/SAR Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Syria with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing to sign agreements. Agreement with Turkey and Cyprus completed. Agreement with Iraq, Jordan and Lebanon pending	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Syria with neighboring States	Dec, 2011	A
2	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	Dec, 2011	B
3	MID ANP Table ATS-1 Plan of ATS routes	Iraq Syria	ATS route UL602 not implemented in the Baghdad and Damascus FIRs	Dec, 2003	Coordination between Iraq and Syria	S	States to negotiate with one another and coordinate opening of the routes	Iraq and Syria	Dec, 2011	B
4	MID ANP Table ATS-1 Plan of ATS routes	Iraq Syria	ATS route UP975 not implemented in the Baghdad and Damascus FIRs	Dec, 2003	Coordination between Iraq and Syria	S	States to negotiate with one another and coordinate opening of the routes	Iraq and Syria	Dec, 2011	B

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
5	Annex 11 Para. 2.30	-	Development of contingency plans	Nov, 2006	Draft available	H O	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services	Syria	Dec, 2011	A
6	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	Dec, 2011	U
7	MID ANP Table ATS-1	-	ATS Route UP559 not implemented	Mar, 2007	The segments TURAIF-TONTU-DAMASCUS-DAKWE-KHALDEH-KUKLA-LARNACA are not implemented	S	Syria has no plan to implement the route.	Jordan-Lebanon and Syria	Dec, 2011	B

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the ATM/SAR Field

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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	UAE with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Work ongoing. The agreement with Bahrain and Oman to be updated and the one with Iran has to be developed/coordinated.	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	UAE with neighboring States	Dec, 2012	A
2	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	UAE	Dec, 2011 Dec, 2012	A
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	States to continue negotiations with one another The UAE considers options for a resolution to be exhausted	Iran and UAE	Dec, 2012 Dec, 2011	B

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM/SAR Field

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	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Yemen with neighboring States	Lack of Search and Rescue Agreements between neighboring States	Nov, 1994	Ongoing	S	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	Yemen with neighboring States	Dec, 2011	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	Yemen	Dec, 2011	U
3	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Ongoing	H O	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services	Yemen	Dec, 2011	A
4	Annex 11 Para. 3.3.4.1	-	Non-provision of required data to the MID RMA on regular basis and in a timely manner	Nov, 2011	-	O	Need to provide the MIDRMA with required data on regular basis, in order to enable it to discharge its functions and responsibilities	Yemen, MIDRMA	Apr, 2012	A

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

ATM/SAR/AIS SG/12
 Appendix 11B to the Report on Agenda Item 11

**Deficiencies in the AIS/MAP Field
 BAHRAIN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action
No Deficiencies Reported									

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AIS/MAP Field

EGYPT

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action
No Deficiencies Reported									

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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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+neighboring states	Jun, 2011 Dec. 2012	B
2	ANNEX 4: Para. 3.2	-	Non-production of Aerodrome Obstacle Chart-ICAO Type A	May, 1995	ICAO to follow up with State	O	Need to produce Aerodrome Obstacle Chart-ICAO Type A for all Int'l Airports RWYs, except if a notification to this effect is published in the AIP (if no significant obstacles exist)	Iran	Dec, 2011 Jun, 2012	A
3	ANNEX 15: Para. 3.6.5	-	Lack of AIS automation	Dec, 2007	-	O	AIS automation should be introduced with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services	Iran	Dec, 2011 Jun, 2012	A
4	Annex 15 Para. 6	AIRAC System	Lack of implementation of AIRAC System. Publication of significant changes to aeronautical information publications through normal AIP amendments and NOTAMs.	Jun, 2011	-	S	Need to fully comply with the AIRAC procedures.	Iran	Sep, 2011 Apr, 2012	U

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AIS/MAP Field

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	ICAO to follow up with State	F H O	Need to fully comply with the AIRAC procedure	Iraq	Dec, 2011	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	Dec, 2011	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	Dec, 2011	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	Dec, 2011	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	Dec, 2011	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	Dec, 2011	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	Dec, 2011	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	Dec, 2011	U
9	ANNEX 15: Para. 5.2.8.3	-	Non-production of the monthly printed plain language summary of NOTAM	Jan, 2003	-	H O	Need to produce the monthly printed plain language summary of NOTAM	Iraq	Dec, 2011	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	Dec, 2011	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	Dec, 2011	A

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP Field

JORDAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 4: Para. 16.2	-	Non-production of World Aeronautical Chart – ICAO 1:1 000 000	Feb, 2008	-	F H S H	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Jordan	Dec, 2009 Jun, 2012	B

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

11B-7

Deficiencies in the AIS/MAP Field

KUWAIT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para. 3.2	-	Implementation of a Quality System	Jan, 2003	Work in progress	H Θ H	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Kuwait	Dec, 2010 Dec, 2013	U

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AIS/MAP Field

LEBANON

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action	
1	ANNEX 4 Para. 16.2	-	Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May, 1995	-	F H S	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	-	F H	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Lebanon	Dec, 2010 <u>Dec, 2012</u>	U
3	ANNEX 15:Para. 3.7.2.4	-	Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan, 2003	ICAO to follow up with State to determine what action is needed to achieve implementation.	F H	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Lebanon	Dec, 2011 <u>Jun, 2012</u>	A

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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Deficiencies in the AIS/MAP Field

OMAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15:Para. 3.2	-	Implementation of a Quality System	Jan, 2003	-	O	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Oman	Dec, 2012	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, 2011 Dec, 2014	A

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP Field

QATAR

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15:Para. 3.2	-	Implementation of a Quality System	Jan, 2003	-	H Θ	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Qatar	Mar, 2011	U

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AIS/MAP Field

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 – ICAO 1:1 000 000	May, 1995	-	O	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Saudi Arabia	Jun, 2011 <u>Mar, 2012</u>	B
2	ANNEX 4: Para. 7.2	-	Non-production of the Enroute Chart ICAO	May, 1995	-	H O	Need to produce the Enroute Chart ICAO	Saudi Arabia	Dec, 2011	A
3	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.	Saudi Arabia	Jun, 2011	U
4	ANNEX 15: Para. 3.7.2.4	-	Implementation of geoid undulation referenced to the WGS 84 ellipsoid.	Jan, 2003	ICAO to follow up with State to determine what action is needed to achieve implementation.	O	Need to implement geoid undulation referenced to the WGS 84 ellipsoid.	Saudi Arabia	Jun, 2011	A
5	ANNEX 15: Para. 8.1	-	AIS Aerodrome Units not established at International Airports and pre-flight information service not provided	Nov, 2007	-	O	Need to provide a pre-flight information service at all aerodromes used for international air operations.	Saudi Arabia	Mar, 2011 <u>Mar, 2012</u>	A

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AIS/MAP Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para 6.	-	Lack of implementation of AIRAC System	May, 1995	ICAO to follow up with State	F H	Need to fully comply with the AIRAC procedure	Syria	Dec, 2010	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	Dec, 2010	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	Dec, 2010	U
4	ANNEX 15: Para. 3.7.2.4	-	Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan, 2003	ICAO to follow up with States to determine what action is needed to achieve implementation.	F H	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Syria	Dec, 2010	A
5	ANNEX 15: Para 4.2.9 & 4.3.7	-	Lack of regular and effective updating of the AIP	Jul, 2005	ICAO to follow up with State	F H O	Need to update the AIP on a regular basis	Syria	Dec, 2011	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	Dec, 2011	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. 3.6.5	-	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	Dec, 2010	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	Dec, 2010	A

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AIS/MAP Field

UAE

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para. 3.6.5	-	Lack of AIS automation	Mar, 2007	Contract signed	Ø	A project implementing an electronic AIP basedn AIXM 4.5 was completed in Q2/2010. However, difficulties related to the automatic production of charts sre not yt resolved. Migration to AIXM 5.1 is in progress; the project planned for completion in March 2011	UAE	Mar, 2011	A
2	ANNEX 15: Para. 3.2	-	The scope and objectives of the quality system implemented do not fully address the requirements of ICAO Annex 15	Jun, 2007	-	O	a properly organized quality system for AIS, which provides users with the necessary assurance and confidence that distributed aeronautical information/data satisfy stated requirements for data quality and for data traceability by the use of appropriate p	UAE	Mar, 2011 Dec, 2011 Dec, 2012	U

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

11B-15

Deficiencies in the AIS/MAP Field

YEMEN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para 6.	-	Lack of implementation of AIRAC System	May, 1995	ICAO to follow up with State	H O	Need to fully comply with the AIRAC procedure	Yemen	Dec, 2011	U
2	ANNEX 4: Para. 16.2	-	Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May, 1995	-	F H S F	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Yemen	Dec, 2011 Dec, 2013	B
3	ANNEX 4: Para. 7.2	-	Non production of the Enroute Chart ICAO	May, 1995	-	F H	Need to produce the Enroute Chart ICAO	Yemen	Dec, 2011	A
4	ANNEX 15: Para. 3.2	-	Implementation of a Quality System	Jan, 2003	-	F H F	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Yemen	Dec, 2011 Dec, 2013	U
5	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	Need to produce Instrument Approach Chart ICAO for all Intl Aerodromes RNAV procedures are under development for Taiz airport	Yemen	Dec, 2011 Dec, 2012	A
6	ANNEX 15: Para. 8.1	-	Non provision of pre-flight information service at international airports	Mar, 2004	-	F H	Need to provide a pre-flight information service at all aerodromes used for international air operations.	Yemen	Dec, 2011	A

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
7	ANNEX 15: Para. 3.6.5	-	Lack of AIS automation	Jul, 2005	-	<p>⌘</p> <p>⌘</p> <p>F</p>	AIS automation should be introduced with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services	Yemen	<p>Dec, 2011</p> <p>Dec, 2013</p>	A

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

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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

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

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

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

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

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

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

Definition:

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

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

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

ATM/SAR/AIS SG/12
Report on Agenda Item 12

REPORT ON AGENDA ITEM 12: REVIEW OF THE ATM AND AIM PARTS OF THE MID AIR NAVIGATION PLAN (ANP)

12.1 The meeting recalled that MIDANPIRG/12 recognized that in many occasions, the usefulness and effectiveness of the Air Navigation Plans were questioned, in particular, when it comes to duplication of some Annexes provisions in the Basic ANP or reproduction of the data published in the Aeronautical Information Publications in the FASID Tables. In this regard, it was highlighted that the ANPs should set forth in detail the facilities, services and procedures required for international air navigation within a specified area. Such plans contain recommendations that States can follow in programming the provision of their air navigation facilities and services, with the assurance that facilities and services furnished in accordance with the plan will form with those of other States an integrated system adequate for the foreseeable future. The meeting further noted that the ANP, does not list all facilities in the region but only those required for international civil aviation operations; the aeronautical information publications, NOTAM and other State documents should be consulted for information on additional facilities and for operational information in general.

12.2 The meeting recalled that MIDANPIRG/12 recognized that the current format and content of the regional ANPs as well as the amendment process do not meet the need of States and users and are inconsistent with the new requirements set-forth by the ATM Operational Concept, the Global ANP and the Performance Based Approach. Accordingly, it was agreed that a significant revision of the current regional ANPs, format and content was required in order to meet the intended objectives and increase their effectiveness. Accordingly, MIDANPIRG/12 agreed to the following Decision:

DECISION 12/49: REVIEW OF THE MID AIR NAVIGATION PLAN (ANP)

That, in support to ICAO efforts to improve regional ANPs, the MIDANPIRG subsidiary bodies:

- a) carry out a complete review of the MID Basic ANP and FASID parts related to their Terms of Reference (TOR) and Work Programme;*
- b) develop revised draft structure and content of the Basic ANP in order to reconcile it with the ATM Operational Concept, the Global Plan provisions and the performance based approach;*
- c) identify the need for and development of those FASID Tables necessary to support the implementation of a performance-based global air navigation systems; and*
- d) report progress to MIDANPIRG/13.*

12.3 The meeting noted that a similar work is being carried out in the European Region. In this regard, the meeting was informed that a Task Force has been established in Europe for the development of the AIM Parts of the EUR ANP.

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12.4 Based on the outcome of the EUR ANP AIM Task Force and the review carried out by the AIS/MAP TF/6 meeting, the meeting endorsed the AIM Parts of the MID ANP at **Appendices, 12A, 12B and 12C** to the Report on Agenda Item 12.

12.5 With regard to the ATM and SAR Parts of the MID ANP, the meeting noted that several amendment proposals to the TABLE ATS 1-ATS Routes were processed during the past period. An Amendment proposal to the Basic ANP, SAR Part has been also processed. However, the task assigned by MIDANPIRG through Conclusion 12/49 has not yet been fulfilled; i.e.: the structure and content of the MID ANP ATM and SAR Parts have not been fully reviewed and amended to cope with the ATM Operational Concept, the Global Plan provisions and the performance based approach.

12.6 Taking into consideration the recent developments in the air navigation fields and in particular in the ATM area (development of a revised version of the Global Air Navigation Plan, Aviation System Block Upgrades (ASBUs), electronic Air Navigation Plan (eANP), etc), the meeting agreed that the follow-up on the MIDANPIRG/12 Conclusion 12/49 be carried out by the CNS/ATM/IC SG/6 meeting, which might propose to MIDANPIRG the establishment of an Ad-Hoc Working Group tasked to develop a revised version of the MID ANP, taking into consideration the latest developments, the work carried out in Europe for the revision of the EUR ANP, the revised MID ANP AIM Parts and AIM FASID Tables as well as the MID States' National Plans.

ATM/SAR/AIS SG/12
Appendix 12A to the Report on Agenda Item 12

MID ANP, VOLUME I, BASIC ANP

PART x - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

1. INTRODUCTION

Regional AIS/AIM Planning

1.1 This part of the Middle East Region Basic Air Navigation Plan contains basic planning principles, operational requirements, planning criteria and implementation guidelines related to Aeronautical Information Services and Charts (AIS/MAP) considered being the minimum necessary for effective planning of AIS and MAP facilities and services in the MID Region. It contains also the developing transition path to achieve MID Region Aeronautical Information Management (AIM) based on the *ATM Operational Concept (Doc 9854)* and the *Global Air Navigation Plan (Doc 9750)*.

1.2 The dynamic material constituted by the AIS/AIM facilities and services required for international air navigation is contained in the MID ANP Volume 2 - Facilities and Services Implementation Document (FASID). The FASID includes appropriate additional guidance, particularly with regard to implementation, to complement the material contained in the Basic ANP.

1.3 During the transition to and pending full implementation of AIM, it is expected that the existing requirements will be gradually replaced/complemented by new AIM related requirements. Subsequently, it is expected that the ANP will be subject to regular review and amendment, to reflect progression in the transition towards full implementation of AIM.

Standards, Recommended Practices and Procedures

1.4 The Standards, Recommended Practices and Procedures and related guidance material applicable to the provision of AIS and ultimately AIM are contained in the following ICAO documentation:

- a) Annex 4 – Aeronautical Charts;
- b) Annex 15 – Aeronautical Information Services;
- c) Doc 7030 – Regional Supplementary Procedures, MID Region;
- d) Doc 7383 – Aeronautical Information Services Provided by States;
- e) Doc 7910 – Location Indicators;
- f) Doc 8126 – Aeronautical Information Services Manual;
- g) Doc 8168 – Aircraft Operations Volume 2 – Construction of Visual and Instrument Flight Procedures;
- h) Doc 8400 – ICAO Abbreviations and Codes (PANS-ABC);
- i) Doc 8697 – Aeronautical Charts Manual;
- j) Doc 9377 – Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services;
- k) Doc 9674 – World Geodetic System (1984) Manual;
- l) Doc 9855 – Guidelines on the Use of the Public Internet for Aeronautical Applications; and
- m) Doc 9881– Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information.
- n) Doc 9906 (Volume I) – Flight Procedure Design Quality Assurance System.

2. GENERAL PROCEDURES/REQUIREMENTS

MID Region Responsibilities

- 2.1 The ICAO Regional Office will, through MIDANPIRG:
- i) process endorsed proposals for amendment to ICAO AIS/AIM related documents;
 - ii) process endorsed proposals for amendment to ICAO AIS/AIM related documents; and
 - iii) support the MIDANPIRG AIM Task Force.

State Responsibilities

2.2 Each Contracting State is responsible for the aeronautical information/data published by its aeronautical information service or by another State or a non-governmental agency on its behalf.

2.3 Aeronautical information published for and on behalf of a State should clearly indicate that it is published under the authority of that State.

2.4 Each Contracting State should take all necessary measures to ensure that the aeronautical information/data it provides relating to its own territory, as well as areas in which the State is responsible for providing air traffic services outside its territory, is adequate, of required quality and timely. This should include arrangements for the timely provision of required information/data to the aeronautical information service by each of the State services associated with aircraft operations.

2.5 International NOTAM Offices (NOF) and their areas of responsibility should be established so as to ensure maximum efficiency in the provision of AIS and in the dissemination of aeronautical information.

2.6 The designated International NOTAM Offices for the MID Region are listed in the **MID ANP Volume 2 - FASID Table AIM-1**.

2.7 Coordination/liason on a permanent basis should be established between AIS/AIM and other technical services responsible for planning and operating air navigation facilities and services.

2.8 Technical services responsible for origination of the raw aeronautical information should be acquainted with the requirements for promulgation and advance notification of changes that are operationally significant as established in Annexes 11 and 14 and other relevant ICAO documentation. They should take due account of the time needed by AIS/AIM for the preparation, production and issue of the relevant material.

2.9 Appropriate AIS/AIM personnel should be included in the air navigation planning processes. This should ensure the timely preparation of appropriate AIS documentation and that the effective dates for changes to the air navigation system and procedures are satisfied.

2.10 Whilst Annex 4 and Annex 15 detail the SARPs for the provision of charts and AIS respectively, the following State responsibilities are highlighted:

- a) Each Contracting State should:
 - i) Arrange for the implementation of a quality management system for aeronautical information and chart services. The quality management system should include the necessary policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data is traceable throughout the aeronautical information data chain from origin to distribution to the next intended user. As part of the quality management system, arrangements

should be made for the signature of letters of agreement with data originators to manage the aeronautical information data chain.

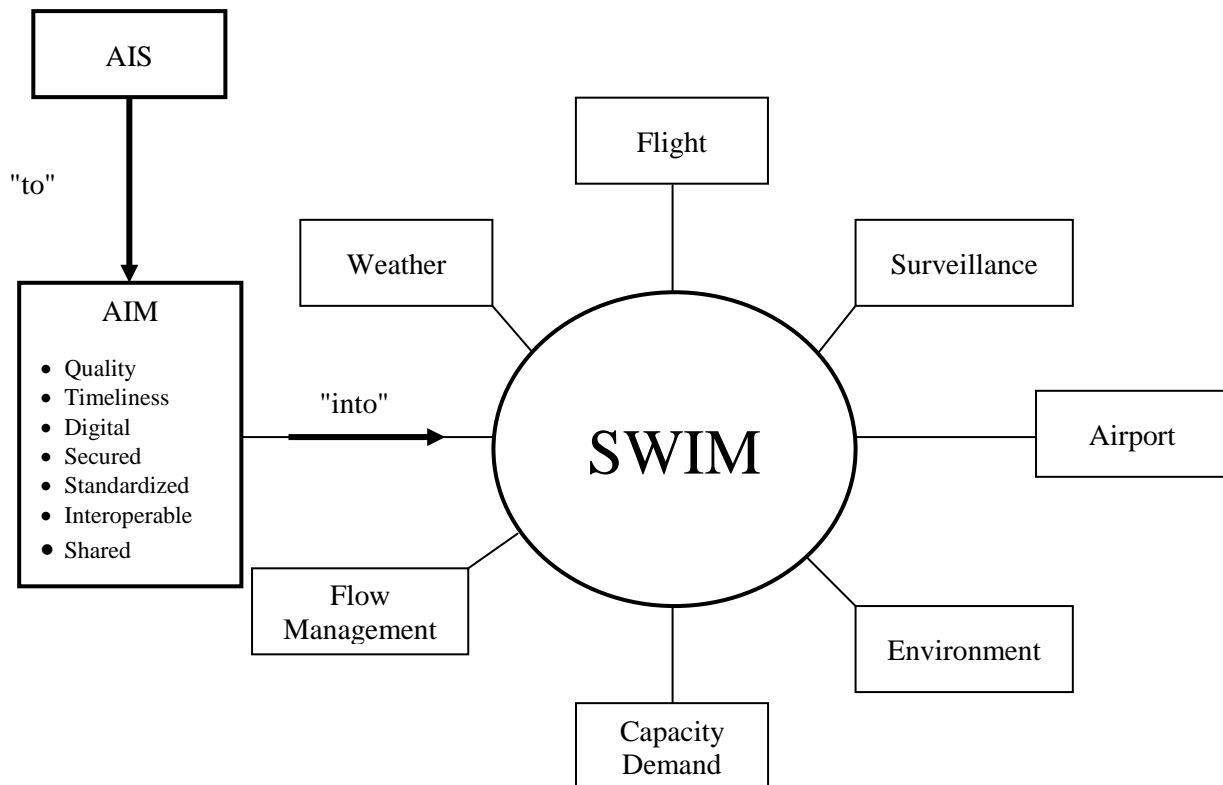
- ii) Ensure Human Factors are considered.
- iii) Ensure adherence to the AIRAC System.
- iv) Ensure that the aeronautical information/data to be exchanged with States is published as an Integrated Aeronautical Information Package (i.e. Aeronautical Information Publication (AIP), including amendment service, AIP Supplements, NOTAM, pre-flight information bulletins (PIB), Aeronautical Information Circulars (AIC), checklists and list of valid NOTAM) in accordance with the requirements of Annex 15.
- v) Arrange for the provision of an electronic AIP (eAIP) in accordance with the requirements of Annex 15.
- vi) Comply with WGS 84 requirements.
- vii) Introduce automation enabling digital data exchange with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services.
- viii) Ensure that pre-flight information is provided at all aerodromes/heliports normally used for international air operation, in accordance with the requirements of Annex 15, using Automated pre-flight information systems for the supply of aeronautical information/data for self-briefing, flight planning and flight information service.
- ix) Arrange for the provision of post-flight information.
- x) Arrange for the provision of required electronic Terrain and Obstacle Data (eTOD), in accordance with the requirements of Annex 15.
- xi) Arrange for the production and publication of necessary aeronautical charts in accordance with Annex 4 provisions and regional agreements.

3. AERONAUTICAL INFORMATION MANAGEMENT

3.1. The Global Air Traffic Management Operational Concept presented in ICAO Doc 9854 depends upon a system wide information management (SWIM). The management, utilization and transmission of data and information are vital to the proper functioning of the ATM system and are at the core of air navigation services.

3.2. As part of SWIM, AIM is required to support evolving requirements for, inter alia, collaborative decision making (CDM), performance-based navigation (PBN), ATM system interoperability, network-centred information exchange, and to take advantage of improved aircraft capabilities.

3.3. The scope of information management includes all types of information and in particular aeronautical information. The relationship diagram below shows a number of the core elements of SWIM:



Aeronautical Information Management (AIM) is considered to be the dynamic, integrated management of aeronautical information services — safely, economically and efficiently — through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

TRANSITION TO AIM

3.4. The transition to AIM requires that all aeronautical information, including that currently held in AIP be stored as individual digital standardized data sets to be accessed by user applications. The distribution of these data sets will both enhance the quality of output and ultimately provide a platform for new applications. This will constitute the future integrated aeronautical information package that will contain the minimum regulatory requirement to ensure the flow of information necessary for the safety, regularity and efficiency of international air navigation. (GPI-18 refers).

Guiding Principles for the Transition to AIM

3.5. The transition from AIS to AIM will have to:

- a) support or facilitate the generation and distribution of aeronautical information which serves to improve the safe and cost-effective accessibility of air traffic services in the world;
- b) provide a foundation for measuring performance and outcomes linked to the distribution of quality assured aeronautical information and a better understanding of the determinants of ATM, safety and effectiveness not related to the distribution of the information;
- c) assist States in making informed choices about their aeronautical information services and the future of AIM;

- d) build upon developments in States, international organizations and industry and acknowledge that the transition to AIM is a natural evolution rather than a revolution;
- e) provide over-arching and mature Standards that apply to a wide range of aeronautical information products, services and technologies;
- f) be guided by the *Global Air Navigation Plan* (Doc 9750) and ensure that all development is aimed at achieving the ATM system envisaged in the *Global Air Traffic Management Operational Concept* (Doc 9854); and
- g) ensure, to the greatest extent possible, that solutions are internationally harmonized and integrated and do not unnecessarily impose multiple equipment carriage requirements for aircraft or multiple systems on the ground.

The Roadmap to AIM

Source Document: ICAO Road Map for the Transition from AIS to AIM

3.6. The purpose of the roadmap is to develop the AIM concept and associated performance requirements by providing a basis upon which to manage and facilitate, on a worldwide basis, the transition from AIS to AIM. The roadmap is based on what is known today and has been developed with sufficient flexibility to facilitate the new concepts that will emerge from future research.

3.7. Three phases of action are envisaged for States and ICAO to complete the transition to AIM:

Phase 1 — Consolidation

3.8. During Phase 1, steps will be taken to establish a solid base by enhancing the quality of the existing products and improving the status of implementation of current Annex 4 and Annex 15 provisions. This is a pre-requisite before Phase 2 can be achieved.

Phase 2 — Going digital

3.9. Phase 2 of the transition to AIM will mainly focus on the establishment of data-driven processes for the production of the current products in all States. States that have not yet done so will be encouraged “to go digital” by using computer technology or digital communications and through introducing structured digital data from databases into their production processes. The emphasis will, therefore, not be on the introduction of new products or services but will be on the introduction of highly structured databases and tools such as geographic information systems.

Phase 3 — Information management

3.10. Phase 3 will introduce steps to enable future AIM functions in States to address the new requirements that will be needed to implement the Global Air Traffic Management Operational Concept in a net centric information environment. The digital databases introduced in Phase 2 will be used for the transfer of information in the form of digital data. This will require the adoption of a Standard for an aeronautical data exchange model to ensure interoperability between all systems not only for the exchange of full aeronautical data sets, but also for short-term notification of changes.

National Plans for the transition to AIM

3.11. States should be planning for the transition from AIS to AIM. The national plans for the transition from AIS to AIM should be based on the ICAO Roadmap for the transition from AIS to AIM, identifying clearly the associated performance goals and achievable milestones with a view to satisfy the requirements arising from the Global ATM Operational Concept, in particular the management of a seamless information flow ensuring interoperability between the different CNS/ATM systems.

AIM Implementation

3.12. The following provisions/regulatory requirements complement those contained in ICAO Annex 4 and Annex 15 with a view to expedite AIM implementation in the MID Region in a harmonized manner. They represent the basis for a number of provisions contained in the FASID tables.

Integrated Aeronautical Information Database (IAID)

(FASID Table AIM-2)

3.13. FASID Table AIM-2 sets out the requirements for the Provision of AIM products and services based on the Integrated Aeronautical Information Database (IAID).

3.14. States should designate and implement an authoritative Integrated Aeronautical Information Database (IAID). The designation of authoritative databases should be clearly stated in States' AIPs.

Electronic Terrain and Obstacle Data and Aerodrome Mapping Data Bases (AMDB)

(FASID Table AIM-3)

3.15. FASID Table AIM-3 sets out the requirements for the provision of Terrain and Obstacles Datasets and Aerodrome Mapping Data Bases (AMDB).

3.16. States should take the necessary measures for the provision of required electronic Terrain and Obstacle Data (eTOD), in accordance with Annex 15 provisions.

3.17. States should manage the eTOD implementation as a national programme supported by the necessary resources and detailed planning including priorities and timelines for implementation.

3.18. The implementation of eTOD should involve different Administrations within and outside of the Civil Aviation Authority i.e.: AIS, Aerodromes, Military, National Geographic and Topographic Administrations/Agencies, procedure design services, etc.

3.19. States, while maintaining the responsibility for data quality and availability, should consider to which extent the provision of electronic terrain and obstacle data could be delegated to other approved data providers.

3.20. States should establish formal arrangements to address cross-border issues, to ensure harmonization and more efficient implementation of eTOD.

3.21. States should take the necessary measures to ensure that the obstacle dataset is maintained up-to-date.

3.22. States should endeavour to integrate the acquisition of eTOD and AMDB data to realize efficiency gains and to take into account the complementary nature of AMDB and eTOD datasets.

Aeronautical Data Quality
(FASID Table AIM-4)

3.23. FASID Table AIM-4 sets out the requirements for aeronautical data quality.

3.24. States should take the necessary measures to ensure that aeronautical information/data it provides meet the regulatory Aeronautical Data quality requirements.

3.25. The Quality Management System in AIM should define procedures to meet the safety and security management objectives.

3.26. Recognizing the need to maintain or enhance existing safety levels of operations, States should ensure that any changes to the existing systems or the introduction of new systems used for processing aeronautical data/information are preceded by a safety assessment including hazard identification, risk assessment and mitigation.

3.27. States should ensure that the Critical, Essential and Routine aeronautical data/information, as specified in Annexes 4 and 15, is transferred by the data originators to the AIM service provider through direct electronic connection, in accordance with the agreed data exchange format.

AIM Certification
(FASID Table AIM-9)

3.28. FASID Table AIM-9 sets out the requirements for AIM Certification.

3.29. States should take necessary measures to ensure that AIM Services are provided by Certified AIM Service Provider(s).

3.30. The Certification of AIM Service Provider(s) should be based on the compliance with all regulatory and ICAO requirements related to the provision of AIM services.



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Appendix 12B to the Report on Agenda Item 12

MID ANP, VOLUME II, FASID

PART x - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

RECORD OF AMENDMENTS

AMENDMENTS

P. f. Amdt. Serial No.	Originator	Date of Approval letter	Date Entered

P. f. Amdt. Serial No.	Originator	Date of Approval letter	Date Entered

MID ANP, VOLUME II, FASID

PART x - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

1. INTRODUCTION

1.1. The material in this part complements that contained in Part x — AIM of the MID Basic ANP and should be taken into consideration in the overall planning processes for the MID region.

1.2. This part contains the details of the facilities and services to be provided to fulfil the basic requirements of the plan as agreed between the provider and user States concerned. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified. It provides a structured framework for States to plan and to monitor their progress and supports regional and national plans to implement the transition to AIM. This element of the FASID, in conjunction with the MID Basic ANP, is kept under constant review by MIDANPIRG in accordance with its schedule of management, in consultation with user and provider States and with the assistance of the ICAO MID Regional Office.

1.3. To satisfy new requirements arising from the Global Air Traffic Management Operational Concept, aeronautical information services must transition to a broader concept of aeronautical information management, with a different method of information provision and management given its data-centric nature as opposed to the product-centric nature of AIS. AIM is the dynamic, integrated management of aeronautical information services – safely, economically and efficiently – through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

2. ORGANISATION AND PROVISION OF AIM FACILITIES AND SERVICES

2.1. AIM requires all aeronautical information to be stored as data sets that can be accessed by user applications. The establishment and maintenance of an Integrated Aeronautical Information Database where data sets are integrated and used to produce current and future AIM products and services is a fundamental step in the transition to AIM. The following AIM FASID tables contain planning criteria and provisions requiring implementation and compliance by States:

- Responsibility for the provision of AIM Services
- Provision of AIM products and services based on the Integrated Aeronautical Information Database (IAID)
- Terrain and Obstacle data sets and Airport Mapping Databases (AMDB)
- Aeronautical Data Quality
- World Geodetic System – 1984 (WGS84)
- Aeronautical Charts
- Production Responsibility for sheets of the World Aeronautical Chart – ICAO 1:1 000 000
- Pre-Flight Information Services
- AIM Certification

2.2. FASID Table AIM-1 sets out the responsibilities for the provision of AIM services in the MID Region. It takes into account the current situation and new developments specific to the MID Region where States delegate certain AIS/AIM services to other States (e.g. with the establishment of Functional Airspace Blocs (FAB)). The responsibilities for the provision of aeronautical data, products and services in such cases need to be clearly assigned.

2.3. FASID Table AIM-2 sets out the requirements for the Provision of AIM products and services based on the Integrated Aeronautical Information Database (IAID). It reflects the transition from the current product centric AIS to data centric AIM. For the future digital environment it is important that the

authoritative databases are clearly designated and such designation must be published for the users. This is achieved with the concept of the Integrated Aeronautical Information Database (IAID), a single access point for one or more authoritative databases (AIS, Terrain, Obstacles, AMDB, etc) for which the State is responsible.

2.4. FASID Table AIM-3 sets out the requirements for the provision of Terrain and Obstacles datasets and Aerodrome Mapping Data Bases (AMDB).

The eTOD implementation Checklist at **Attachment A** to Part x - AIM of the MID FASID is developed to assist States in the process of eTOD implementation.

2.5. FASID Table AIM-4 sets out the requirements for aeronautical data quality.

Attachment B to Part x - AIM of the MID FASID describes the safety and security objectives to be included in the Quality Management System of AIM.

Attachment C to Part x - AIM of the MID FASID lists the data originators and the type of aeronautical data/information required to be exchanged by direct electronic connection.

2.6. FASID Table AIM-5 sets out the requirements for the implementation of the World Geodetic System – 1984 (WGS-84). The requirement to use a common geodetic system remains essential to facilitate the exchange of data between different systems. The expression of all coordinates in the AIP and charts using WGS-84 is an important first step for the transition to AIM.

2.7. FASID Table AIM-6 sets out the requirements for the production of aeronautical charts. The provision of digital mapping data bases e.g. AMDB, allows for the provision and use of electronic aeronautical charts. Annex 4 SARPs include the requirement for an Electronic Aerodrome Terrain and Obstacle Chart.

2.8. FASID Table AIM-7 sets out the responsibilities for the production of the sheets of the World Aeronautical Chart 1: 1 000 000 (WAC). The assignment of the WAC sheets is determined by regional agreement, based on the delineation of areas specified in Appendix 5 to Annex 4 and taking into consideration the cross-border issues.

Note.- The World Aeronautical Chart 1: 1 000 000 provides information to satisfy the requirements of visual air navigation.

2.9. FASID Table AIM-8 sets out the requirements for the provision of pre-flight information services.

2.10. FASID Table AIM-9 sets out the requirements for AIM Certification.

Attachment A

ELECTRONIC TERRAIN AND OBSTACLE DATA (eTOD)

IMPLEMENTATION CHECKLIST

INTRODUCTION

The purpose of this eTOD checklist is to assist States in the process of implementation of eTOD. To ensure a safe and efficient implementation of eTOD, the Civil Aviation Authorities should:

- determine the State stakeholders affected, inter-alia:
 - Ministry responsible for Transportation/Civil Aviation;
 - Ministry responsible for land planning and environment;
 - Civil Aviation Authority;
 - Aeronautical Information Service Providers (AISP);
 - Air Navigation Service Providers (ANSP);
 - Aerodrome Service Providers;
 - Airlines, Helicopter operators and General Aviation;
 - Military;
 - Military survey Organization/Agency;
 - National Geodetic, Cadastral or State Survey Organisations;
 - Commercial survey companies or associations;
 - Local Authorities or those responsible for aerodrome safeguarding/construction approval in the vicinity of aerodromes;
 - GSM antenna operators;
 - Administrations for radio and television broadcasts;
 - Power Transmission companies.
- ensure that a Focal Point has been nominated to coordinate all eTOD issues at both the national and international level;
- consider arranging eTOD awareness campaigns and training;
- check the availability of State's policy for the safeguarding of aerodromes from obstacle penetration, consider how effective the policy is and determine if available data can be demonstrated to be in compliance with eTOD requirements. In the absence of a declared or established policy, consider establishing one;
- check the availability of a National obstacle notification and permission process;
- check if National regulation for the provision of eTOD has been developed. In the absence of a National Regulation, consider establishing one, taking into consideration the following:
 - the data providers responsible for the provision and processing of data and associated liability issues;
 - State's policy with regard to implementing the ICAO Annex 15 SARPs related to eTOD and eventually the notification of differences, if any;
 - State's policy with regard to data maintenance;
 - consider how and by whom the eTOD will be made available;

- State’s policy for the oversight/inspection of all involved parties/administrations in the process of provision of eTOD;
 - State’s policy for cost-recovery related to the provision of eTOD. Identify how the costs, both initial and ongoing, are to be recovered for each Area and in case charges are to be levied on the use of data, identify the appropriate means/mechanisms by which the revenue can be collected; and
- ensure that necessary resources for the implementation and ongoing maintenance of eTOD have been secured;
 - ensure that an Action Plan/Roadmap with clear timelines and assigned responsibilities for the provision of eTOD has been developed;
 - ensure that the possible sources of terrain and obstacle data have been identified;
 - as part of the planning of eTOD data acquisition activities, consider the integration of an Aerodrome Mapping Data Base survey;
 - ensure that the survey requirements for each of the four Areas, including resurvey intervals have been determined;
 - ensure that the responsibilities that may be placed upon surveyors to ensure that they use the correct standards, have been identified;
 - ensure that an eTOD validation and verification process is established;
 - ensure that a mechanism is established to ensure that the quality of eTOD is maintained from the survey up to the end user;
 - ensure that cross-border issues have been addressed and consider the establishment of agreements with neighboring States to exchange and harmonize common data, as necessary;
 - ensure that the means/media by which each dataset shall be made available have been determined; and
 - ensure that means of carrying out oversight/inspections for monitoring progress have been established.

Attachment B

SAFETY AND SECURITY MANAGEMENT OBJECTIVES

The quality management system of the AIM services provider should define procedures to meet the following safety and security management objectives

1. Safety management objectives:

- a. to minimise the contribution to the risk of an aircraft accident arising from data errors as far as reasonably practicable,
- b. to promote awareness of safety around the organisation by sharing lessons arising from safety activities and by involving all staff to propose solutions to identified safety issues and improvements to assist the effectiveness and efficiency of the processes,
- c. to ensure that a function is identified within the organisation being responsible for development and maintenance of the safety management objectives,
- d. to ensure that records are kept and monitoring is carried out to provide safety assurance of their activities,
- e. to ensure improvements are recommended, where needed, to provide assurance of the safety of activities.

The achievement of the safety management objectives shall be afforded the highest priority over commercial, operational, environmental or social pressures.

2. Security management objectives:

- a. to ensure the security of aeronautical data/information received, produced or otherwise employed so that it is protected from interference and access to it is restricted only to those authorised,
- b. to ensure that the security management measures of an organisation meet appropriate regulatory requirements for critical infrastructure and business continuity, and international standards for security management.

Attachment C

DIGITAL EXCHANGE WITH DATA ORIGINATORS

- 1) The following aeronautical data/information provided by the data originators should be transferred to the AIM services provider by direct electronic connection in accordance with the agreed data exchange format:
 - a) aeronautical information publications (AIP), including amendments;
 - b) supplements to the AIP;
 - c) the NOTAM and pre-flight information bulletins;
 - d) checklists and lists of valid NOTAMs;
 - e) electronic obstacle data, or elements thereof, where made available;
 - f) electronic terrain data, or elements thereof, where made available;
 - g) aerodrome mapping data, where made available.

- 2) The aeronautical data/information provided by the following data originators should be transferred to the AIM services provider by direct electronic connection in accordance with the agreed data exchange format.
 - a) air navigation service providers;
 - b) operators of those aerodromes and heliports, for which instrument flight rules (IFR) or Special-visual flight rules (VFR) procedures have been published in national AIP;
 - c) public or private entities providing:
 - i. services for the origination and provision of survey data;
 - ii. procedure design services;
 - iii. electronic terrain data;
 - iv. electronic obstacle data.

FASID TABLE AIM-1: Responsibility for the provision of AIM Services

EXPLANATION OF THE TABLE

Column:

- 1 Name of the State or territory
- 2 Designated international NOTAM Office (NOF)
- 3 Designated State for AIP production
- 4 Designated State for aeronautical charts (MAP) production
- 5 Designated State for the provision of the authoritative Integrated Aeronautical Information Database (IAID)
- 6 Designated State for the provision of the Pre-flight information services
- 7 Remarks — additional information, as appropriate.

State	NOF	AIP	MAP	IAID	Pre-flight briefing	Remarks
1	2	3	4	5	6	7
Bahrain						
Egypt						
Iran						
Iraq						
Jordan						
Kuwait						
Lebanon						
Oman						
Qatar						
Saudi Arabia						
Syria						
UAE						
Yemen						

FASID TABLE AIM-2: Provision of AIM products and services based on Integrated Aeronautical Information Database (IAID)

EXPLANATION OF THE TABLE

Column:

- 1 Name of the State or territory for which the provision of AIM products and services based on the IAID is required.
- 2 Requirement for the implementation and designation of the authoritative IAID, shown by:
 - FI – Fully Implemented
 - PI – Partially Implemented
 - NI – Not Implemented

*Note 1 — The IAID of a State is a single access point for one or more databases (AIS, Terrain, Obstacles, AMDB, etc).
The minimum set of databases which should be integrated is defined in Annex 15.*

Note 2 — Information providing detail of “PI” should be given in the Remarks column (the implemented components of the IAID).

Note 3 — The information related to the designation of the authoritative IAID should be published in the AIP (GEN 3.1)
- 3 Requirement for an IAID driven AIP production, shown by:
 - FC – Fully compliant (eAIP: Text, Tables and Charts)
 - PC – Partially compliant
 - NC – Not compliant

Note 4 — AIP production includes, production of AIP, AIP Amendments and AIP Supplements
- 4 Requirement for an IAID driven NOTAM production, shown by:
 - FC – Fully Compliant
 - NC – Not compliant
- 5 Requirement for an IAID driven SNOWTAM production, shown by:
 - FC – Fully Compliant
 - NC – Not compliant
- 6 Requirement for an IAID driven PIB production, shown by:
 - FC – Fully compliant
 - NC – Not compliant

FASID TABLE AIM-3: Terrain and Obstacles datasets and Airport Mapping Databases (AMDB)

EXPLANATION OF THE TABLE

Column

- 1 Name of the State or territory for which Terrain and Obstacles datasets and AMDB are required.
- 2 Compliance with requirement for the provision of Terrain datasets, shown by:
 FC – Fully compliant
 PC – Partially compliant
 NC – Not compliant
- 3 Compliance with requirement for the provision of Obstacle datasets, shown by:
 FC – Fully compliant
 PC – Partially compliant
 NC – Not compliant
- 4 Implementation of AMDB, shown by:
 FI – Fully Implemented
 PI – Partially Implemented
 NI – Not implemented
- 5 Action plan — short description of the State’s Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacles datasets and implementation of AMDB.
- 6 Remarks— additional information, including detail of “PC” and “NC”, as appropriate.

State	Terrain Datasets	Obstacle datasets	AMDB	Action Plan	Remarks
1	2	3	4	5	6
Bahrain					
Egypt					
Iran					
Iraq					
Jordan					
Kuwait					
Lebanon					
Oman					
Qatar					
Saudi Arabia					
Syria					
UAE					
Yemen					

FASID TABLE AIM-4: Aeronautical Data Quality

EXPLANATION OF THE TABLE

Column:

- 1 Name of the State or territory.
- 2 Compliance with the requirement for implementation of QMS for Aeronautical Information Services including safety and security objectives, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant
- 3 Compliance with the requirement for the establishment of formal arrangements with approved data originators concerning aeronautical data quality, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant
- 4 Implementation of digital data exchange with originators, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 1 — Information providing detail of “PI” and “NI” should be given in the Remarks column (percentage of implementation).
- 5 Compliance with the requirement for metadata, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant
- 6 Compliance with the requirements related to aeronautical data quality monitoring (accuracy, resolution, timeliness, completeness), shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

FASID TABLE AIM-5: World Geodetic System-1984 (WGS-84)

EXPLANATION OF THE TABLE

Column:

- 1 Name of the State or territory for which implementation of WGS-84 is required.
- 2 Compliance with the requirements for implementation of WGS-84 for FIR and Enroute points, shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 3 Compliance with the requirements for implementation of WGS-84 for Terminal Areas (arrival, departure and instrument approach procedures), shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 4 Compliance with the requirements for implementation of WGS-84 for Aerodrome, shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 5 Compliance with the requirements for implementation of Geoid Undulation, shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 6 Action Plan — short description of the State's Action Plan with regard to WGS-84 implementation, including planned date(s) of full compliance, as appropriate.
- 7 Remarks — additional information, including detail of "PC" and "NC", as appropriate.

State	FIR/ENR	Terminal	AD	GUND	Action Plan	Remarks
1	2	3	4	5	6	7
Bahrain						
Egypt						
Iran						
Iraq						
Jordan						
Kuwait						
Lebanon						
Oman						
Qatar						
Saudi Arabia						
Syria						
UAE						
Yemen						

FASID TABLE AIM-6: Aeronautical Charts

EXPLANATION OF THE TABLE

Column:

- 1 Name of the State or territory for which aeronautical charts are required
- 2 Compliance with the requirements for the Enroute Chart — ICAO (ENRC) and the ATC Surveillance Minimum Altitude Chart — ICAO (ATCSMAC), shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 3 Compliance with requirements for ICAO charts related to terminal areas (Instrument Approach Chart, Area Chart, Standard Departure Chart — Instrument (SID) and Standard Arrival Chart — Instrument (STAR), Visual Approach Chart) shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 4 Compliance with the requirement for ICAO Aerodrome charts Aerodrome/Heliport Chart, Aerodrome Ground Movement Chart and Aircraft Parking/Docking Chart, shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 5 Compliance with the requirements for ICAO Obstacle Charts Aerodrome Obstacle Chart —Type A (Operating Limitations), Aerodrome Terrain and Obstacle Chart — Electronic and Precision Approach Terrain Chart shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant

- 6 Compliance with the requirement for ICAO World Aeronautical Chart (WAC), shown by:
 FC – Fully compliant
 PC – Partially compliant
 NC – Not compliant
- 7 Action plan — short description of the State’s Action Plan with regard to aeronautical charts implementation, including planned date(s) of full compliance, as appropriate.
- 8 Remarks — additional information, including detail of “PC” and “NC”, as appropriate.

State	ENRC & ATCSMAC	Charts related to Terminal Areas	AD Charts	Obstacle Charts	WAC	Action Plan	Remarks
1	2	3	4	5	6	7	8
Bahrain							
Egypt							
Iran							
Iraq							
Jordan							
Kuwait							
Lebanon							
Oman							
Qatar							
Saudi Arabia							
Syria							
UAE							
Yemen							

FASID TABLE AIM-7: Production responsibility for sheets of the World Aeronautical Chart - ICAO 1:1 000 000

EXPLANATION OF THE TABLE

Column

- 1 Name of the State accepting production responsibility.
- 2 World Aeronautical Chart — ICAO 1:1 000 000 sheet number(s) for which production responsibility is accepted.
- 3 Remarks

Note 1— When Aeronautical Charts — ICAO 1:500 000 or Aeronautical Navigation Charts — ICAO Small Scale, are made available instead of the 1:1 000 000 chart, this is to be indicated in the Remarks column.

Note 2— In those instances where the production responsibility for certain sheets has been accepted by more than one State, these States by mutual agreement should define limits of responsibility for those sheets.

State	Sheet number(s)	Remarks
1	2	3
Bahrain	2547	
Egypt	2447, 2448, 2543, 2544	
Iran	2338, 2339, 2428, 2429, 2443, 2444, 2548	
Iraq	2427, 2445	
Jordan	2426, 2446, 2447	<i>Note: Jordan to cover its own territory within Amman FIR</i>
Kuwait	2445	<i>Note: Kuwait to cover its own territory within Kuwait FIR</i>
Lebanon	2426	<i>Note: Lebanon to cover its own territory within Beirut FIR</i>
Oman	2563, 2670	
Qatar		
Saudi Arabia	2446, 2545, 2546, 2564, 2565, 2566, 2668, 2669	
Syria	2426	<i>Note: Syria to cover its own territory within Damascus FIR</i>
UAE		
Yemen	2686, 2687	

FASID TABLE AIM-8: Pre-Flight Information Services

EXPLANATION OF THE TABLE

Column:

- 1 Name of the State or territory.
- 2 Compliance with the requirements for the provision of Pre-Flight Information Bulletins (PIB) against each type of PIB, shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- Note 1 — AD: Aerodrome type bulletins
Area: Area type bulletins (FIR or group of FIRs or States)
FIR route: FIR route specific bulletin
Narrow route: Narrow path route specific bulletin*
- 3 Compliance with the requirements for the availability of the elements of the Integrated Aeronautical Information Publications (IAIP), maps and charts to the flight operations personnel, shown by:
 - FC – Fully compliant
 - PC – Partially compliant
 - NC – Not compliant
- 4 Requirement for a common point of access to aeronautical information and meteorological information briefings, shown by:
 - FI – Fully Implemented
 - PI – Partially Implemented
 - NI – Not Implemented
- 5 Action Plan — short description of the State's Action Plan with regard to Pre-Flight Information Services, including planned date(s) of full compliance, as appropriate.
- 6 Remarks — additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

FASID TABLE AIM-9: AIM Certification

EXPLANATION OF THE TABLE

Column:

- 1 Name of the State or territory for which implementation of AIM Certification is required.
- 2 Availability of AIM Regulations, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant
- 3 Compliance with the requirements for the establishment of a Safety Oversight System for ensuring the effective implementation of safety-related policy and procedures in the area of AIM, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note 1 — A Safety Oversight System is based on the eight (8) Critical Elements (CEs) as defined in the ICAO Safety Oversight Manual (Doc 9734, Part A).

Note 2— As part of the Safety Oversight System, States should, in particular:

- a) establish an entity responsible for the safety oversight of the AIS/AIM service provider(s) (not necessarily limited to the safety oversight of AIM) with clearly defined functions and responsibilities, or delegate this function to a Regional/Sub-Regional Organization;*
- b) ensure the availability of sufficient number of qualified AIM inspectors;*
- c) establish minimum qualifications and experience for the AIM inspectorate staff;*
- d) establish detailed job descriptions reflecting all the regulatory and safety oversight tasks for the AIM inspectorate staff;*
- e) establish the necessary procedures for the AIM inspectorate staff;*
- f) establish and implement a formal surveillance programme for the continuing supervision of the AIS/AIM service provider(s) and ensure that safety oversight is effectively conducted; and*
- g) establish and implement a mechanism/system for the elimination of deficiencies identified by the AIM inspectorate staff.*

- 4 Compliance with the requirements for implementation of AIM certification, shown by:
FC – Fully compliant

PC – Partially compliant

NC – Not compliant

Note 3 — AIM Certification may be performed within the framework of ANS Certification

5 Action Plan — short description of the State’s Action Plan with regard to the implementation of the different requirements of AIM certification, including planned date(s) of full compliance, as appropriate.

6 Remarks — additional information, including detail of “PC” and “NC”, as appropriate

State	AIM Regulations	AIM Safety Oversight	AIM Certification	Action Plan	Remarks
1	2	3	4	5	6
Bahrain					
Egypt					
Iran					
Iraq					
Jordan					
Kuwait					
Lebanon					
Oman					
Qatar					
Saudi Arabia					
Syria					
UAE					
Yemen					

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REPORT ON AGENDA ITEM 13: MID REGION ATM AND AIM PERFORMANCE OBJECTIVES

13.1 The meeting recalled that the Performance-Based Approach (PBA) adheres to strong focus on results through adoption of performance objectives and targets; collaborative decision making driven by the results; and reliance on facts and data for decision making. The assessment of achievements is periodically checked through a performance review, which in turn requires adequate performance measurement and data collection capabilities. In this regard, one of the key aspects of the performance based approach to air navigation planning is the development of performance objectives with related measurable indicators and metrics.

13.2 The meeting recalled the following Definitions:

- a) *Performance Objective*: objectives defined to satisfy ATM community expectations;
- b) *Performance Indicator*: Current/past performance, expected future performance as well as actual progress in achieving performance objectives is quantitatively expressed by means of performance indicators (also called Key Performance Indicators, or KPIs);
- c) *Performance target*: Performance targets are closely associated with performance indicators: they represent the values of performance indicators that need to be reached or exceeded to fully achieve performance objective; and
- d) *Metrics*: determine which data needs to be collected to calculate values of performance indicators. Metrics are challenging and expensive to collect; therefore it is important to keep them “SMART” (Specific, Measurable, Achievable, Realistic & Time-bound) and easy to measure.

13.3 In connection with the above, the meeting noted that MIDANPIRG/12 developed the following Conclusions related performance monitoring of the air navigation systems in the MID Region:

CONCLUSION 12/47: MID REGION PERFORMANCE METRICS

That:

- a) *the following MID Region Metrics be adopted for performance monitoring of the air navigation systems:*

MID Metric 1: Number of accidents per 1,000 000 departures;

MID Metric 2: Percentage of certified international aerodromes;

MID Metric 3: Number of Runway incursions and excursions per year;

MID Metric 4: Number of States reporting necessary data to the MIDRMA on regular basis and in a timely manner;

MID Metric 5: The overall collision risk in MID RVSM airspace;

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MID Metric 6: Percentage of air navigation deficiencies priority “U” eliminated;

MID Metric 7: Percentage of instrument Runway ends with RNP/RNAV approach procedure; and

MID Metric 8: Percentage of en-route PBN routes implemented in accordance with the regional PBN plan.

- b) the MIDANPIRG subsidiary bodies monitor the Metrics related to their work programmes; develop associated performance targets and provide feed-back to MIDANPIRG.*

*CONCLUSION 12/48: DATA COLLECTION FOR MID REGION
PERFORMANCE METRICS*

That, States be invited to:

- a) incorporate the agreed MID Region Performance Metrics into their National performance monitoring process;*
- b) collect and process relevant data necessary for performance monitoring of the air navigation systems to support the regional Metrics adopted by MIDANPIRG; and*
- c) submit this data to the ICAO MID Regional Office on a regular basis.*

13.4 The meeting noted that, as a follow-up action to the above MIDANPIRG/12 Conclusions, the ICAO MID Regional Office issued State Letter Ref.: AN 7/26.1-11/121 dated 24 May 2011, urging States to develop/update their National Performance Framework and report relevant data necessary for performance monitoring of the air navigation systems, with a view to update the Regional Performance Framework Forms (PFFs) and monitor the MID Region Performance Metrics. In this respect, it was highlighted that States are providing data using different mechanisms/formats. Accordingly, the need for harmonization and avoidance of duplication of efforts has been underlined.

13.5 The meeting reviewed and updated the Regional ATM and AIM PFFs as at **Appendices 13A** and **13B**, respectively.

13.6 The meeting supported the proposal made by the MIDRMA Board/11 meeting related to the following performance targets associated with the MID Metrics 4 and 5:

- Performance Target associated with MID Metric 4: Minimum **80%** of States report necessary data to the MIDRMA on regular basis and in a timely manner; and
- Performance Target associated with MID Metric 5: The overall collision risk in MID RVSM airspace meets the ICAO overall **TLS of 5×10^{-9}** fatal accidents per flight hour.

13.7 With regard to the MID Metric 6 – elimination of deficiencies priority “U”, the meeting agreed that the performance target should be **15%**.

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13.8 Based on the above, the meeting urged States to develop/update their National ATM and AIM PFFs in order to ensure their alignment with and support to the regional ATM and AIM performance objectives and forward them to the ICAO MID Office prior to **15 December 2011** for review by the CNS/ATM/IC SG/6 meeting, tentatively scheduled to be held in Cairo, January 2012, which is expected to propose to MIDANPIRG/13 necessary follow-up action(s) on Conclusions 12/47 and 12/48.

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 Appendix 13A to the Report on Agenda Item 13

MID REGIONAL PERFORMANCE OBJECTIVES
ATM PERFORMANCE OBJECTIVES

OPTIMIZATION OF THE ATS ROUTE STRUCTURE EN-ROUTE AIRSPACE	
Benefits	
Environment	reductions in fuel consumption and CO ₂ emission
Safety	Improved safety of ATS routes
Efficiency	<ul style="list-style-type: none"> • ability of aircraft to conduct flight more closely to preferred trajectories • increase in airspace capacity
KPI	<ul style="list-style-type: none"> • status of implementation of RNAV 1 in the MID Region • status of implementation of the ATS Routes listed in the MID ATS Route Catalogue • status of implementation of RNAV 5 area in the level band FL160-FL460, in the MID Region • status of Duplicated 5LNCs in the MID Region • status of deficiencies related to non-implementation of ATS Routes • status of implementation of 20NM radar longitudinal separation • status of implementation of 10NM radar longitudinal separation
Performance Metrics:	<ul style="list-style-type: none"> • number of RNAV 1 Routes implemented, in accordance with the MID Basic ANP • number of implemented ATS Routes from the MID ATS Route Catalogue • number of States having implemented RNAV 5 area in the level band FL160-FL460 • number of duplicate 5LNC eliminated • number of eliminated deficiency related to non-implementation of ATS Routes • number of concerned States implementing 20NM longitudinal separation • percentage of CO₂ reduction of implemented new routes

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013-2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AOM	<i>En-route airspace</i>			
	<ul style="list-style-type: none"> • develop Airspace Concept based on the MID PBN implementation plan, in order to design and implement a trunk route network, connecting major city pairs in the upper airspace and for transit to/from aerodromes, on the basis of PBN and, in particular, RNAV 5, taking into account interregional harmonization 	ongoing	ATM/SAR/AIS SG (ARN TF)	valid
	<ul style="list-style-type: none"> • develop State PBN implementation plans related to ATS Route development 	2008-2012	States	valid
	<ul style="list-style-type: none"> • monitor user requirements for the establishment of ATS routes in the MID Region 	Ongoing	ATM/SAR/AIS SG ARN TF	valid

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013-2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
	<ul style="list-style-type: none"> provide status of PBN implementation 	2010-2012	States	valid
	<ul style="list-style-type: none"> monitor the implementation of pending ATS Routes and update the MID Basic ANP and the MID ATS Route catalogue 	Ongoing	ATM/SAR/AIS SG ARN TF	valid
	<ul style="list-style-type: none"> follow-up with States on the implementation of pending ATS Routes and update the list of air navigation deficiencies, accordingly 	Ongoing	ATM/SAR/AIS SG ARN TF	valid
	<ul style="list-style-type: none"> monitor the implementation of RNAV 5 area in the level band FL160 - FL460 (inclusive) 	2008-2012	ATM/SAR/AIS SG ARN TF PBN/GNSS TF	valid
	<ul style="list-style-type: none"> monitor the implementation of RNAV 1 routes in the MID Region 	Ongoing	ATM/SAR/AIS SG ARN TF	valid
	<ul style="list-style-type: none"> implementation of 20NM Radar longitudinal separation between States 	2010-2013	Iraq, Iran and Yemen	Implemented by Bahrain; Jordan; Kuwait; Lebanon; Saudi Arabia; Syria and UAE
	<ul style="list-style-type: none"> implementation of 10NM Radar longitudinal separation between States 	2011-2016	Bahrain; Iraq; Jordan; Kuwait; Lebanon; Oman, Saudi Arabia; Syria, UAE and Yemen	Implemented between (Bahrain and UAE) and (Oman and UAE)
	<ul style="list-style-type: none"> monitor the process of allocation of 5LNCs 	Ongoing	ICAO	valid
	<ul style="list-style-type: none"> elimination/Reduction of the use of duplicate 5LNCs 	2010-2012	ICAO States	valid
linkage to GPIs	GPI/5: performance-based navigation, GPI/7: dynamic and flexible ATS route management, GPI/8: collaborative airspace design and management, GPI/20: WGS-84			

OPTIMIZATION OF THE TERMINAL AIRSPACE	
Benefits	
Environment Safety	<ul style="list-style-type: none"> • reductions in fuel consumption and CO₂ emission • enhance safety in terminal air space
Efficiency	<ul style="list-style-type: none"> • ability of aircraft to conduct flight more closely to preferred trajectories • increase in airspace capacity • facilitate utilization of advanced technologies (e.g., FMS based arrivals) and ATC decision support tools (e.g., metering and sequencing), thereby increasing efficiency
KPI	<ul style="list-style-type: none"> • status of implementation of PBN routes in terminal airspace • status of implementation of SID and STARS
Proposed Metrics:	<ul style="list-style-type: none"> • number of States implemented PBN routes in terminal airspace • total Number of PBN routes in MID region terminal airspace • number States implemented SID and STARS • percentage of CO₂ reduction of implemented new routes

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013-2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AOM, AO	<i>In terminal airspace</i>			
	<ul style="list-style-type: none"> • develop Airspace Concept taking into consideration the MID PBN implementation plan, in order to design and implement optimized standard instrument departures (SIDs), standard instrument arrivals (STARS), instrument flight procedures, holding, approach and associated procedures (particular RNAV 1, Basic RNP1 and RNP AR) 	Ongoing	States	valid
	<ul style="list-style-type: none"> • include terminal Airspace in the State PBN implementation plans 	Ongoing	(ATM/SAR/AIS SG) States, MPST	valid
	<ul style="list-style-type: none"> • formulate safety plan (assessment and monitoring) 	2009-2012	States, MPST	valid
	<ul style="list-style-type: none"> • support for operational approvals 	2012-2013	MPST	valid
	<ul style="list-style-type: none"> • publish national regulations for aircraft and operators approval using PBN manual as guidance and considering available foreign approval material 	2008-2012	States	valid
	<ul style="list-style-type: none"> • training 	2008-2012	States MPST	valid

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013-2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
	<ul style="list-style-type: none"> • system performance measuring (measurement and monitoring plan) 	2009-2012	States, ATM/SAR/AIS SG	valid
	<ul style="list-style-type: none"> • implement SIDs and STARs 	2009-2012	States	valid
	<ul style="list-style-type: none"> • monitor implementation progress in accordance with MID PBN implementation roadmap and States implementation plan 	2009-2012	States, ATM/SAR/AIS SG	valid
Linkage to GPIs	GPI/5: performance-based navigation, GPI/7: dynamic and flexible ATS route management, GPI/8: collaborative airspace design and management, GPI/10: terminal area design and management, GPI/11: RNP and RNAV SIDs and STARs and GPI/12: Functional integration of ground systems with airborne systems.			

IMPLEMENTATION OF RNAV AND RNP APPROACHES	
Benefits	
Environment	<ul style="list-style-type: none"> • Reduce CO₂ emission • reductions in fuel consumption and emissions;
Efficiency	<ul style="list-style-type: none"> • improvements in capacity and efficiency at aerodromes
Safety	<ul style="list-style-type: none"> • improvements in safety at aerodromes
KPI	<ul style="list-style-type: none"> • status of implementation of PBN approaches
Proposed Metrics:	<ul style="list-style-type: none"> • number of States having implemented PBN approaches • percentage of CO₂ reduction of implemented new PBN approaches

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013-2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AOM, AO	<i>At airports</i>			
	<ul style="list-style-type: none"> • develop Airspace Concept based on the MID PBN Implementation Plan, in order to design and implement RNP APCH APV in most possible airports; RNP AR APCH at airports where there are obvious operational needs 	2009-2012	States	valid
	<ul style="list-style-type: none"> • formulate safety plan (assessment and monitoring) 	2009-2012	States	valid
	<ul style="list-style-type: none"> • support for operational approvals 	2012-2013	MPST	valid
	<ul style="list-style-type: none"> • publish national regulations for aircraft and operators approval using PBN manual as guidance and considering available foreign approval material 	2008-2012	States	valid
	<ul style="list-style-type: none"> • system performance measuring (measurement and monitoring plan) 	2009-2012	States, ATM/SAR/AIS SG	valid
	<ul style="list-style-type: none"> • implement APV procedures 	2009-2012	States	valid
	<ul style="list-style-type: none"> • implement LNAV procedures where applicable 	2012-2016	States	valid
	<ul style="list-style-type: none"> • monitor implementation progress in accordance with MID PBN implementation Plan and States implementation plan 	2009-2012	PBN/GNSS TF States, ATM/SAR/AIS SG	valid
Linkage to GPIs	GPI/5: performance-based navigation, GPI/7: dynamic and flexible ATS route management, GPI/8: collaborative airspace design and management, GPI/10: terminal area design and management, GPI/11: RNP and RNAV SIDs and STARs and GPI/12: FMS-based arrival procedures			

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013-2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
ENHANCE CIVIL/MILITARY COORDINATION AND CO-OPERATION				
Benefits				
Environment	<ul style="list-style-type: none"> • reductions in fuel consumption and CO₂ emission 			
Efficiency	<ul style="list-style-type: none"> • allow a more efficient ATS route structure; and • increase airspace capacity 			
Safety	<ul style="list-style-type: none"> • ensure safe and efficient action in the event of unlawful interference 			
KPI	<ul style="list-style-type: none"> • number of ATS routes not implemented due to Military restrictions • number of Conditional Routes (CDR) implemented in accordance with user requirements • number of reported incident related to uncoordinated flights operating over high seas 			
Proposed Metrics:	<ul style="list-style-type: none"> • reduction of the number of ATS routes not implemented due to Military restrictions • increase the number of CDRs implemented in accordance with user requirements • reduction of the number of incident related to uncoordinated flights operating over high seas • percentage of CO2 reduction of implemented new PBN approaches 			

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013-2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AOM, AUO	<ul style="list-style-type: none"> • establish civil/military coordination bodies at national level 	2008- 2014 2	States	valid
	<ul style="list-style-type: none"> • arrange for permanent liaison and close cooperation between civil ATS units and appropriate air defence units 	2008- 2014 2	States	valid
	<ul style="list-style-type: none"> • implement collaborative civil/military airspace planning at national level 	2008-2012	States	valid
	<ul style="list-style-type: none"> • develop a regional strategy and an Action Plan for implementation of flexible use of airspace in a phased approach beginning with more dynamic sharing of restricted airspace while working towards full integration of civil and military aviation activities 	2009-2013	ATM/SAR/AIS SG ARN TF	valid
	<ul style="list-style-type: none"> • implement FUA 	2009- 2016	States	valid
	<ul style="list-style-type: none"> • monitor FUA implementation progress 	Ongoing	ATM/SAR/AIS SG	valid

Linkage to GPs	GPI/1: flexible use of airspace, GPI/7: Dynamic and flexible ATS route management, GPI/8: Collaborative airspace design and management
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REGIONAL PERFORMANCE OBJECTIVES RVSM OPERATIONS IN THE MID REGION	
Benefits	
Environment	<ul style="list-style-type: none"> • reductions in fuel consumption and emissions;
Efficiency	<ul style="list-style-type: none"> • increase airspace capacity
Safety	<ul style="list-style-type: none"> • meet the agreed Target Level of Safety (TLS)
KPI	<ul style="list-style-type: none"> • Status of States listed in the MANDD for non-reporting necessary data to the MIDRMA on regular basis and in a timely manner • Overall Target Level of Safety (TLS): 5×10^{-9} fatal accident per flight hour • Number of RVSM approved aircraft in the MID Region • Number of RVSM approved aircraft in the MID Region with known height-keeping monitoring results
Proposed Metrics:	<ul style="list-style-type: none"> • number of States reporting necessary data to the MIDRMA on regular basis and in a timely manner • number of Overall vertical-collision risk in MID RVSM airspace • percentage of the RVSM approved aircraft in the MID Region with known height-keeping monitoring results

Strategy
Short term (2010-2012)
Medium term (2013 - 2016)

ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AUO, ATM SDM	<ul style="list-style-type: none"> • develop an Action Plan for the implementation of RVSM within Baghdad FIR 	2009-2010	BFRI WG	Completed
	<ul style="list-style-type: none"> • develop necessary planning material related to RVSM implementation in Baghdad FIR 	2009-2011	BFRI WG MIDRMA ICAO	Completed
	<ul style="list-style-type: none"> • ensure that Iraq met all RVSM implementation requirements 	2010-2011	BFRI WG MIDRMA ICAO	Completed
	<ul style="list-style-type: none"> • implement RVSM within Baghdad FIR 	2011	Iraq ICAO MIDRMA	Completed
	<ul style="list-style-type: none"> • monitor RVSM operations in the MID Region 	Ongoing	MIDRMA Board ATM/SAR/AIS SG ICAO	valid
	<ul style="list-style-type: none"> • develop MID RVSM Safety Monitoring Reports (SMR) with a view to demonstrate that safety objectives continue to be met 	Ongoing	MIDRMA	valid
	<ul style="list-style-type: none"> • assess MID RVSM SMRs and take action as required 	Ongoing	ATM/SAR/AIS SG MIDRMA Board MIDANPIRG	valid
	linkage to GPIs	GPI-2: Reduced Vertical Separation Minima		

IMPLEMENTATION OF THE NEW ICAO FPL FORM	
Benefits	
Environment	<ul style="list-style-type: none"> • reductions in fuel consumption and CO₂ emission utilizing proper flight planning and aircraft capabilities are known in advance to ANSP
Efficiency	<ul style="list-style-type: none"> • ability of air navigation service providers to make maximum use of aircraft capabilities • ability of aircraft to conduct flights more closely to their preferred trajectories • facilitate utilization of advanced technologies thereby increasing efficiency • optimized demand and capacity balancing through the efficient exchange of information
Safety	<ul style="list-style-type: none"> • enhance safety by use of modern capabilities onboard aircraft
KPI	<ul style="list-style-type: none"> • status of implementation of ICAO new FPL provisions • status of updates in the FITS
Proposed Metrics:	<ul style="list-style-type: none"> • number of States meeting the deadline for implementation of the ICAO new FPL provisions • number of States providing the focal points and initiated impact studies

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013 - 2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
SDM	<ul style="list-style-type: none"> • Planning and implementation of transition elements 	2009-2012	INFPL SG	valid
	<ul style="list-style-type: none"> • States to assign focal points and form and internal nucleus team 	2009 - 2010	States	valid
	<ul style="list-style-type: none"> • ensure that enabling regulatory (regulations procedures, AIP etc..) provisions are developed 	2009- 2012	States	valid
	<ul style="list-style-type: none"> • ensure that the automation and software requirements of local systems are fully adaptable to the changes envisaged in the new FPL form 	2009 - 2012	States	valid
	<ul style="list-style-type: none"> • ensure that issues related to the ability of all system to pass information correctly and to correctly identify the order in which messages are received, to ensure that misinterpretation of data does not occur 	2009- 2012	States	valid
	<ul style="list-style-type: none"> • analyze each individual data item within the various fields of the new flight plan form, comparing the current values and the new values to verify any problems with regard to applicability of service provided by the facility itself or downstream units 	2009 – 2011	INFPL SG States	valid

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013 - 2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
	<ul style="list-style-type: none"> ensure that there are no individual State peculiarities or deviations from the flight plan provisions 	2009- 2012	States	valid
	<ul style="list-style-type: none"> ensure that the accepting ATS Reporting Office accepts and disseminates all aircraft capabilities and flight intent to all the downstream ACCs as prescribed by the PANS-ATM provisions 	2009 – 2012	INFPL SG States	valid
	<ul style="list-style-type: none"> plan the transition arrangements to ensure that the changes from the current to the new ICAO FPL form occur in a timely and seamless manner and with no loss of service 	2009-2012	States INFPL SG	valid
	<ul style="list-style-type: none"> in order to reduce the chance of double indications it is important that any State having published a specific requirement(s) which are now addressed by the amendment should withdraw those requirements in sufficient time to ensure that aircraft operators and flight plan service providers, after 15 November 2012, use only the new flight plan indications. 	2009- 2012	States	valid
	<ul style="list-style-type: none"> internal testing 	2009 – June 2012	States	valid
	<ul style="list-style-type: none"> external testing and transition into operation 	1 April to 30 June 2012	States	valid
	<ul style="list-style-type: none"> airspace users validation and filling of NEW FPLs if appropriate 	1 July to 14 November 2012	States and users	valid
	<ul style="list-style-type: none"> Plan and ensure the training of relevant stakeholders (air traffic controllers, etc) 	2009 - 2012	States	valid
	<ul style="list-style-type: none"> develop and make available, guidance material for users, including but not limited to ANSP personnel 	2009 - 2011	INFPL SG	valid

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013 - 2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
	<ul style="list-style-type: none"> • establish and enhance as appropriate a central depository (FITS) in order to track the implementation status 	Ongoing	ICAO	Completed
	<ul style="list-style-type: none"> • inform the ICAO regional offices on an ongoing basis 	Ongoing- Dec 2012	States	Valid
linkage to GPIs	GPI/5 RNAV and RNP (Performance-based- navigation, GPI/9 Situational awareness, GPI/16 Decision Support systems and alerting systems, GPI/17 Data link application, GPI/18 Aeronautical Information GPI/21 Navigation systems and GPI/23 Aeronautical radio spectrum.			

ATM/SAR/AIS SG/12
Appendix 13B to the Report on Agenda Item 13

**MID REGIONAL PERFORMANCE OBJECTIVES
AIM PERFORMANCE OBJECTIVES**

IMPLEMENTATION OF WGS-84 AND eTOD	
Benefits	
Environment	<ul style="list-style-type: none"> Supporting benefits described in performance objectives for PBN
Efficiency	<ul style="list-style-type: none"> benefits described in performance objectives for PBN efficient use of airspace
Safety	<ul style="list-style-type: none"> improve situational awareness support determination of emergency contingency procedures improve safety in general
KPI	<ul style="list-style-type: none"> status of implementation of WGS-84 in the MID Region status of implementation of eTOD in the MID Region (for Areas 1 & 4)
Proposed Metrics:	<ul style="list-style-type: none"> number of States having fully implemented WGS 84 number of States having organised eTOD awareness campaigns and training programmes number of States having implemented eTOD for Areas 1 & 4

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013 - 2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
ATM AUO	WGS-84			
	<ul style="list-style-type: none"> establish WGS-84 implementation goals in coordination with the national PBN implementation plan 	2009-2010	States	valid Completed
	<ul style="list-style-type: none"> complete WGS-84 implementation 	2012	States	valid
	<ul style="list-style-type: none"> monitor the implementation of WGS-84 until complete implementation of the system by all States and take remedial action, as appropriate 	ongoing	ICAO & AIS/MAP TF	valid
ATM CM, ATM SDM	eTOD			
	<ul style="list-style-type: none"> promote the awareness about the requirements for the provision of electronic Terrain and Obstacle Data (eTOD) 	ongoing	ICAO & AIS/MAP TF & States	valid
	<ul style="list-style-type: none"> harmonize, coordinate and support the eTOD implementation activities on a regional basis 	ongoing	ICAO & AIS/MAP TF	valid

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013 - 2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
	<ul style="list-style-type: none"> • provide Terrain and Obstacle data for area 1 	2008-2012	States	valid
	<ul style="list-style-type: none"> • provide Terrain and Obstacle data for area 4 	2008-2012	States	valid
	<ul style="list-style-type: none"> • assessment of Annex 15 requirements related to the provision of eTOD for area 2 and area 3 	2010-2012	States	valid
	<ul style="list-style-type: none"> • development of an action plan for the provision of eTOD for area 2 and area 3 	2013	States	valid
	<ul style="list-style-type: none"> • provide necessary Terrain and Obstacle data for area 2 	2015	States	valid
	<ul style="list-style-type: none"> • provide necessary Terrain and Obstacle data for area 3 	2015	States	valid
Linkage to GPIs	GPI-5: Performance-based navigation GPI-11: RNP and RNAV SIDs and STARs GPI-9: Situational awareness GPI-18: Aeronautical Information GPI-20: WGS-84 GPI-21: Navigation systems			

AIM PERFORMANCE OBJECTIVES

REGIONAL PERFORMANCE OBJECTIVES TRANSITION FROM AIS TO AIM	
Benefits	
Environment	<ul style="list-style-type: none"> • reductions in fuel consumption
Efficiency	<ul style="list-style-type: none"> • improved planning and management of flights • efficient use of airspace
Safety	<ul style="list-style-type: none"> • improved safety
KPI	<ul style="list-style-type: none"> • Status of implementation of the AIRAC system in the MID Region • Status of implementation of QMS in the MID Region • Status of implementation of AIS Automation in the MID Region
Proposed Metrics:	<ul style="list-style-type: none"> • Number of deficiency Priority “U” related to the AIS/MAP field • Number of States having implemented QMS • Number of States having developed eAIP • Number of States having developed a National Plan for the transition from AIS to AIM • Number of States having implemented an AIXM based AIS Database • Number of States having implemented an Integrated Aeronautical Information Database (IAID)

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013 - 2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AUO, ATM SDM	<ul style="list-style-type: none"> • improve the compliance with the AIRAC system 	Ongoing	States & AIS/MAP TF	valid
	<ul style="list-style-type: none"> • use of the internet, including the ICAO MID Forum, for the advance posting of the aeronautical information considered of importance to users 	Ongoing	States & ICAO	valid
	<ul style="list-style-type: none"> • signature of Service Level Agreements between AIS and data originators 	2009-2015	States	valid
	<ul style="list-style-type: none"> • foster the implementation of QMS based on the MID Region Methodology for the implementation of QMS and the Eurocontrol CHAIN deliverables 	Ongoing	ICAO & AIS/MAP TF & States	valid
	<ul style="list-style-type: none"> • monitor the implementation of QMS until complete implementation of the requirements by all MID States 	Ongoing	ICAO & AIS/MAP TF	valid
	<ul style="list-style-type: none"> • review and update the deficiencies in the AIS/MAP field and provide necessary guidance for their elimination 	Ongoing	ICAO & AIS/MAP TF	valid

<i>Strategy</i> <i>Short term (2010-2012)</i> <i>Medium term (2013 - 2016)</i>				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
	<ul style="list-style-type: none"> foster the development of eAIPs by MID States 	Ongoing	States & AIS/MAP TF	valid
AUO, ATM SDM	<ul style="list-style-type: none"> monitor the implementation of AIS automation in the MID Region in order to ensure availability, sharing and management of electronic aeronautical information; 	2008-2013	ICAO & AIS/MAP TF	valid
	<ul style="list-style-type: none"> establishment of Integrated Aeronautical Information Database (IAID) 	2011-2016	States	valid
	<ul style="list-style-type: none"> foster the development of Regional/Sub-regional AIS databases. 	2011-2015	ICAO & AIS/MAP TF & States	valid
	<ul style="list-style-type: none"> foster the implementation of Aerodrome mapping and electronic aeronautical charts in the MID Region 	2012-2016	ICAO & AIS/MAP TF & States	valid
	<ul style="list-style-type: none"> foster the integrated improvement of AIS/AIM through proper training and qualification of the AIS/AIM personnel in the MID Region 	2011-2016	ICAO & AIS/MAP TF & States	valid
Linkage to GPIs	GPI-5: Performance-based navigation GPI-11: RNP and RNAV SIDs and STARs GPI/18: Aeronautical Information			

ATM/SAR/AIS SG/12
Report on Agenda Item 14

REPORT ON AGENDA ITEM 14: FUTURE WORK PROGRAMME

14.1 Taking into consideration the Decision to rename the AIS/MAP Task Force to AIM Task Force, the meeting agreed to rename the ATM/SAR/AIS Sub-Group to ATM/AIM/SAR Sub-Group. Accordingly, the meeting reviewed and updated the TOR of the ATM/AIM/SAR Sub-Group as at **Appendix 14A** to the Report on Agenda Item 14.

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

DRAFT DECISION 12/17: REVISED TOR OF THE ATM/AIM/SAR SUB-GROUP

*That, the ATM/SAR/AIS Sub-Group be renamed ATM/AIM/SAR Sub-Group with Terms of Reference as at **Appendix 14A** to the Report on Agenda Item 14.*

14.3 Taking into consideration that the MIDANPIRG/13 meeting is scheduled for April 2012 and MIDANPIRG/14 for end of 2013, the meeting agreed that the ATM/SAR/AIS SG/13 meeting be held in the first half of 2013. The venue will be Cairo, unless a State is willing to host the meeting.

ATM/SAR/AIS SG/12
Appendix 14A to the Report on Agenda Item 14

**TERMS OF REFERENCE (TOR) OF
AIR TRAFFIC MANAGEMENT/
AERONAUTICAL INFORMATION MANAGEMENT/
SEARCH AND RESCUE SUB-GROUP
(ATM/AIM/SAR SG)**

1. Terms of Reference

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

- a) Support a performance based transition to the ATM system envisaged in the Global ATM Operational concept, in consideration of the regional performance objectives, supported by the Global Air Navigation Plan.
- b) Ensure that the planning and implementation of ATM, AIM and SAR in the region, is coherent and facilitates the objective of achieving seamlessness through interoperability and harmonization with other Regions.
- c) Identify, State by State, those specific deficiencies that constitute major obstacles to the provision of efficient air traffic management, aeronautical information services and search and rescue services and recommend specific measures to eliminate them.

1.2 In order to meet the Terms of Reference, the ATM/AIM/SAR Sub Group shall:

- a) Develop ATM and AIM performance objectives in the MID Region and identify achievable Milestones.
- b) Provide a platform for harmonization of developments and deployments in the ATM and AIM fields.
- c) Monitor and review technical and operational developments in the ATM and AIM fields and foster their implementation in the MID Region in a harmonized manner with a view to ensuring their smooth integration in the operational environment.
- d) Identify requirements and improvements for achieving and maintaining an efficient ATS route network in the MID Region.
- e) Monitor the RVSM operations and support the continued safe use of RVSM in the MID Region.
- f) Ensure the effectiveness of the SSR code allocation system in the MID Region.
- g) Assist States in the development and co-ordination of contingency plans and ensure that the Regional contingency plan is maintained up-to-date.
- h) Facilitate effective civil/military cooperation and joint use of airspace in the MID Region.
- i) Address ATM interface issues with other regions and make specific recommendations to achieve seamlessness and harmonization.

- j) Review the requirements and monitor the status of implementation of ATM, AIM and Search and Rescue (SAR) services.
- k) Analyse, review and monitor deficiencies in the ATM, SAR and AIM fields.
- l) Taking into account human factors studies and available guidance material, make operational recommendations related to ATM and AIM personnel in the changing technological environment.

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.

ATM/SAR/AIS SG/12
Report on Agenda Item 15

REPORT ON AGENDA ITEM 15: ANY OTHER BUSINESS

15.1 Nothing has been discussed under this agenda item.

ATM/SAR/AIS SG/12
Attachment A to the Report

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