



INTERNATIONAL CIVIL AVIATION ORGANIZATION
MIDDLE EAST OFFICE

**REPORT OF THE TENTH MEETING OF
MIDANPIRG RVSM TASK FORCE
(MID RVSM TF/10)**

(Abu Dhabi, 20 –22 October 2003)

The views expressed in this Report should be taken as those of the RVSM Task Force and not 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

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MID RVSM TF/10
History of the Meeting

PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Tenth Meeting of MIDANPIRG Reduced Vertical Separation Minimum Task Force (RVSM TF/10), hosted by the UAE, was held at the conference room of the Hilton Hotel, Abu Dhabi, United Arab Emirates (UAE), 20 – 22 October 2003.

2. OPENING

2.1 The meeting was opened by His Excellency Mr. Mohamed Al Ghaith, Director General of the UAE General Civil Aviation Authority (GCAA). Mr. Al Ghaith extended the warmest welcome to all participants and wished them all a successful Task Force Meeting. He emphasized the importance of this final pre-implementation meeting and requested all parties concerned to ensure that outstanding issues be addressed in a timely manner for ensuring the safe implementation of RVSM in the MID Region on 27 November 2003.

2.3 Mr. Sabri Said Al-Busaidy, of Oman, Chairman of the Task Force also welcomed the delegates and thanked the GCAA of UAE for hosting the Task Force meeting.

2.4 Mr. Dhiraj Ramdoyal, Regional Officer, Air Traffic Management from the ICAO Middle East Office extended the greetings of Mr. A. Zerhouni, the Regional Director and Mr. M. Khonji, the Deputy Director of the ICAO Middle East Office to the participants and thanked the UAE for their sustained cooperation and support.

2.5 The meeting expressed its appreciation and thanks to EUROCONTROL and the FAA for their assistance.

3. ATTENDANCE

3.1 The meeting was attended by a total of 54 participants from 15 States (Afghanistan, Bahrain, Egypt, I.R. Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Pakistan, Saudi Arabia, Syria, United Arab Emirates, United Kingdom and the United States) and 3 Organizations (EUROCONTROL, FAA and IATA). The list of participants is at **Appendix M** to the report.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was Chaired by Mr. Sabri Said Al-Busaidy of Oman. Mr. Dhiraj Ramdoyal, Regional Officer, Air Traffic Management from the ICAO Middle East Office was Secretary of the meeting assisted by the Rapporteurs of three work groups; Mr. Riis Johansen of the UAE (SAM/WG), Mr. Ibrahim Negm of Egypt (OPS/AIR/WG) and Mr. Mohammed Abdullah Zainal of Bahrain (ATC/WG).

5. LANGUAGE

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

MID RVSM TF/10
History of the Meeting

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1: Review status of Conclusions and Decisions from the MIDANPIRG/8 concerning implementation of RVSM in the MID Region.

Agenda Item 2: Safety and airspace monitoring aspects (SAM/WG).

Agenda Item 3: ATC operations aspects (ATC/WG).

Agenda Item 4: Programme management issues.

Agenda Item 5: Any other business.

MID RVSM TF/10
Report on Agenda Item 1

PART II: REPORT ON AGENDA ITEMS

**REPORT ON AGENDA ITEM 1: REVIEW STATUS OF CONCLUSIONS AND DECISIONS FROM MIDANPIRG/7
AND MIDANPIRG/8 MEETINGS RELATING TO RVSM**

1.1 Under this agenda item the meeting reviewed the status of implementation of conclusions and decisions emanating from the MIDANPIRG/7 and MIDANPIRG/8 meetings. The meeting noted that MIDANPIRG/8 has reviewed and consolidated all conclusions/decisions emanating from previous Task Force meetings. An updated list of conclusions/ decisions and a summary of the status of implementation are indicated at **Appendix 1A** to the report on Agenda Item 1.

1.2 The meeting also agreed that, with a view to facilitate informal contacts/consultations with the RVSM Programme Managers in the MID Region, the updated list be indicated in the report on this Task Force meeting (See **Appendix K** to the report).

APPENDIX 1A(1)

STATUS OF IMPLEMENTATION OF CONCLUSIONS/DECISIONS EMANATING FROM MIDANPIRG/7 MEETING			
CONCLUSION/DECISION	IMPLEMENTATION STATUS	REMARKS	
C7/6	Inter-regional coordination	On-going Meetings with Asia Region organized in October 2002 and August 2003. Meeting with EUR Region to be held 4-5 November 2003 in Paris	
C7/7	Airworthiness and operational approval for RNP5 and RNP 10 operations in the MID Region	Action taken	
C7/8 C7/9	Implementation of GNSS in the MID Region Establishment of a regional safety and monitoring agency	On-going activity Middle East Central Monitoring Agency (MECMA) established	Superseded by Conclusion 8/20
C7/10	Safety analysis	On-going activity	
C7/11	Reporting of data for carrying out safety assessment	On-going activity	Superseded by conclusion 8//24
C7/12	Monitoring requirements	On-going activity	
C7/13 C7/14	Civil/Military coordination Creation of non exclusion areas within RVSM airspace	On-going activity On-going activity	Need to follow-up Need to follow-up on procedures being implemented in adjacent regions <i>Deleted by RVSM TF/8 meeting (Conclusion 8/3 refers)</i>
C7/15	Nomination of an RVSM Programme Manager	Action taken	
C7/16	Implementation of RVSM in the MID Region	Action completed	Being followed up within the framework of the RVSM Task Force and MECMA <i>Action completed and superseded by conclusion 8/23.</i>
C7/17	Training of all personnel involved with the implementation of RVSM	On-going	Two seminars organized A SIP to Jordan, Syria and Lebanon was carried out. Visit to Yemen under consideration.
C7/18	Guidance material for airworthiness and Operational approvals	Action taken	Draft Manual developed within the framework of the RVSM Task Force
C7/19	RVSM legislation	Action taken	Completed
D7/20	Participation of representatives from States in the RVSM approval process	Action taken	
C7/21	funding of the RVSM implementation programme	Action taken	

APPENDIX 1A(2)

Status of Conclusions/Decisions emanating from the MIDANPIR/8 meeting (Cairo 7 -11 September 2003)		
Conclusions/Decisions	Status	Remarks
<p>CONCLUSION 8/12: ESTABLISHMENT OF A REGIONAL SAFETY AND MONITORING AGENCY</p> <p>That,</p> <p>a) the task of monitoring safety in conjunction with implementation of RVSM in the Middle East Region be assigned to a Central Monitoring Agency;</p> <p>b) the monitoring agency, referred to as the Middle East Central Monitoring Agency (MECMA), will be established and staffed by the United Arab Emirates' General Civil Aviation Authority (UAE-GCAA) based at the Head Office in Abu Dhabi; and</p> <p>c) the Terms of Reference of MECMA be amended as indicated at Appendix 6F to the report on Agenda Item 6, to include additional tasks for carrying out safety and airspace monitoring in respect of RNP/RNAV implementation.</p>	Actioned	
<p>CONCLUSION 8/13: IMPLEMENTATION OF THE ATS SAFETY MANAGEMENT PROGRAMMES IN THE MID REGION</p> <p>That,</p> <p>a) In accordance with the provisions of Annex 11(Chapter 2 paragraph 2.26), States shall implement systematic and appropriate ATS safety management programme with a view to ensure that,</p>	On-going activity	

Status of Conclusions/Decisions emanating from the MIDANPIR/8 meeting (Cairo 7 -11 September 2003)		
Conclusions/Decisions	Status	Remarks
<p>i) <i>the established level of safety applicable to the provision of ATS within an airspace or at an aerodrome is met; and</i></p> <p>ii) <i>safety-related enhancements be implemented whenever necessary;</i></p> <p>b) <i>with a view to ensure that the activities necessary for the implementation of safety management programmes be carried out in a timely manner, adequate budgetary provisions be made by States ;</i></p> <p>c) <i>sustained cooperation and co-ordination with adjacent States/service providers be made in the process; and</i></p> <p>d) <i>States explore ways and means of establishing a mechanism for setting up the standards, monitoring requirements and criteria for the regional implementation of ATS safety management programme and MECMA be invited to play a leading role in the process.</i></p>		
<p>CONCLUSION 8/16: ATC PROFICIENCY</p> <p><i>That States, with a view to ensure that the level and quality of services are maintained, be invited, through their safety management programme, to evaluate and identify the requirement for ATC refresher courses, including English language training for Air Traffic Controllers</i></p>	On-going activity	
<p>DECISION 8/17: AIR-GROUND COMMUNICATIONS PROBLEMS</p>	On-going activity	

Status of Conclusions/Decisions emanating from the MIDANPIR/8 meeting (Cairo 7 -11 September 2003)		
Conclusions/Decisions	Status	Remarks
<p><i>That taking into account the number of recurring incidents attributed to poor air-ground communication problems in the region, the matter be addressed within the framework of the CNS/MET Sub -Group.</i></p>		
<p>CONCLUSION 8/20: ENDORSEMENT OF GUIDANCE MATERIALS DEVELOPED WITHIN THE FRAMEWORK OF THE RVSM TASK FORCE</p> <p><i>That States use the provisions of the ATC, Operations/Airworthiness Manuals and the RVSM Model Safety Plan developed within the framework of the RVSM Task Force for regional application and in the development of their own Manuals/Procedures</i></p>	Actioned	
<p>Conclusion 8/21: Amendment to the MID ATS Route Network</p> <p>That, taking into account the fact that the safety assessment for the implementation of RVSM in the MID Region has been built on the existing ATS route structure, States adopt a conservative approach while carrying out major change(s) to the MID ATS route network and it be coordinated with MECMA.</p>	On-going activity	
<p>CONCLUSION 8/22: COORDINATION PROBLEMS OVER THE RED SEA AREA</p> <p>That,</p> <p>a) <i>with effect from 27 November 2003, the procedures developed at *Appendix 6K to the report on Agenda Item 6, be followed by all uncoordinated flights operating over the Red Sea;</i></p>	Actioned	Need to follow-up on implementation

Status of Conclusions/Decisions emanating from the MIDANPIR/8 meeting (Cairo 7 -11 September 2003)		
Conclusions/Decisions	Status	Remarks
<p>b) States concerned publish an AIP Supplement as soon as possible, and no later than 30 October 2003 for the promulgation of these procedures;</p> <p>c) IATA ensures that concerned operators are fully conversant with these procedures; and</p> <p>d) State/military aircraft when flying under "Due Regard" over the Red Sea be informed of the procedures to be followed by Civil Uncoordinated Flights and be requested to take into account the restrictions applicable within RVSM airspace.</p> <p>Note:* Procedures have been finalized through:</p> <ul style="list-style-type: none"> - informal meeting(s)/ consultations by Egypt; - two meetings organized by the Arab Civil Aviation Commission (ACAC); - Sustained support from IATA; - RVSM Task Force; and - Willingness of concerned States to find a solution to the problem in the interest of safety 		
<p>CONCLUSION 8/23: IMPLEMENTATION OF RVSM IN THE MID REGION</p> <p>That,</p> <p>Having considered the issues listed under items a) through i), below, a reduced vertical separation minimum (RVSM) will be implemented on an exclusive basis between FL 290 and FL 410 on 27 November 2003 at 0200 UTC within the Middle East Region*:</p>	On-going	

Status of Conclusions/Decisions emanating from the MIDANPIR/8 meeting (Cairo 7 -11 September 2003)		
Conclusions/Decisions	Status	Remarks
<p>a) operator readiness has been assessed through traffic sampling and is found to be sufficient for safe and efficient implementation of RVSM;</p> <p>b) the target level of safety (TLS) for technical risk of 2.5×10^9 fatal accidents per aircraft flight hour** has been met through application of an operational concept based on a structure of dual uni-directional RNP trunk routes with application of the semi-circular level allocation system as set out in Annex 2, Appendix 3;</p> <p>c) safety objectives for operational risk are satisfied through evaluation and mitigation measures associated with functional hazard assessments (FHA) carried out in conjunction with development and continued updating of national safety plans (NSP);</p> <p>d) A regional monitoring agency, MECMA, has been established, staffed and equipped to perform the required safety-related tasks;</p> <p>e) legal and regulatory measures have been taken by all States;</p> <p>f) guidance material for operations, airworthiness and air traffic management, including training, has been developed and issued;</p> <p>g) States within the MID RVSM Area have committed to complete all outstanding tasks in due time for implementation;</p> <p>h) operators have been given due notice through aeronautical information circulars (AIC) and AIP Supplements; and</p>		

Status of Conclusions/Decisions emanating from the MIDANPIR/8 meeting (Cairo 7 -11 September 2003)		
Conclusions/Decisions	Status	Remarks
<p>i) <i>an awareness campaign has been developed and will be undertaken as a joint effort between States, ICAO and IATA.</i></p> <p>* <i>Except Kabul and Baghdad FIRs.</i></p> <p>** The Task Force applied a value of 1.25×10^{-9} as system performance specification to ensure continued satisfaction of TLS at least until the end of the decade, taking into account projected traffic growth.</p>		
<p>CONCLUSION 8/24: DATA FOR SUSTAINED SAFETY ASSURANCE OF RNP AND RVSM WITHIN THE MID REGION</p> <p><i>That, considering the on-going requirement for safety assurance related to RVSM and RNP operations within the Middle East Region,</i></p> <p>a) <i>all States report data and incidents necessary for performing collision risk calculations required for sustained safe RVSM operations to MECMA. The data will include, but not necessarily be limited to:</i></p> <p>i) <i>assigned altitude deviations of 300 ft or more (monthly);</i></p> <p>ii) <i>total number of IFR movements (monthly);</i></p> <p>iii) <i>average time per movement spent in the level band FL290 - FL410;</i></p> <p>iv) <i>ATC/ATC coordination failures (monthly); and</i></p>	On-going	

Status of Conclusions/Decisions emanating from the MIDANPIR/8 meeting (Cairo 7 -11 September 2003)		
Conclusions/Decisions	Status	Remarks
<ul style="list-style-type: none"> v) <i>traffic data (as requested by MECMA);</i> b) <i>monitoring States report navigational errors and traffic data in accordance with the Letter of Agreement concerning monitoring associated with RNP;</i> c) <i>air operators maintain procedures for reporting of turbulence;</i> d) <i>States report data on approval of operators and aircraft for RVSM operations (monthly); and</i> e) <i>MECMA ensures that further processing and evaluation of this data within its Terms of Reference and identifies or develops methodologies for assessing risk associated with operational procedures prevailing within the MID Region.</i> 		

MID RVSM TF/10
Report on Agenda Item 2

REPORT ON AGENDA ITEM 2: SAFETY AND MONITORING ASPECTS

SAM/WG Terms of Reference

2.1 The working group noted its terms of reference as set out in **Appendix 2A** to the report on Agenda Item 2.

MECMA Duties and Responsibilities

2.2 The duties and responsibilities of the MECMA were noted, specifically the requirement to conduct readiness assessments and safety assessments. MECMA's duties and responsibilities, including those related to RNP, are as stated in **Appendix 2B** to the report on Agenda Item 2.

Middle East Central Monitoring Agency (MECMA) RVSM Safety Assessment

2.3 The meeting reviewed and endorsed the safety assessment carried out by MECMA in accordance with its mandate and noted with appreciation that the safety objectives have been satisfied for the safe implementation of RVSM in the Middle East Region as from 27 November 2003. It was noted that the document produced by MECMA is the first comprehensive evaluation of safety aspects of the MID RVSM implementation and is intended to be used as a reference for future assessments of safety aspects of RVSM operations. The meeting expressed its appreciation to MECMA and the Safety and Monitoring Work Group (SAM/WG) for a job well done. The Report from MECMA of RVSM safety assessment for the MID Region is at ***Appendix I** to the Report.

** This document will not be available on the ICAO Web site.*

TERMS OF REFERENCE

SAFETY & AIRSPACE MONITORING WORK GROUP (SAM/WG)

The SAM/WG is responsible for mathematical and statistical analysis to assist with the maintenance and on-going monitoring of safety through the assessment of collision risk for Middle East Region RVSM and other tasks as agreed with the RVSM Task Force.

The main tasks of the SAM/WG are:

- a) To develop a monitoring program to ensure that the quantity and quality of data are collected to allow an assessment of vertical collision risk;
- b) To review existing mathematical and statistical techniques to assure their appropriateness for MID Region RVSM;
- c) To ensure the transferability of aircraft data collected from other airspace regions;
- d) To support the assessment of the safety of RVSM prior to and during the Verification and Operational Trials by the production of collision risk assessments based on height deviation incidents and height monitoring data to determine whether the TLS is being met;
- e) To devise suitable methodologies for incorporating the effects of projected traffic increases and system changes on occupancy and collision risk in the future environment;
- f) To identify those elements which are critical in the assessment of collision risk and suggest areas where improvements might be effective in reducing risk;
- g) To establish a policy for investigating those errors that may jeopardise satisfaction of the Target Level of Safety (TLS);
- h) To estimate periodically the vertical occupancies (traffic densities, passing frequencies, etc.) in the MID Region; and
- i) To perform periodically other data collections (e.g. ASE stability) in order to ensure that the parameter values used in the mathematical collision risk models remain current.

MID RVSM TF/10
Appendix 2B to the Report on Agenda Item 2

DUTIES AND RESPONSIBILITIES OF MECMA

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

- a) to establish and maintain a central registry of State RVSM approvals of operators and aircraft using the Middle East Region airspace where RVSM will be applied;
- b) to facilitate the transfer of approval data to and from other RVSM regional monitoring agencies;
- c) to establish and maintain a data base containing the results of height-keeping performance monitoring and all altitude deviations of 300 ft or more within Middle East Region airspace, and to include in the database the results of MECMA requests to operators and States for information explaining the causes of observed large height deviations;
- d) provide timely information on changes of monitoring status of aircraft type classifications to State authorities and operators;
- e) to assume overall responsibility for
 - i) coordination of the Global Positioning System Monitoring System (GMS); and
 - ii) assessing compliance of operators and aircraft with RVSM height-keeping performance requirementsin conjunction with RVSM introduction in the Middle East Region;
- f) to provide the means for identifying non-RVSM approved operators using Middle East airspace where RVSM is applied; and notifying the appropriate State approval authority; and
- g) to conduct readiness assessments and safety assessments as an aid for the Middle East RVSM Task Force for decision making in preparation for RVSM implementation on a specified date.
- h) to establish and maintain a database containing results of navigation error monitoring;
- i) to prepare, each six months, reports setting out the results of navigation error monitoring for the preceding six-month period. These results shall be presented to the ICAO Middle East Office, Cairo, and States as part of their decision process related to safety management;
- j) to conduct safety assessments as an aid for the Middle East RNP/RNAV Task Force for decision making in conjunction with expansion or changes to the RNP route structure within the Middle East Region;
- k) to liaise with other Regional monitoring agencies and organisations to harmonise RNP implementation and upgrading.

MID RVSM TF/10
Report on Agenda Item 3

REPORT ON AGENDA ITEM 3: ATC OPERATIONS ASPECTS (ATC/WG)

3.1 In accordance with its Terms of Reference and Work Programme (See **Appendix 3A** to the Report on Agenda Item 3), the ATC/WG is responsible for addressing all matters relating to air traffic services (ATS) within the RVSM and transition airspace. The Group addressed the following issues:

- transition procedures between RVSM/CVSM airspace
- Baghdad FIR transit routes/ procedures;

Transition procedures between RVSM/CVSM airspace**Tehran FIR**

3.2 The meeting reviewed the procedures to be applicable between RVSM/CVSM areas in the region. It accordingly went through the procedures to be applicable between Tehran FIR and the adjacent Ashgabat , Baku , Kabul and Turkmenbashi FIRs. With a view to cater for radio communications failure in the transition areas, new compulsory reporting points were identified and it was agreed that a NOTAM be issued on 27 October 2003 to promulgate these new compulsory reporting points within Tehran FIR.

Cairo and Jeddah FIRs

3.3 The meeting also reviewed the procedures to be applicable between Cairo FIR and the adjacent Khartoum and Tripoli FIRs. It was noted that the letters of agreement between Cairo ACC and Tripoli ACC has still not been signed.

Jeddah, Asmara and Khartoum FIRs

3.4. It was noted that procedures have been put in place for the handling of traffic between the Jeddah, Asmara and Khartoum FIRs.

Baghdad FIR transit routes/ procedures;

3.5 The meeting was informed that letters of agreements (LOAs) have been signed/are in the process of being signed between Baghdad FIR and the adjacent FIRs of Amman, Ankara, Damascus, Jeddah, Kuwait and Tehran. The need for ensuring that these LOAs also take into account the implementation of RVSM was emphasized.

3.6 With a view to facilitate transition procedures between Kuwait, Bahrain and Ankara FIRs, the meeting suggested that the allocation of flight levels to flights transiting the Baghdad FIR on routes G795/UR784 be in accordance with the table of cruising levels indicated in Annex 2, Appendix 3 a). It was however clarified that the vertical separation minimum (VSM) to be applicable would be 2000 ft instead of 1000 ft.

ATC OPERATIONS WORK GROUP (ATC/WG)

TERMS OF REFERENCE

The ATC/WG is responsible for addressing all matters relating to air traffic services within the RVSM and transition airspace, to include the following:

- To identify airspace in which RVSM will be applied based on statement of application and develop a regional operational concept, ensuring inter-regional harmonization;
- to develop procedures to mitigate wake turbulence;
- to establish transition areas and develop transition procedures;
- to develop contingency procedures; and
- to consider workload issues and identify the need for controller simulations

MID RVSM TF/10
Report on Agenda Item 4

REPORT ON AGENDA ITEM 4: PROGRAMME MANAGEMENT ISSUES

4.1 Under this agenda item the meeting considered the following issues:

- i) elaboration of letters of agreement
- ii) draft RVSM Switchover Plan
- iii) review of the Task List
- iv) update of the evaluation forms
- v) Amendment of the Regional Supplementary Procedures (SUPPs) Doc 7030 for inclusion of procedures for air-ground communications failure, special procedures for in-flight contingencies and the implementation of RVSM (MID/ASIA-S 03/01 RAC)
- vi) Trigger NOTAM
- vii) Establishment of an RVSM implementation "**Switchover Coordination Cell**" ; and
- viii) Other Issues

4.2 Letters of Agreement

4.2.1 The meeting reviewed existing letters of agreement between the different ACC's concerned. It also included provisions for the handling of RVSM traffic within transition areas. An update on the status of letters of agreement is at **Appendix G** to the Report.

4.3 RVSM Switchover Plan

4.3.1 The meeting noted that all concerned States were in the process of finalizing their RVSM switchover plans on 27 November 2003. The draft switchover plan provided by Saudi Arabia has been used/adapted by States in the preparation of their plans (**See Appendix H** to the Report). The meeting emphasized the need for taking into account the following issues in the preparation of the switchover plans:

- airspace complexity and traffic situation on 27 November 2003;
- coordination/communications procedures with adjacent centers;
- communications failures;
- contingencies;
- proper filing of flight plans indicating RVSM status;
- short term conflict alert (STCA) in RVSM environment;
- last minute briefing and refresher training to ATCs including phraseology;
- coordination with military authorities. (*Consider requesting for minimum operations until next day*);
- check transition procedures route by route and carry simulations;
- ask for estimates of incoming flights earlier;
- note the possibility of incorrect flight plans and flight levels may continue for up to 15 days after implementation. Closely monitor.
- establish a Response Cell with contact numbers on H24 basis for a period of 2 –3 days;
- ensure that ATCs are fully conversant with the flight level allocations and in particular the risk involved with aircraft on FL 310, 350 and 390.

4.4 Review of the Task List

4.4.1 The meeting reviewed the checklist and identified urgent tasks which should be carried out. The updated Task List is indicated at **Appendix B** to the report.

MID RVSM TF/10
Report on Agenda Item 4

4.5 **Update of the Evaluation Form**

4.4.1 The meeting accordingly reviewed and updated the evaluation form checklist which is indicated at **Appendix C** to the report.

4.6 **Amendment to Regional Supplementary Procedures Doc 7030**

4.6.1 The meeting was informed that the proposal for the amendment of the Regional Supplementary Procedures (SUPPs) Doc 7030/4 (MID/ASIA-S 03/1 RAC) for inclusion of procedures for air-ground communications failure, special procedures for in-flight contingencies and the implementation of RVSM has been sent ICAO for approval. The meeting agreed that these procedures will be applicable within the MID region with effect from 27 November 2003 and requested the secretariat to expedite the process. (See **Appendix D** to the report).

4.7 **Trigger NOTAM**

4.7.1 The meeting reviewed the text of the draft trigger NOTAM and agreed that it be published on 27 October at 1200 UTC. (See **Appendix E** to the report).

4.8 **Establishment of an RVSM implementation “Switchover Coordination Cell”**

4.8.1 The meeting agreed that with a view to monitor the safe implementation of RVSM during the switch over period, an RVSM implementation “**Switchover Coordination Cell**” will be established by MECMA on 27 November 2003. It was indicated that coordination will be effected between MECMA, RVSM Programme Managers and IATA during that period. All concerned were invited to ensure that their contact numbers (telephone/mobile and E-mails) are properly indicated (See **Appendix L** to the Report).

4.9 **Other Issues**

4.9.1 The meeting noted the review of the Procedures for the Handling of the Uncoordinated Flights Crossing the Red Sea Area covered at the MIDANPIRG/8 and urged all countries to assist in the implementation of these procedures. (See **Appendix F** to the report).

MID RVSM TF/10
Report on Agenda Item 5

REPORT ON AGENDA ITEM 5 : ANY OTHER BUSINESS

5.1 Under this agenda item the meeting, noted that in accordance with the implementation plan an interface meeting will be organized with the EUR Region on 4-5 November 2003 in Paris and requested that States and organizations concerned send appropriate delegates to the meeting. The RVSM tentative schedule of meetings was accordingly reviewed and updated as follows:

MID RVSM TASK FORCE – TENTATIVE FUTURE SCHEDULE OF MEETINGS

Date	Meeting	Venue
YEAR 2003		
4 – 5 November	1 st JCM-RVSM EUR/MID	Paris
26 –27 November	MID RVSM Implementation "Switchover Coordination Cell"	Abu Dhabi
YEAR 2004		
01-03 March	MID RVSM TF/11*	Abu Dhabi
22 -24 November	MID RVSM TF/12**	Abu Dhabi

*Preliminary post-implementation safety review

**Post-implementation safety review

5.2 U.A.E. Entry VISA requirements

5.2.1 With a view to facilitate issuance of entry VISA to the UAE, the meeting was informed that all participants should leave a scanned copy of their National Passports with the administration. Furthermore, they should confirm their participation by email to Mr. Angelo Fernandes (angelo.fernandes@gcaa-uae.gov.ae) **at least three weeks before any meeting. This would enable the timely processing of the papers.**

MID RVSM TF/10
Appendix A to the Report

TERMS OF REFERENCE FOR THE MID RVSM TASK FORCE

1. Develop a comprehensive implementation plan for RVSM in the MID Region, taking into account the requirements of the *Manual on Implementation of a 300 M (1000 ft) Vertical Separation Minimum between FL 290 and FL 410 Inclusive (Doc 9574)*, and the requirements of users.
2. Identify any areas within the MID Region where it may not be feasible to introduce RVSM in the initial implementation.
3. Determine the extent to which a cost-benefit analysis is required prior to implementation of RVSM.
4. Coordinate with the bodies responsible for the implementation of RVSM in adjacent Regions in order to harmonize implementation plans.
5. Develop guidance material for RVSM operations in the MID Region, taking into account existing guidance material which has been developed by other regions.
6. Address any other matters, as appropriate, which are relevant to the implementation of RVSM.

**MID RVSM TASK FORCE - WORK PROGRAMME
(Task List)**

MID RVSM TF/10 -Report
Appendix B

ID	DESCRIPTION	START	FINISH	RESOURCES
	Working Methods and Resources			
1	Agree on structure of TF to enable efficient handling of specialist technical tasks		05-Oct-00	RVSM TF - Completed
2	Identify resources for performing specialist technical tasks	05-Oct-00	23 Feb. 03	RVSM TF -Completed
3	Investigate methods of funding any outside assistance required	05-Oct-00	23.Feb.03	RVSM TF- Completed
	Cost Benefits Analysis			
4	Evaluate need for a cost benefit analysis	03-Oct-00	05-Oct-00	RVSM TF - Completed
	Safety Assessment and Monitoring			
5	Conduct preliminary data collection and readiness assessment	01-Dec-00	29-Aug-01	States, SAM/WG, ASIA/PAC RVSM TF - Completed
6	Evaluate options for setting up a central monitoring agency	03-Oct-00	10-Apr-01	SAM/WG - Completed
7	Evaluate options for carrying out the safety analysis	03-Oct-00	29-Aug-01	SAM/WG - Completed
8	Evaluate options for implementation of a height monitoring program	03-Oct-00	06-Mar-02	SAM/WG - Completed
9	Develop procedures for reporting large height deviations in existing system	01-Apr-01	29-Aug-01	SAM/WG- Completed
10	Collect weather and turbulence data for analysis	01-Apr-01	01-May-03	SAM/WG- Completed
11	Develop detailed program for safety analysis	06-Mar-02	27-Aug.-03	SAM/WG- Completed
12	Establish requirements for pre and post-implementation monitoring	TBD	06-Mar-02	SAM/WG - 4th qtr. 03 for post implementation monitoring completed
13	Undertake initial safety analysis	TBD	4th qtr.-02	SAM/WG-Completed
14	Carry out pre-implementation safety analysis	1 Jan.-03	27-Aug-03	SAM/WG- completed (based on executive summary)
14-A	Carry out pre-implementation safety analysis	01-Jan-03	22-Oct.-03	SAM/WG- To be based on final report
15	Carry out pre-implementation readiness assessmentsent	TBD	31-Mar-03	SAM/WG- Completed
16	Carry out post-implementation safety analysis during verification phase	TBD	Mid.-04	SAM/WG
17	Review of mathematical and statistical techniques to assure their appropriateness for MID RVSM	11-Apr-01	Jan-03	SAM/WG- Completed
18	Ensure Tranferability of aircraft data from other Regions	11-Apr-01	June-02	SAM/WG- Completed
19	Devise methodologies for incorporating the effects of projected traffic growth and system changes on occupancy & collision risk in the future environment	11-Apr-01	June-02	SAM/WG- Completed
20	Perform periodically other data collections (eg. ASE stability) in order to ensure that the parameter vlaues used in the mathematical collision risk models remain current	11-Apr-01	27-Aug-03	SAM/WG- completed
21	Monitor progress with operator approvals	11-Apr-01	ONGOING	SAM/WG. Some operators not ready and/or facing problems.Data from approval Registry not bering sent. IATA to assist.
22	Review of National Safety plans	28-May-03	27-Aug-03	SAM/WG- completed

**MID RVSM TASK FORCE - WORK PROGRAMME
(Task List)**

MID RVSM TF/10 -Report
Appendix B

ID	DESCRIPTION	START	FINISH	RESOURCES
22-A	Reply to queries on National Safety Plans	20-Jun-03	1-Aug.-03	SAM/WG- Completed
22-C	Final Review of National Safety plans	24-Aug.-03	27-Aug.-03	SAM/WG- Completed
	ATC Operational Issues			
23	Determine the limits of RVSM airspace (geographic and vertical)	10-Apr-01	06-Mar-02	ATC/WG - Completed
24	Develop ATC operational policy & procedures for normal RVSM operations	14 Oct. 02	28-May-03	ATC/WG- Completed
25	Identify transition areas and transition procedures	26-Aug-01	27-Aug.-03	ATC/WG-Completed
26	States assess the impact of RVSM implementation on controller automation systems and plan for upgrades/modifications	10-Apr-01	05-Jun-02	ATC/WG-Completed
27	Develop ATC procedures for non-approved State acft to transit RVSM airspace	10-Apr-01	05-Jun-02	ATC/WG-Completed
28	Develop procedures for handling non-compliant civil aircraft (inc ferry & maintenance)	10-Apr-01	05-Jun-02	ATC/WG-Completed
29	Develop procedures for suspension of RVSM	10-Apr-01	05-Jun-02	ATC/WG- Completed
30	Evaluate the need for simulations to assess ATC workload and possible need for airspace/air route/Sector changes	02-Jun-02	27-Aug-03	ATC/WG-completed under FHA
31	Develop ATC regional training guidance material	TBD	28-May-03	ATC/WG- Completed
32	Harmonization of ATC regional guidance material	05-Jun-02	31-Mar-03	ATC/WG- Completed
33	Identify issues to be addressed in Letters of Agreement	10-Apr-01	28-May-03	ATC/WG- Completed
34	Evaluate the need for chart amendments related to RVSM	11-Apr-01	27-Aug-03	Completed
35	States to conduct local RVSM training for air traffic controllers	27-Mar-03	26-Nov-03	States- On-going activity
	OPS/AIR Issues			
36	States to examine existing legislation and regulations to identify any changes required for RVSM	05-Oct-00	27-Aug-03	OPS/AIR/WG -Completed
37	Develop and promulgate information on the operational approval process	01-Apr-01	29-Aug-01	OPS/AIR/WG - Completed
38	Develop procedures for aircraft found to be non-compliant through monitoring	11-Apr-01	26- Feb. 03	OPS/AIR/WG - Completed
39	Develop regional guidance on pilot, maintenance personnel and dispatcher training	11-Apr-01	26-Feb-03	OPS/AIR/WG - Completed
40	Examine issues related to the use of ACAS in RVSM airspace	11-Apr-01	29-Aug-01	OPS/AIR/WG - Completed
	Joint Tasks			
41	Review preliminary readiness assessment	01-Apr-01	29-Aug-01	RVSM TF - Completed- 90% target achieved
42	Set target proportion of RVSM approved flights for full RVSM implementation	01-Apr-01	23 Feb. 03	RVSM TF - Completed
43	Set target AIRAC implementation date(AIP Supplement to be published)	07-Apr-01	02-Oct-03	RVSM TF -Completed
44	Prepare/maintain regional status report detailing RVSM implementation plans	01-Apr-01	27-Aug-03	RVSM TF - Completed

**MID RVSM TASK FORCE - WORK PROGRAMME
(Task List)**

MID RVSM TF/10 -Report
Appendix B

ID	DESCRIPTION	START	FINISH	RESOURCES
45	Identify major milestone and target dates	09-Apr-01	28-May-03	RVSM TF - Completed
46	Develop a regional RVSM informational campaign	07-Apr-01	27-Nov-03	On-going activity- at national level- completed
47	Develop regional RVSM Guidance Material	01-Apr-01	28-May-03	RVSM TF- Version 2.1 completed- Endorsement by MIDANPIRG/8
48	Review weather and contingency procedures for applicability under RVSM	10-Apr-01	22-Oct-03	Completed-MID Amd. proposal to SUPPs Ref. MID 03/1 refers
49	Develop model AICs and NOTAMs	09-Apr-01	29-Aug-01	Draft Completed(AIC already Issued)
50	Evaluate preliminary readiness and safety assessments	20-Jan-01	05-Jun-02	
51	Undertake coordination and harmonization of procedures with adjacent Regions	01-Apr-01	ONGOING	MID/ASIA-completed,MID/EUR:4-5 Nov 03 and MID/AFI-later stage
52	Evaluate the need for tactical offset procedures to mitigate the effects of turbulence and TCAS alerts	10-Apr-01	26-Feb-03	RVSM TF- Completed
53	Develop Doc 7030 amendment	10-Apr-01	22-Oct-03	awaiting approval by HQ. Ref: MID/ASIA-S 03/1 RAC)
54	Review aircraft altitude-keeping performance and operational errors	01-Jul-01	25-May-03	RVSM TF-Completed
55	Develop monitoring and evaluation program for the verification phase	TBD	05-Jun-02	RVSM TF-Completed
56	Evaluate final readiness assessment	TBD	27-Aug-03	RVSM TF- Completed
57	Evaluate final safety analysis	30-Jan-03	22-Oct-03	completed
58	Go/No-Go decision	TBD	27-Aug-03	RVSM TF- completed. "GO" decision taken

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: BAHRAIN

RVSM TF/10 Appendix C

FIR(s): BAHRAIN

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit reports (Due by 01/08/2003)	°	-	
Final Review (due by 25/08/2003, at TF/9)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: BAHRAIN

Appendix C

FIR(s): BAHRAIN

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01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003		27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	°	-	Not applicable now Refer to Appendix G (<i>not completed yet</i>)
2.3 Have training requirements been assessed	°	-	
2.4 Issue of aic	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°	-	
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	°	-	
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector reorganization.	°	-	Initial evaluation has started

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: BAHRAIN

Appendix C

FIR(s): BAHRAIN

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003		27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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2.8	Conduct of local training for air traffic controllers	°	-	Awareness phase has started
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	Part of the FDPS upgrade
2.10	Is there any need for changes to FDPS?	°	-	
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCDD) Systems? (<i>where applicable</i>)	°	-	Not applicable
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	°	-	Will be considered with future upgrade

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: BAHRAIN

Appendix C

FIR(s): BAHRAIN

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003		27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°	-	
3.2	Aircraft and Operators approval/guidance	°	-	
3.3	Procedures for non-compliant aircraft	°	-	
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	°	-	
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	°	-	100 %
3.6	How many national operators have full RVSM approval	°	-	One
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	°	-	50%
3.8	Did you provide MECMA with RVSM approval documentation	°	-	
3.9	Did you nominate your State RVSM Programme Manager	°	-	
3.10	Certification	-	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: BAHRAIN

Appendix C

FIR(s): BAHRAIN

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003		27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	°	-	
TRAINING	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: EGYPT

RVSM TF/10 Appendix C

FIR(s): CAIRO

Rev.004

EVALUATION DATE(s): 15 September 2002

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003		28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	All reports forwarded to MECMA
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	Forwarded to MECMA from July 2001 – December 2001`
1.3 Whether traffic data has been sent	°	-	Forwarded to MECMA (26/12/2002-last update)
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit reports (due by 01/08/2003)	°	-	
Final Review (Due by 25/08/2003)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: EGYPT

RVSM TF/10 Appendix C

FIR(s): CAIRO

Rev.004

EVALUATION DATE(s): 15 September 2002

01/06/2002	X	01/09/2002	X	26/02/2003		28/05/2003	X	27/08/2003	X	22/10/03	X			
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	°	-	almost completed. Refer to Appendix G for update
2.3 Have training requirements been assessed	°	--	
2.4 Issue of AIC	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°	-	
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	°	-	Not applicable now
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector	°	-	To be carried out shortly

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: EGYPT

RVSM TF/10 Appendix C

FIR(s): CAIRO

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EVALUATION DATE(s):15 September 2002

01/06/2002	X	01/09/2002	X	26/02/2003		28/05/2003	X	27/08/2003	X	22/10/03	X			
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	reorganization.			
2.8	Conduct of local training for air traffic controllers	°	-	Theoretical part only
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	
2.10	Is there any need for changes to FDPS?	°	-	
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCD) Systems? (<i>where applicable</i>)	°	-	
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	°	-	<i>To be updated within 2 months</i>

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: EGYPT

RVSM TF/10 Appendix C

FIR(s): CAIRO

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EVALUATION DATE(s): 15 September 2002

01/06/2002	X	01/09/2002	X	26/02/2003		28/05/2003	X	27/08/2003	X	22/10/03	X			
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°	-	
3.2	Aircraft and Operators approval/guidance	°	-	
3.3	Procedures for non-compliant aircraft	°	-	
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	°	-	
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	92%	-	
3.6	How many national operators have full RVSM approval	12 out of 13	-	
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	60%	-	
3.8	Did you provide MECMA with RVSM approval documentation	°	-	RVSM data monitoring will be automatically interchanged among regional monitoring agencies
3.9	Did you nominate your State RVSM Programme Manager	°	-	
3.10	Certification	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: EGYPT

RVSM TF/10 Appendix C

FIR(s): CAIRO

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EVALUATION DATE(s):15 September 2002

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003		28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	°	-	
TRAINING	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: I.R.IRAN

RVSM TF/10-Appendix C

FIR(s): TEHRAN

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	-	No	
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit reports (due by 01/08/2003)	°	-	
Final review (Due by 25/08/2003)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: I.R.IRAN

RVSM TF/10-Appendix C

FIR(s): TEHRAN

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	26/02/2003	X	28/05/2003	X	27/08/2003	X	22/10/03	X			
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	- °	No -	Refer to Appendix Gfor update
2.3 Have training requirements been assessed	°	-	
2.4 Issue of AIC	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°	-	
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	°	-	27 October at 1200 UTC
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of	°	-	Eventually Sector 1 will have to operate in 2 Sectors

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: **LR.IRAN**

RVSM TF/10-Appendix C

FIR(s): **TEHRAN**

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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	possible requirements for airspace/route and/or sector reorganization.			
2.8	Conduct of local training for air traffic controllers	°	-	Awareness phase has started
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	Part of the FDPS upgrade. <i>In consultation with manufacturer.</i>
2.10	Is there any need for changes to FDPS?	°	-	
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCD) Systems? (<i>where applicable</i>)	°	-	
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: **LR.IRAN**

RVSM TF/10-Appendix C

FIR(s): **TEHRAN**

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	26/02/2003	X	28/05/2003	X	27/08/2003	X	22/10/03	X			
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°	-	Under development
3.2	Aircraft and Operators approval/guidance	°	-	
3.3	Procedures for non-compliant aircraft		No	Under development
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	°	-	
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	°	-	29 aircraft approved. 42%
3.6	How many national operators have full RVSM approval	°	-	4Operators (IRAN AIRLINES, MAHAN AIRLINES,QESHM AIR and KISH AIR 2 under process (ASSAMAN and CASBYAN Airlines)- 16 Aircraft undergoing GMU monitoring
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	°	-	41% (28 aircraft)
3.8	Did you provide MECMA with RVSM approval documentation	°	-	Provided in advance

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: LR.IRAN

RVSM TF/10-Appendix C

FIR(s): TEHRAN

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3.9	Did you nominate your State RVSM Programme Manager	°	-	
3.10	Certification	°	-	
OTHER GENERAL REQUIRMENTS				
REQUIREMENTS		ACTION TAKEN		REMARKS
		YES	NO	
FUNDING/BUDGETARY ALLOTMENT		°	-	
TRAINING		°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: JORDAN

RVSM TF/10-Appendix C

FIR(s): AMMAN

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	<i>No report received</i>
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	<i>No report received</i>
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit report (due by 01/08/2003)	°		
Final review (due by 25/08/2003)	°		

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: JORDAN

RVSM TF/10-Appendix C

FIR(s): AMMAN

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	<i>(Order placed already)</i>
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	- °	No -	Almost completed. Refer to Appendix G for update <i>(to be completed by 1st week on November)</i>
2.3 Have training requirements been assessed	°	-	
2.4 Issue of aic	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°		
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	°	-	27 October 2003 at 1200 hrs UTC
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: JORDAN

RVSM TF/10-Appendix C

FIR(s): AMMAN

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EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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	reorganization.			
2.8	Conduct of local training for air traffic controllers	°	-	
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	
2.10	Is there any need for changes to FDPS?	°	-	
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCD) Systems? (<i>where applicable</i>)	-	No	
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	-	No	Not applicable now

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: JORDAN

RVSM TF/10-Appendix C

FIR(s): AMMAN

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01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°		Jordan Civil Aviation Regulation (JCAR's) 3.136
3.2	Aircraft and Operators approval/guidance	°		Regulatory Guidance :JCAR's Part 3 Appendix C
3.3	Procedures for non-compliant aircraft		No	Procedures shall be coordinated with ATC controlling airspace
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	-	No	Operator procedure
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	-	No	22 out of 28 aircraft are approved
3.6	How many national operators have full RVSM approval	°	-	3 operators (Royal Jordanian, Royal Squadron and Jordan Aviation)
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	°	-	(Royal Jordanian 11 out of 16) 68.75% Royal squadron: 3 out of 6 (50 %)
3.8	Did you provide MECMA with RVSM approval documentation	°	-	
3.9	Did you nominate your State RVSM Programme Manager	°		
3.10	Certification	°		Operations specifications and/or letter of authorization

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: JORDAN

RVSM TF/10-Appendix C

FIR(s): AMMAN

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EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	-	No	
TRAINING	-	No	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: KUWAIT

RVSM TF/10-Appendix C

FIR(s): KUWAIT

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003		28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit report (due by 01/08/2003)	°		
Final review (Due by 25/08/2003)	°		

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: KUWAIT

RVSM TF/10-Appendix C

FIR(s): KUWAIT

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003		28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	° *°		Refer to Appendix G for update <i>*partially (to be completed by 1st week of November 2003)</i>
2.3 Have training requirements been assessed	°	-	
2.4 Issue of AIC	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°	-	
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	°	-	
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: KUWAIT

RVSM TF/10-Appendix C

FIR(s): KUWAIT

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	26/02/2003		28/05/2003	X	27/08/2003	X	22/10/03	X			
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	reorganization.			
2.8	Conduct of local training for air traffic controllers	°	-	
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	
2.10	Is there any need for changes to FDPS?	-	No	Not applicable
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCD) Systems? (<i>where applicable</i>)	-	No	Not applicable
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	-	No	Not applicable

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: KUWAIT

RVSM TF/10-Appendix C

FIR(s): KUWAIT

Rev.004

EVALUATION DATE(s):

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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°	-	
3.2	Aircraft and Operators approval/guidance	°	-	
3.3	Procedures for non-compliant aircraft	°	-	
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	°	-	
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	°	-	100%
3.6	How many national operators have full RVSM approval	°	-	<i>(Only 1 Operator)</i>
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	°	-	100%
3.8	Did you provide MECMA with RVSM approval documentation	°	-	
3.9	Did you nominate your State RVSM Programme Manager	°	-	
3.10	Certification	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: KUWAIT

RVSM TF/10-Appendix C

FIR(s): KUWAIT

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003		28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	°	-	
TRAINING	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: LEBANON

RVSM TF/10-Appendix C

FIR(s): BEIRUT

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	01/12/2002	X	01/03/2003	X	28/05/2003	X	27/08/2003	X	22/10/03	X	
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	No coordination failures
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	NIL
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit report (Due by 01/08/2003)	°	-	
Final review (due by 25/08/2003)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: LEBANON

RVSM TF/10-Appendix C

FIR(s): BEIRUT

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	01/12/2002	X	01/03/2003	X	28/05/2003	X	27/08/2003	X	22/10/03	X	
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	On-going .Orders placed. Will not be available by 27 November- alternative arrangements made
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	° °	- -	Refer to Appendix G for update
2.3 Have training requirements been assessed	°	-	
2.4 Issue of AIC	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°	-	
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	°	-	
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: LEBANON

RVSM TF/10-Appendix C

FIR(s): BEIRUT

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	01/12/2002	X	01/03/2003	X	28/05/2003	X	27/08/2003	X	22/10/03	X	
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reorganization.			
2.8 Conduct of local training for air traffic controllers	°	-	THEORETICAL TRAINING ONLY
2.9 Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	
2.10 Is there any need for changes to FDPS?	°	-	
2.11 Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12 Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13 Have you considered any need for changes to Medium Term Conflict Detection (MTCDD) Systems? (<i>where applicable</i>)	°	-	
2.14 Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: LEBANON

Appendix C

FIR(s): BEIRUT

Rev.004

EVALUATION DATE(s):01 MAR 2003

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	01/12/2002	<input checked="" type="checkbox"/>	01/03/2003	<input checked="" type="checkbox"/>	01/06/2003		01/09/2003				
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°		
3.2	Aircraft and Operators approval/guidance	°	-	
3.3	Procedures for non-compliant aircraft	°	-	
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	°	-	
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	-	-	90%
3.6	How many national operators have full RVSM approval	-	-	2
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	-	-	100%
3.8	Did you provide MECMA with RVSM approval documentation	°	-	
3.9	Did you nominate your State RVSM Programme Manager	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: LEBANON

Appendix C

FIR(s): BEIRUT

Rev.004

EVALUATION DATE(s):01 MAR 2003

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	01/12/2002	<input checked="" type="checkbox"/>	01/03/2003	<input checked="" type="checkbox"/>	01/06/2003		01/09/2003				
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3.10 Certification	°	-	
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES		
FUNDING/BUDGETARY ALLOTMENT	°		
TRAINING	°		

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: OMAN

RVSM TF/10-Appendix C

FIR(s): MUSCAT

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	01/12/2002	X	01/03/2003	X	28/05/2003	X	27/08/2003	X	22/10/03	X		
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	<i>(no reports received)</i>
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit report (due by 01/08/2003)	°	-	
Final review (Due by 25/08/2003)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: OMAN

RVSM TF/10-Appendix C

FIR(s): MUSCAT

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EVALUATION DATE(s):

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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	°	- No	Confirmation received that equipment will be upgraded before implementation of RVSM refer to Appendix G for <i>update (to be completed by 1st week of November 2003)</i>
2.3 Have training requirements been assessed	°	-	
2.4 Issue of aic	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°	-	
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	-	No	Not applicable now
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector reorganization.	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: OMAN

RVSM TF/10-Appendix C

FIR(s): MUSCAT

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2.8	Conduct of local training for air traffic controllers	°	-	Awareness phase has started Theoretical training completed
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	Part of the FDPS upgrade
2.10	Is there any need for changes to FDPS?	°	-	
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCDD) Systems? (<i>where applicable</i>)	°	-	
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: OMAN

RVSM TF/10-Appendix C

FIR(s): MUSCAT

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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°	-	<i>3.1 to 3.10: Update not available. To be updated at next TF/8 meeting.</i>
3.2	Aircraft and Operators approval/guidance	°	-	
3.3	Procedures for non-compliant aircraft	-	No	Investigating the issue
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	°	-	Included in JAA leaflet G
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	°	-	77%
3.6	How many national operators have full RVSM approval	°	-	2
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	°	-	100% during approval process all RVSM approved aircraft are monitored.
3.8	Did you provide MECMA with RVSM approval documentation		-	
3.9	Did you nominate your State RVSM Programme Manager	°		

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: OMAN

RVSM TF/10-Appendix C

FIR(s): MUSCAT

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3.10 Certification	°		
OTHER GENERAL REQUIRMENTS			
REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	°	-	
TRAINING	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SAUDI ARABIA

RVSM TF/10-Appendix C

FIR(s): JEDDAH

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EVALUATION DATE(s):

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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	°	-	Final data would be available shortly. <i>(In progress)</i>
Assigned Altitude Deviation (AAD) forms	°	-	
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	°	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	Nil reports
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit report (due by 01/08/2003)	°	-	
Final review (Due by 25/08/2003)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SAUDI ARABIA

RVSM TF/10-Appendix C

FIR(s): JEDDAH

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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ATC OPERATIONS ASPECTS

	REQUIRMENTS	ACTION TAKEN		REMARKS
		YES	NO	
2.1	Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	Order already placed
2.2	Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	- °	No -	Refer to Appendix G for update
2.3	Have training requirements been assessed	°	-	
2.4	Issue of aic	°	-	
2.5	Issue of AIP Supplement (15 May 2003)	°	-	
2.6	Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	-	No	Not applicable now
2.7	Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector reorganization.	-	No	Not yet ready

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SAUDI ARABIA

RVSM TF/10-Appendix C

FIR(s): JEDDAH

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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2.8	Conduct of local training for air traffic controllers	°	-	On-going activity
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	°	-	Part of the FDPS upgrade
2.10	Is there any need for changes to FDPS?	°	-	
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	°	-	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	°	-	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCDD) Systems? (<i>where applicable</i>)	-	No	
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	-	No	Not applicable

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SAUDI ARABIA

RVSM TF/10-Appendix C

FIR(s): JEDDAH

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation			In progress.
3.2	Aircraft and Operators approval/guidance			
3.3	Procedures for non-compliant aircraft		°	Not ready
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers			
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval		95%	
3.6	How many national operators have full RVSM approval		95%	
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet			
3.8	Did you provide MECMA with RVSM approval documentation			
3.9	Did you nominate your State RVSM Programme Manager	°		

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SAUDI ARABIA

RVSM TF/10-Appendix C

FIR(s): JEDDAH

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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3.10 Certification

OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	-	No-	
TRAINING	-	No	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SYRIA

RVSM TF/10-Appendix C

FIR(s): DAMASCUS

EVALUATION DATE(s):

Rev.004

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA: Assigned Altitude Deviation (AAD) forms	-	No	<i>RADAR DATA NOT AVAILABLE NOW</i> No reports received from Pilots
-Total IFR movements per month	°	-	
-Average time spent per movement at assigned levels between FL290 and FL410	°	-	
-ATC/ATC Coordination failures	-	No	
1.2 Whether any turbulence data reports have been received and sent to MECMA	°	-	
1.3 Whether traffic data has been sent	°	-	
1.4 National Safety Plan provided to MECMA	°	-	
Feedback to MECMA on audit report (due by 01/08/2003)	°	-	
Final review (due by 25/08/2003)	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SYRIA

RVSM TF/10-Appendix C

FIR(s): DAMASCUS

EVALUATION DATE(s):

Rev.004

01/06/2002	X	01/09/2002	X	26/02/2003	X	28/05/2003	X	27/08/2003	X	22/10/03	X			
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	°	-	Radar equipment upgrade due end of 2003
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment		No	Refer to Appendix G for update
2.3 Have training requirements been assessed	°	-	
2.4 Issue of AICc	°	-	
2.5 Issue of AIP Supplement (15 May 2003)	°	-	1st week of June
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	°	-	
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector reorganization.	°	-	
2.8 Conduct of local training for air traffic controllers	°	-	procedural environment

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SYRIA

RVSM TF/10-Appendix C

FIR(s): DAMASCUS

EVALUATION DATE(s):

Rev.004

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	-	No	Not installed/procedural
2.10	Is there any need for changes to FDPS?	-	No	Not installed
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	-	No	Not installed
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	-	No	
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCD) Systems? (<i>where applicable</i>)	-	No	
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	-	No	Do not exist

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SYRIA

RVSM TF/10-Appendix C

FIR(s): DAMASCUS

EVALUATION DATE(s):

Rev.004

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	°	-	
3.2	Aircraft and Operators approval/guidance	°	-	
3.3	Procedures for non-compliant aircraft	°	-	
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	-	No	
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	90%	-	13 out of 14
3.6	How many national operators have full RVSM approval	-	Nil	
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	95%	-	
3.8	Did you provide MECMA with RVSM approval documentation	°	-	
3.9	Did you nominate your State RVSM Programme Manager	°	-	
3.10	Certification	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: SYRIA

RVSM TF/10-Appendix C

FIR(s): DAMASCUS

EVALUATION DATE(s):

Rev.004

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	26/02/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>			
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	°	-	
TRAINING	°	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: UNITED ARAB EMIRATES

RVSM TF/10-Appendix C

FIR(s): EMIRATES

Rev.005

EVALUATION DATE(s):

01/06/2002	X	01/09/2002	X	01/12/2002	X	26/02/2003		25/05/2003	X	27/08/2003	X	22/10/03	X	
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA:	YES		
Assigned Altitude Deviation (AAD) forms	YES		
-Total IFR movements per month	YES		
-Average time spent per movement at assigned levels between FL290 and FL410	YES		
-ATC/ATC Coordination failures	YES		
1.2 Whether any turbulence data reports have been received and sent to MECMA	YES		
1.3 Whether traffic data has been sent	YES		
1.4 National Safety Plan provided to MECMA:	YES		
Feedback to MECMA on audit report (Due by 01 Aug 03)	Yes		
Final review (Due by 25 Aug 03, at TF/9)	Yes		

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: UNITED ARAB EMIRATES

RVSM TF/10-Appendix C

FIR(s): EMIRATES

Rev.005

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	01/12/2002	<input checked="" type="checkbox"/>	26/02/2003		25/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>	
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ATC OPERATIONS ASPECTS

	REQUIRMENTS	ACTION TAKEN		REMARKS
		YES	NO	
2.1	Have appropriate orders been made for purchase of equipment upgrade for ATC systems	YES		Installation after 27.11.03
2.2	Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	YES	N/A	Existent LOAs provide for an RVSM environment
2.3	Have training requirements been assessed	YES		
2.4	Issue of AIC	YES		
2.5	Issue of AIP Supplement (15 May 2003)	YES		AIP Supplement 03/03 issued 27 May 03
2.6	Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	YES		27 October 2003 at 1200 hrs UTC
2.7	Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector reorganization.	YES		

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: UNITED ARAB EMIRATES

RVSM TF/10-Appendix C

FIR(s): EMIRATES

Rev.005

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	01/12/2002	<input checked="" type="checkbox"/>	26/02/2003		25/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>	
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2.8	Conduct of local training for air traffic controllers	-	No	Awareness phase has started-Oct/Nov/03 Training scheduled for October & November 2003
2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	YES	-	Included in updated procedures for strip marking
2.10	Is there any need for changes to FDPS?		NO	Existent FPDS is sufficient. Installation of the new ATC equipment upgrade will include FDPS upgrade.
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)		NO	
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)		-	Not applicable
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCD) Systems? (<i>where applicable</i>)		-	Not applicable
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)		-	Not applicable

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: UNITED ARAB EMIRATES

RVSM TF/10-Appendix C

FIR(s): EMIRATES

Rev.005

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	01/12/2002	<input checked="" type="checkbox"/>	26/02/2003		25/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>	
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	YES		
3.2	Aircraft and Operators approval/guidance	YES		
3.3	Procedures for non-compliant aircraft	YES		
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	YES		
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	89%	-	72out of 814 jet aircraft
3.6	How many national operators have full RVSM approval	8		
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	93%		
3.8	Did you provide MECMA with RVSM approval documentation	YES		
3.9	Did you nominate your State RVSM Programme Manager	YES		
3.10	Certification	YES		Incorporated in the safety plan

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIREMENTS**

STATE: UNITED ARAB EMIRATES

RVSM TF/10-Appendix C

FIR(s): EMIRATES

Rev.005

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input checked="" type="checkbox"/>	01/12/2002	<input checked="" type="checkbox"/>	26/02/2003		25/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>	22/10/03	<input checked="" type="checkbox"/>	
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	YES	-	
TRAINING	YES	-	Material available planning in progress – scheduled for Oct/Nov 03

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: YEMEN

RVSM TF/10-Appendix C

FIR(s): SANA'A

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002		01/12/2002		01/03/2003	X	28/05/2003	X	27/08/2003	X				
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SAFETY AND AIRSPACE MONITORING ASPECTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
1.1 -To verify whether the following reports are regularly being sent to MECMA: Assigned Altitude Deviation (AAD) forms	✓	-	No deviations observed or reported
-Total IFR movements per month	✓	-	
-Average time spent per movement at assigned levels between FL290 and FL410	✓	-	
-ATC/ATC Coordination failures	✓	-	
1.2 Whether any turbulence data reports have been received and sent to MECMA	✓	-	No reports received
1.3 Whether traffic data has been sent	✓		
1.4 National Safety Plan provided to MECMA	✓	-	
Feedback to MECMA on audit report (Due by 01/08/2003)	✓	-	
Final review (Due by 25/08/2003)	✓-	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: YEMEN

RVSM TF/10-Appendix C

FIR(s): SANA'A

Rev.004

EVALUATION DATE(s):

01/06/2002	X	01/09/2002		01/12/2002		01/03/2003	X	28/05/2003	X	27/08/2003	X				
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ATC OPERATIONS ASPECTS

REQUIRMENTS	ACTION TAKEN		REMARKS
	YES	NO	
2.1 Have appropriate orders been made for purchase of equipment upgrade for ATC systems	✓	-	
2.2 Documentations/procedures Have contingency plans been made in case equipment upgrade not received on time Have letters of agreement been signed with adjacent centres for provision of services in an RVSM environment	✓	-	Refer to Appendix G for update
2.3 Have training requirements been assessed	✓	-	
2.4 Issue of AIC	✓	-	
2.5 Issue of AIP Supplement (15 May 2003)	✓	-	
2.6 Trigger NOTAM to be issued in October 2003 for confirming implementation of RVSM	-	No	
2.7 Evaluation of the need to carry out simulations to assess ATC workload and consideration of possible requirements for airspace/route and/or sector reorganization.	✓	-	
2.8 Conduct of local training for air traffic controllers	✓	-	Initial training, April 2003

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: YEMEN

RVSM TF/10-Appendix C

FIR(s): SANA'A

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input type="checkbox"/>	01/12/2002	<input type="checkbox"/>	01/03/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>				
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2.9	Have you considered the need for changes to flight strips? (Non-RVSM, State aircraft etc..)	✓	-	Flight strips being prepared manually at present
2.10	Is there any need for changes to FDPS?	✓	-	
2.11	Is there any need to changes in radar display systems? (<i>where applicable</i>)	✓	-	Not applicable
2.12	Have you considered the need for changes to Short Term Conflict Alerts(STCAs)? – (<i>where applicable</i>)	✓	-	Not applicable
2.13	Have you considered any need for changes to Medium Term Conflict Detection (MTCD) Systems? (<i>where applicable</i>)	✓	-	Not applicable
2.14	Have you considered any need for changes to On-Line Data Interchange (OLDI)? (<i>where applicable</i>)	✓	-	Not applicable

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: YEMEN

Appendix C

FIR(s): SANA'A

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input type="checkbox"/>	01/12/2002	<input type="checkbox"/>	01/03/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>			
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AIRCRAFT OPERATIONS AND AIRWORTHINESS ASPECTS

	REQUIREMENTS	ACTION TAKEN		REMARKS
		YES	NO	
3.1	National Regulations for RVSM Implementation	✓	-	
3.2	Aircraft and Operators approval/guidance	✓	-	
3.3	Procedures for non-compliant aircraft	-*	-	March 2003
3.4	Development of RVSM Training Curriculum for flight crew members and dispatchers	✓	-	
3.5	What is the percentage ratio of the national aircraft that received RVSM airworthiness approval	✓	-	95%
3.6	How many national operators have full RVSM approval	-	-	1
3.7	What is the percentage ratio of aircraft actually monitored with each operator's fleet	-	-	To be notified in due course
3.8	Did you provide MECMA with RVSM approval documentation	✓	-	
3.9	Did you nominate your State RVSM Programme Manager	✓	-	
3.10	Certification	✓	-	

**EVALUATION FORM CHECKLIST
MID RVSM IMPLEMENTATION MILESTONES/REQUIRMENTS**

STATE: YEMEN

Appendix C

FIR(s): SANA'A

Rev.004

EVALUATION DATE(s):

01/06/2002	<input checked="" type="checkbox"/>	01/09/2002	<input type="checkbox"/>	01/12/2002	<input type="checkbox"/>	01/03/2003	<input checked="" type="checkbox"/>	28/05/2003	<input checked="" type="checkbox"/>	27/08/2003	<input checked="" type="checkbox"/>			
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OTHER GENERAL REQUIRMENTS

REQUIREMENTS	ACTION TAKEN		REMARKS
	YES	NO	
FUNDING/BUDGETARY ALLOTMENT	✓		INFORMATION TO BE PROVIDED AT A LATER STAGE
TRAINING	✓		

MID RVSM TF/10
Appendix D to the Report

**Draft Proposal for Amendment of
Regional Supplementary Procedures ICAO Doc 7030/4
(Serial No. - MID/ASIA-S 03/1 RAC)**

Note: This proposal has been forwarded to be approved by the President of the ICAO Council on 1 October 2003

- a) **Regional Supplementary Procedures, Doc 7030/4:** MID/ASIA/RAC
- b) **Proposing States:** Bahrain, Egypt, Iran, Jordan, Lebanon, Oman, Saudi Arabia, Syria, United Arab Emirates, Yemen
- c) **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).

1. **Renumber** Sections 4 to 14 to read 5 to 15
2. **Add** the following provisions for Air-ground Communications Failure in Section 4,
3. **Amend** the existing provisions for Special Procedures for In-flight Contingencies in section 5 and
4. **Amend** Section 7.5 (Vertical Separation) to include provisions for the implementation of RVSM in the MID Region

**“4.0 Action In The Event Of Air-Ground Communications Failure
(A2 - 3.6.5.2; P-ATM, 8.8.3, 15.2)**

4.1.1 ~~As soon as it is known that two-way communication has failed, ATC shall maintain separation between the aircraft having the communication failure and other aircraft based on the assumption that the aircraft will operate in accordance with 4.2 or 4.3.~~

Note.— The following expands upon the requirements contained in Annex 2, 3.6.5.2 and PANS-ATM, 8.8.3 and 15.2, and specifies additional details regarding air-ground communications failure.

4.2 Visual Meteorological Conditions (VMC)

4.2.1 Except as provided in 4.3.1, a controlled flight experiencing communication failure in VMC shall:

- a) **set transponder to Code 7600;**
- b) **continue to fly in VMC;**
- c) **land at the nearest suitable aerodrome;**
- d) **report its arrival time by the most expeditious means to the appropriate air traffic control unit.**

4.3 Instrument Meteorological Conditions (IMC)

4.3.1 A controlled IFR flight experiencing communications failure in IMC, or in VMC when it does not appear feasible to continue in IMC, within the Amman, Bahrain, Beirut, Cairo, Damascus, Emirates, Jeddah, Kuwait, Muscat (continental part), Sana'a (continental part), and Teheran FIRs shall:

- a) set transponder to Code 7600; and
- b) maintain the last assigned speed and level or the minimum flight altitude, if the minimum flight altitude is higher than the last assigned level, for a period of 7 minutes. **The period of 7 minutes commences:**
 - 1) if operating on a route without compulsory reporting points or has been instructed to omit position reports:
 - i) at the time the last assigned level or minimum flight altitude is reached, or
 - ii) at the time the aircraft sets transponder to Code 7600, whichever is later; or
 - 2) if operating on a route with compulsory reporting **points and no instruction to omit position reports has been received:**
 - i) at the time the last assigned level or minimum flight altitude is reached, or
 - ii) at the previously reported pilot estimate for the compulsory reporting point, or
 - iii) at the time the aircraft fails to report its position over a compulsory reporting point, whichever is later;

- c) thereafter, adjust level and speed in accordance with the filed flight plan;

Note.— With regard to changes to levels and speed, the filed flight plan, which is the flight plan as filed with an ATS unit by the pilot or a designated representative without any subsequent changes, will be used.

- d) if being radar vectored or proceeding offset according to RNAV without a specified limit, proceed in the most direct manner possible to rejoin the current flight plan route no later than the next significant point, taking into consideration the applicable minimum flight altitude;

Note.— With regard to the route to be flown or the time to begin descent to the arrival aerodrome, the current flight plan, which is the flight plan, including changes, if any, brought about by subsequent clearances, will be used.

- e) proceed according to the current flight plan to the appropriate designated navigation aid serving the destination aerodrome and, when required to ensure compliance with **4.3 f), hold over this aid until commencement of descent;**

f) commence descent from the navigation aid specified in 4.3 e) at, or as close as possible to, the expected approach time last received and acknowledged or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan;

- g) complete a normal instrument approach procedure as specified for the designated navigation aid; and

h) land, if possible, within thirty minutes after the estimated time of arrival specified in **4.3 f) or the last acknowledged expected approach time, whichever is later.**

Note.— Pilots are reminded that the aircraft may not be in an area of secondary surveillance radar coverage.

5.0 SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

5.1 General Procedures

5.1.1 The following general procedures apply to both subsonic and supersonic aircraft. Although all possible contingencies cannot be covered, they provide for cases of inability to maintain assigned level due to weather, aircraft performance, pressurization failure and problems associated with high-level supersonic flight. They are applicable primarily when rapid descent and/or turn-back or diversion to an alternate airport are required. The pilot's

judgment shall determine the sequence of actions taken, taking into account specific circumstances.

5.1.2 If an aircraft is unable to continue flight in accordance with its ATC clearance, a revised clearance shall, whenever possible, be obtained prior to initiating any action, using a distress or urgency signal, as appropriate.

5.1.3 If prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time and, until a revised clearance is received, the pilot shall:

- a) if possible, deviate away from an organized track or route system **before commencing an emergency descent**;
- b) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, aircraft position, (including the ATS route designator or the track code) and intentions on the frequency in use, as well as on frequency 121.5 MHz (or, as a back-up, the VHF inter-pilot air-to-air frequency 123.45 MHz);
- c) watch for conflicting traffic both visually and by reference to ACAS (if equipped);
- d) turn on all aircraft exterior lights (commensurate with appropriate operating limitations)-;
- e) advise the appropriate air traffic control unit as soon as possible of the emergency descent;
- f) set the transponder to Code 7700 and select Emergency Mode on automatic dependent surveillance/controller-pilot data link communications (ADS/CPDLC) system, if applicable; and
- g) coordinate further intentions with the appropriate ATC unit.

5.1.3.1 The aircraft shall not descend below the lowest published minimum altitude which will provide a minimum vertical clearance of 300 m (1000 ft) or in designated mountainous terrain 600 m (2000 ft) above all obstacles located in the area specified.

5.1.4 *Action by the air traffic control unit*

5.1.4.1 Immediately upon recognizing that an emergency descent is in progress, air traffic control units shall acknowledge the emergency on radiotelephony (RTF) and take all necessary action to safeguard all aircraft concerned.

5.1.4.2 In particular, they may, as required by the situation:

- a) suggest a heading to be flown, if able, by the aircraft carrying out the emergency descent in order to achieve spacing from other aircraft concerned;
- b) state the minimum altitude for the area of operation, only if the level-off altitude stated by the pilot is below such minimum altitude, together with the applicable QNH altimeter setting;
- c) as soon as possible, provide separation with conflicting traffic, or issue essential traffic information, as appropriate.

5.1.4.3 When deemed necessary, air traffic control will broadcast an emergency message, or cause such message to be broadcast, to other aircraft concerned to warn them of the emergency descent.

5.2 Special Procedures for subsonic aircraft and/or turn-back or diversion to an alternate airport due to aircraft system malfunction or other contingencies

Note.— Additional procedures for in-flight contingencies involving a loss of vertical navigation performance required for flights within the MID RVSM airspace are contained in paragraph 5.3.

5.2.1 Initial action

5.2.1.1 If unable to comply with the provisions of 5.1.2 to obtain a revised ATC clearance, the aircraft should leave its assigned route or track by turning 90 degrees to the right or left whenever this is possible. The direction of the turn should, where possible, be determined by the position of the aircraft relative to any organized route or track system, e.g. whether the aircraft is outside, at the edge of, or within the system. Other factors to consider are the direction to the alternate airport, terrain clearance and the levels allocated to adjacent routes or tracks.

5.2.2 Subsequent action (RVSM airspace)

5.2.2.1 In RVSM airspace, an aircraft able to maintain its assigned flight level should turn to acquire and maintain in either direction a track laterally separated by 46 km (25 NM) from its assigned route or track in a multi-track system spaced at 93 km (50 NM) or otherwise, at a distance which is the mid-point from the adjacent parallel route or track; and

- a) if above FL 410, climb or descend 300 m (1 000 ft); or
- b) if below FL 410, climb or descend 150 m (500 ft); or

- c) if at FL 410, climb 300 m (1 000 ft) or descend 150 m (500 ft).

5.2.2.2 An aircraft that is unable to maintain its assigned flight level should:

- a) initially minimize its rate of descent to the extent that it is operationally feasible;
- b) turn while descending to acquire and maintain in either direction a track laterally separated by 46 km (25 NM) from its assigned route or track in a multi-track system spaced at 93 km (50 NM) or otherwise, at a distance which is the mid-point from the adjacent parallel route or track; and
- c) for the subsequent level flight, select a level which differs from those normally used by 300 m (1 000 ft) if above FL 410, or by 150 m (500 ft) if below FL 410.

5.2.3 *Subsequent action (non-RVSM airspace)*

5.2.3.1 In non-RVSM airspace, an aircraft able to maintain its assigned flight level should turn to acquire and maintain in either direction a track laterally separated by 46 km (25 NM) from its assigned route or track in a multi-track system spaced 93 km (50 NM) or otherwise, at a distance which is the mid-point from the adjacent parallel route or track and:

- a) if above FL 290, climb or descend 300 m (1 000 ft); or
- b) if below FL 290, climb or descend 150 m (500 ft); or
- c) if at FL 290, climb 300 m (1 000 ft) or descend 150 m (500 ft).

5.2.3.2 An aircraft unable to maintain its assigned level flight should:

- a) initially minimize its rate of descent to the extent that it is operationally feasible;
- b) turn while descending to acquire and maintain in either direction a track laterally separated by 46 km (25 NM) from its assigned route or track in a multi-track system spaced at 93 km (50 NM) or otherwise, at a distance which is the mid-point from the adjacent parallel route or track; and
- c) for the subsequent level flight, a level should be selected which differs from those normally used by 300 m (1 000 ft) if above FL 290 or by 150 m (500 ft) if below FL 290.

5.2.4. DIVERSION ACROSS THE FLOW OF ADJACENT TRAFFIC.

Before diverting across the flow of adjacent traffic, the aircraft should climb above FL 410 or descend below FL 280 using the procedures specified in 5.2.1 or 5.2.2 or 5.2.3. However, if the pilot is unable or unwilling to carry out a major climb or descent, the aircraft should be flown at a level as defined in 5.2.2.1 or 5.2.3.1 until a revised ATC clearance is obtained.

5.2.5 EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER UNITS (ETOPS). If these contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or a failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved and request expeditious handling.

5.3 Special procedures for in-flight contingencies involving a loss of vertical navigation performance.

Note.— Applicable within Amman, Bahrain, Beirut, Cairo, Damascus, Emirates, Jeddah, Kuwait, Muscat (continental part), Sana'a (continental part) and Teheran FIRs.

5.3.1 Degradation of aircraft equipment — pilot reported

5.3.1.1 When informed by the pilot of an RVSM approved aircraft operating in the MID RVSM airspace that the aircraft's equipment no longer meets the RVSM MASPS, ATC shall consider the aircraft as non-RVSM approved.

5.3.1.2 ATC shall take action immediately to provide a minimum vertical separation of 600 m (2 000 ft) or an appropriate horizontal separation from all other aircraft concerned that are operating in the MID RVSM airspace. An aircraft rendered non-RVSM approved shall normally be cleared out of the RVSM airspace by ATC when it is possible to do so.

5.3.1.3 Pilots shall inform ATC, as soon as practicable, of any restoration of the proper functioning of equipment required to meet the RVSM MASPS.

5.3.1.4 The first ACC to become aware of a change in an aircraft's RVSM status shall coordinate with adjacent ACCs, as appropriate.

5.3.2 Severe turbulence — not forecast

5.3.2.1 When an aircraft operating in the RVSM airspace encounters severe turbulence due to weather or wake vortex that the pilot believes will impact the aircraft's capability to maintain its cleared flight level, the pilot shall inform ATC. ATC shall establish either an appropriate horizontal separation or an increased minimum vertical separation.

5.3.2.2 ATC shall, to the extent possible, accommodate pilots requests for flight level and/or route changes and shall pass on traffic information as required.

5.3.2.3 ATC shall solicit reports from other aircraft to determine whether RVSM should be suspended entirely or within a specific flight level band and/or area.

5.3.2.4 The ACC suspending RVSM shall coordinate such suspension(s) with and any required adjustments to sector capabilities with adjacent ACCs, as appropriate, to ensure an orderly progression to the transfer of traffic.

5.3.3 *Severe turbulence — forecast*

5.3.3.1 When a meteorological forecast is predicting severe turbulence, ATC shall determine whether RVSM should be suspended and, if so, the period of time and specific flight level(s) and/or area.

5.3.3.2 In cases where RVSM will be suspended, the ACC suspending RVSM shall coordinate with adjacent ACCs with regard to flight levels appropriate for the transfer of traffic, unless a contingency flight level allocation scheme has been determined by letter of agreement. The ACC suspending RVSM shall also coordinate applicable sector capabilities with adjacent ACCs as appropriate.

5.4 Weather deviation procedures for oceanic-controlled airspace

5.4.1 General

5.4.1.1 The following procedures are intended to provide guidance. All possible circumstances cannot be covered. The pilot's judgment shall ultimately determine the sequence of actions taken, and ATC shall render all possible assistance.

5.4.1.2 If the aircraft is required to deviate from track to avoid weather and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the aircraft shall follow the procedures detailed in paragraph 5.5.4 below.

5.4.1.3 The pilot shall advise ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to the center line of its cleared route.

5.4.2 *Obtaining priority from ATC when weather deviation is required*

5.4.2.1 When the pilot initiates communications with ATC, rapid response may be obtained by stating "WEATHER DEVIATION REQUIRED" to

indicate that priority is desired on the frequency and for ATC response.

5.4.2.2 The pilot still retains the option of initiating the communications using the urgency call “PAN PAN” (preferably spoken three times) to alert all listening parties to a special handling condition which will receive ATC priority for issuance of a clearance or assistance.

5.4.3 *Actions to be taken when controller-pilot communications are established*

- a) Pilot notifies ATC and requests clearance to deviate from track, advising, when possible, the extent of the deviation expected.
- b) ATC takes one of the following actions:
 - 1) if there is no conflicting traffic in the horizontal dimension, air traffic control will issue clearance to deviate from track; or
 - 2) if there is conflicting traffic in the horizontal dimension, ATC separates aircraft by establishing vertical separation; or
 - 3) if there is conflicting traffic in the horizontal dimension and ATC is unable to establish appropriate separation, ATC shall:
 - i) advise the pilot of inability to issue clearance for requested deviation; and
 - ii) advise the pilot of conflicting traffic; and
 - iii) request pilot’s intentions.

SAMPLE PHRASEOLOGY:

“UNABLE (*requested deviation*), **TRAFFIC IS** (*call sign, position, altitude, direction*), **ADVISE INTENTIONS.**”

- c) Pilot will take the following actions:
 - 1) advise ATC of intentions by the most expeditious means available; and
 - 2) comply with ATC clearance issued; or
 - 3) execute the procedures detailed in 5.5.4 below. (ATC will issue essential traffic information to all affected aircraft); and
 - 4) if necessary, establish voice communications with ATC to expedite

dialogue on the situation

5.4.4 *Actions to be taken if a revised ATC clearance cannot be obtained.*

5.4.4.1 The provisions of this section apply to situations where pilot has the need to exercise the authority of a pilot-in-command under the provisions of Annex 2 paragraph 2.3.1.

5.4.4.2 If a revised ATC clearance cannot be obtained and deviation from track is required to avoid weather, the pilot shall take the following actions:

- a) if possible, deviate away from an organized track or route system;
- b) broadcast aircraft position and intentions on the frequency in use, as well as on frequency 121.5 MHz, as suitable intervals stating: flight identification (operator call sign), flight level, track code or ATS route designator, and extent of deviation expected establish communication with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, aircraft position (including the ATS route designator or the track code) and intentions (including the magnitude of the deviation expected) on the frequency in use, as well as on frequency 121.5 MHz (or, as a back-up, the VHF inter-pilot air-to-air frequency 123.45 MHz).
- c) watch for conflicting traffic both visually and by reference to ACAS (if equipped);

Note.— If, as a result of actions taken under paragraphs 5.4.4.2 b) and c) above, the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

- d) turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
- e) for deviations of less than 19 km (10 NM), aircraft should remain at the level assigned by ATC;
- f) for deviations of greater than 19 km (10NM), when the aircraft is approximately 19 km (10 NM) from track, initiate a level change based on the criteria in Table 1;
- g) when returning to track, be at its assigned flight level, when the aircraft is within approximately 19 km (10 NM) of centre line; and

- h) if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

7.5 Vertical separation

The minimum vertical separation that shall be applied between FL 290 and FL 410 inclusive is 300 m (1 000 ft).

7.5.1 *Area of applicability*

7.5.1.1 The reduced vertical separation minimum (RVSM) shall be applied for flights within the *Amman, Auckland Oceanic, *Bahrain, Bali, Bangkok, *Beirut, Brisbane, *Cairo, *Damascus, *Emirates, Hanoi, Ho Chi Minh, Hong Kong, Honiara, Jakarta, *Jeddah, Kota Kinabalu, Kuala Lumpur, *Kuwait, Manila, Melbourne, *Muscat, Naha, Nauru, New Zealand, Phnom Penh, Port Moresby, *Sana'a, Singapore, Taipei, *Teheran, Tokyo, Ujung Pandang, and Vientiane flight information regions (FIRs).

7.5.2 *RVSM approval*

7.5.2.1 The minimum separation in 7.5 shall only be applied between aircraft and operators that have been approved by the State of Registry or the State of the Operator, as appropriate, to conduct flights in RVSM airspace and that are capable of meeting the minimum aircraft system performance specification (MASPS) height-keeping requirements (or equivalent).

7.5.3 *MASPS*

7.5.3.1 The MASPS height-keeping requirements are as follows:

- a) for all aircraft, the differences between cleared flight level and the pressure altitude actually flown shall be symmetric about a mean of 0 m (0 ft), shall have a standard deviation no greater than 13 m (43 ft) and shall be such that the error frequency decreases with increasing magnitude at a rate which is at least exponential;
- b) for groups of aircraft that are nominally of identical design and build with respect to all details that could influence the accuracy of height-keeping performance in the RVSM flight envelope (FL 290 to FL 410 inclusive):
 - 1) the mean altimetry system error (ASE) of the group shall not exceed 25 m (80 ft) in magnitude; and
 - 2) the sum of the absolute value of the mean ASE and of three standard

deviations of ASE shall not exceed 75 m (245 ft);

c) for non-group aircraft for which the characteristics of the airframe and altimetry system fit are unique and so cannot be classified as belonging to a group of aircraft, the ASE shall not exceed 61 m (200 ft) in magnitude in the RVSM flight envelope (FL 290 to FL 410 inclusive); and

d) the following criteria shall be used in the operational assessment of airspace system safety: the total vertical error (TVE), which is the difference between the geometric height of the aircraft and the geometric height of the flight level to which it is assigned, is required to be such that:

- 1) the probability that TVE equal to or greater than 91 m (300 ft) in magnitude is equal to or less than 2.0×10^{-3} ;
- 2) the probability that TVE equal to or greater than 152 m (500 ft) in magnitude is equal to or less than 5.0×10^{-6} ;
- 3) the probability that TVE equal to or greater than 200 m (650 ft) in magnitude is equal to or less than 1.4×10^{-6} ;
- 4) the probability that TVE between 290 m and 320 m (950 ft and 1 050 ft), inclusive, in magnitude is equal to or less than 1.7×10^{-7} ; and
- 5) the proportion of time that aircraft spend at incorrect flight levels, 300 m (1 000 ft), or multiples thereof, away from assigned flight levels is equal to or less than 7.1×10^{-7} .

Note.— Guidance material regarding the initial achievement and continued maintenance of the height-keeping performance in 7.5.3.1 is contained in the Guidance Material on the Implementation of a 300 m (1 000 ft) Vertical Separation Minimum (VSM) for Application in the Airspace of the Asia/Pacific Region.

7.5.4 Target level of safety (TLS)

7.5.4.1 *Except for the airspace forming part of the MID RVSM area, where a TLS of 3.75×10^{-9} fatal accidents per aircraft flight hour due to all causes of risk in the vertical dimension has been specified, the application of RVSM in the other airspace designated in 7.5.1.1 shall meet a TLS of 5×10^{-9} fatal accidents per aircraft flight hour due to all causes of risk in the vertical dimension.

*Note.— * The rationale for choosing a TLS value of TLS of 3.75×10^{-9} fatal accidents (1.25×10^{-9} for technical risk and 2.5×10^{-9} for operational risk) per aircraft flight hour due to all causes of risk in the vertical dimension in the MID RVSM airspace, is to ensure that the TLS*

value of 2.5×10^{-9} for technical risk will not be infringed with future projected traffic growths and the system remains safe for a period of at least 12 years.

7.5.5 Approval status and aircraft registration

7.5.5.1 Item 10 of the flight plan (Equipment) shall be annotated with the letter W if the aircraft and operator have received RVSM State approval. Furthermore, the aircraft registration shall be indicated in Item 18 of the flight plan.

7.5.6 Operation of aircraft not approved for RVSM

7.5.6.1 Aircraft that have not received RVSM State approval may be cleared to operate in airspace where RVSM may be applied in accordance with policy and procedures established by the State provided that 600 m (2 000 ft) vertical separation is applied.

7.5.7 Monitoring

7.5.7.1 *Adequate monitoring of flight operations in the Asia and Pacific RVSM airspace shall be conducted to assist in the assessment of continuing compliance of aircraft with the height-keeping capabilities in 7.5.3.1. Monitoring shall include assessment of other sources of risk to ensure that the TLS specified in 7.5.4.1 is not exceeded.*

Note.— Details of the policy and procedures for monitoring established by the Asia/Pacific Air Navigation Planning and Implementation Regional Group and the Middle East Planning and Implementation Regional Group (MIDANPIRG) are contained in the Guidance Material on the Implementation of a 300 m (1 000 ft) Vertical Separation Minimum (VSM) for Application in the Airspace of the Asia/Pacific Region and the MID Region ATC Manual and OPS/AIR Manual.

7.5.8 Wake turbulence procedures

7.5.8.1 The following special procedures are applicable to mitigate wake turbulence encounters in airspace where RVSM is applied.

7.5.8.1.1 An aircraft that encounters wake turbulence should notify air traffic control (ATC) and request a revised clearance. However, in situations where a revised clearance is not possible or practicable:

a) the pilot should establish contact with other aircraft, if possible, on the appropriate VHF inter-pilot air-to-air frequency; and

b) one (or both) aircraft may initiate lateral offset(s) not to exceed 2 NM from the assigned route(s) or track(s), provided that:

- 1) as soon as it is practicable to do so, the offsetting aircraft notify ATC that temporary lateral offset action has been taken and specify the reason for doing so; and
- 2) the offsetting aircraft notify ATC when re-established on assigned route(s) or track(s).

Note.— In the contingency circumstances above, ATC will not issue clearances for lateral offsets and will not normally respond to action taken by pilots.

Table 1.

Route centre line Track	Deviations >19 km (10 NM)	Level change
EAST 000-179° magnetic	LEFT RIGHT	DESCEND 90 m (300 ft) CLIMB 90 m (300 ft)
WEST 180-359° magnetic	LEFT RIGHT	CLIMB 90 m (300 ft) DESCEND 90 m (300 ft)

d) **Proposers' reasons for amendment:**

a) In view of the proposed implementation of RVSM in the MID Region with effect from 27 November 2003, the ICAO RVSM Implementation Task Force for MID Region has accordingly reviewed air-ground communications failure procedures, special procedures for in-flight contingencies (including emergency descents, weather deviation procedures) and has developed new provisions for the implementation of RVSM in the MID Region.. This amendment updates the existing text based on operational experience following RVSM implementation in other regions;

e) **Proposed implementation date of the amendment:**

27 November 2003

f) **Proposal circulated to the following States and International Organizations:**

- | | | |
|-------------|---------------------------|---------------------|
| Afghanistan | Greece | Papua New Guinea |
| Albania | Guinea | Peru |
| Algeria | Guinea-Bissau Hungary | Philippines |
| Angola | Iceland | Poland |
| Argentina | India | Portugal |
| Armenia | Indonesia | Qatar |
| Australia | Iran, Islamic Republic of | Republic of Korea |
| Austria | Iraq | Republic of Moldova |

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Azerbaijan	Ireland	Romania
Bahrain	Israel Italy	Russian Federation
Bangladesh	Japan	Rwanda
Belarus	Jordan	Samoa
Belgium	Kazakhstan	San Marino
Benin	Kenya	Sao Tome and Principe
Bhutan	Kiribati	Saudi Arabia
Bosnia and Herzegovina	Kuwait	Senegal
Botswana	Kyrgyzstan	Seychelles
Brazil	Lao People's	Sierra Leone
Brunei Darussalam	Democratic Republic	Singapore
Bulgaria	Latvia	Slovakia
Burkina Faso	Lebanon	Slovenia
Burundi	Lesotho	Solomon Islands
Cambodia	Liberia	Somalia
Cameroon	Libyan Arab	South Africa
Canada	Jamahiriya	Spain
Cape Verde	Lithuania	Sri Lanka
Central African	Luxembourg	Sudan
Republic	Madagascar	Swaziland
Chad	Malawi	Sweden
Chile	Malaysia	Switzerland
China	Maldives	Syrian Arab Republic
(cc: Hong Kong, China)	Mali	Tajikistan
(cc: Macao, China)	Malta	Thailand
Comoros	Marshall Islands	Togo
Congo	Mauritania	Tonga
Cook Islands	Mauritius	Tunisia
Cote d'Ivoire	Mexico	Turkey
Croatia	Micronesia,	Turkmenistan
Cyprus	Federated States of	Uganda
Czech Republic	Monaco	Ukraine
Democratic People's	Mongolia	United Arab Emirates*
Republic of Korea	Morocco	United Kingdom
Denmark	Mozambique	United Republic of
Djibouti	Myanmar	Tanzania
Ecuador	Namibia	United States
Egypt	Nauru	Uzbekistan
Equatorial Guinea	Nepal	Vanuatu
Eritrea	Netherlands	Viet Nam
Estonia	Kingdom of the	Yemen
Ethiopia	New Zealand	Zambia
Fiji	Niger	Zaire
Finland	Nigeria	Zimbabwe
France	Norway	IATA
Gabon	Oman	IFALPA
Gambia	Pakistan	IFATCA
Georgia	Palau	
Germany		
Ghana		

* For information only

g) Secretariat comments:

- a) A review following the proposed implementation of RVSM in the Middle East Region with effect from 27 November 2003, has necessitated an amendment to the existing In-flight Communications Failure Procedures, Special Procedures for In-flight Contingencies and the inclusion of provisions for the implementation of RVSM

- b) This amendment proposal has been modelled on the existing provisions in other regions and will enhance harmonization of procedures, between the European, Middle East/Asia and Pacific Regions
- c) This amendment proposal is inclusive of amendment proposal APAC-S 01/3

MID RVSM TF/10
Appendix E to the Report

**(TRIGGER NOTAM SPECIMEN)
FOR RVSM IMPLEMENTATION
IN MID REGION FIRs**

(to be issued on 27 October 2003 at 1200 UTC)

EFFECTIVE 27 NOVEMBER 2003 AT 0200 UTC, REDUCED VERTICAL SEPARATION MINIMUM (RVSM) OF 1,000 FT, BETWEEN FL290 AND FL410 INCLUSIVE, WILL BE APPLIED BETWEEN RVSM COMPLIANT AIRCRAFT OPERATING IN THE FIR.

RVSM COMPLIANT AIRCRAFT MAY OPERATE WITHINFIR RVSM AIRSPACE AFTER SUBMITTING A FLIGHT PLAN INDICATING APPROPRIATE RVSM STATUS IN ITEM 10 OF THE ICAO FLIGHT PLAN FORM.

NON-RVSM COMPLIANT AIRCRAFT THAT INTEND TO OPERATE WITHIN THIS RVSM AIRSPACE
WILL NOT BE PERMITTED.

NON-RVSM COMPLIANT STATE AIRCRAFT MAY OPERATE IN RVSM AIRSPACE IN THE FIR ACCORDING TO THE PROCEDURES IN AIP SUPPLEMENT, *(insert number and date)*.

MID RVSM TF/10
Appendix F to the Report

**PROCEDURES FOR THE HANDLING OF UNCOORDINATED FLIGHTS CROSSING
THE RED SEA AREA**

The following procedures have been agreed within the framework of a meeting organized under the aegis of the Arab Civil Aviation Commission (ACAC) held in Cairo from 21 –22 August 2003.

Uncoordinated flights operating within the Red Sea area will implement the following procedures as from 27 November 2003:

1. Committing all uncoordinated flights over the Red Sea to squawk the Radar Code A2000.
The representative of IATA was assigned the task of notifying concerned airlines operating in this region of the importance of such issue. Representatives of the concerned States were also informed of the necessity of reporting to IATA any aircraft that do not use the Radar Code A2000.
2. Uncoordinated flights should maintain a single flight level (FL) while crossing the Red Sea from south to north, namely FL300.
3. Uncoordinated flights should maintain a single flight level (FL) while crossing the Red Sea from north to south, namely FL290, unless otherwise is coordinated.
4. Uncoordinated flights crossing the Red Sea should provide their flight details on the working frequencies of the concerned Air Traffic Control Centers (ACCs), namely Sana'a, Jeddah, Khartoum, and Cairo and notify these centers of the following data: callsign, direction, altitude, time of crossing the reporting points along the boundaries of the FIR.
5. Uncoordinated flights crossing the Red Sea should transmit their flight details 10 minutes prior to crossing the boundaries of the concerned FIR and the compulsory reporting points in addition to listen on to the appropriate frequencies in order to identify other civil aircraft that may conflict with them and represent risk of collision.
6. Civil Aviation Authorities of the concerned States should instruct their ACCs to develop procedures for the communication of appropriate information regarding uncoordinated flights; survey and register irregularities by these uncoordinated flights; and find an appropriate mechanism in coordination with regional offices and other international bodies to commit these flights to conformity with the reached recommendations.
7. Increase the awareness of air traffic controllers at ACCs in the concerned States of this situation and of the potential risks; in addition to benefit from radar facilities for the monitoring of non-conforming flights.
8. All flights flying in the center of the Red Sea and maintaining RVSM Flight levels (between FL290-FL410) should be RVSM approved in accordance with the MID Region requirements.
9. Unless otherwise coordinated, all the abovementioned flights, in case of non-compliance with the Region's requirements for flying in an RVSM area, should be allocated two Flight levels, namely FL250 and FL260.

10. All navigational information regarding aircraft on direct routes in the center of the Red Sea and considered unidentified by the air traffic control centers should be sent via either via AFTN or any other means.
11. *IATA will assist in requesting civil flights operating within Sanaá FIR to operate on established ATS routes.
12. The agreement above should be added in the form of Letters of Agreement (LOAs) between the ACCs of the concerned Arab States.

*Note:- * Included in the agreement at the request on Yemen*

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STATUS OF LAOs SINCE RVSM TF/9 MEETING

STATUS OF LETTERS OF AGREEMENT (LOAs)						
States	ACCs concerned	Adjacent ACCs	Status of LOAs			Remarks
			Draft	Final	Signed	
Bahrain	Bahrain	Emirates			X	<i>No change</i>
		Jeddah		X		<i>to be finalized/signed by 1st week of November</i>
		Kuwait		X		<i>to be finalized/signed by 1st week of November</i>
		Tehran		X		<i>to be finalized/signed by 1st week of November</i>
		Muscat		X		<i>to be finalized/signed by 1st week of November</i>
Egypt	Cairo	Amman			X	
		Athens			X	
		Jeddah		X		<i>to be finalized/signed by 1st week of November</i>
		*Khartoum			X	
		Nicosia			X	
		Tel Aviv			X	
		Tripoli	X			<i>ICAO to assist Draft already forwarded to Libya</i>
Iran	Tehran	Ankara			X	
		*Ashgabat			X	
		*Baghdad	X			
		Bahrain		X		<i>to be finalized/signed by 1st week of November</i>
		*Baku				
		Emirates			X	<i>No Change</i>
		*Kabul				
		Karachi		X		<i>to be finalized/signed by 1st week of November</i>
		Kuwait	X			
		Muscat			X	<i>to be finalized/signed by 1st week of November</i>
		Yerevan	X			

STATUS OF LETTERS OF AGREEMENT (LOAs)						
States	ACCs concerned	Adjacent ACCs	Status of LOAs			
			Draft	Final	Signed	Remarks
Jordan	Amman	Baghdad			X	
		Cairo			X	
		Damascus		X		<i>to be finalized/signed by 1st week of November</i>
		Jeddah		X		<i>to be finalized/signed by 1st week of November</i>
		Tel Aviv				
Kuwait	Kuwait	Baghdad			X	
		Bahrain		X		<i>to be finalized/signed by 1st week of November</i>
		Tehran		X		<i>to be finalized/signed by 1st week of November</i>
		Jeddah		X		<i>to be finalized/signed by 1st week of November</i>
Lebanon	Beirut	Damascus			X	
		Nicosia			X	
Oman	Muscat	Emirates			X	
		Bahrain		X		<i>to be finalized/signed by 1st week of November</i>
		Bombay		X		<i>Still pending</i>
		Karachi			X	
		Sanaá		X		<i>to be finalized/signed by 1st week of November</i>
		Tehran		X		<i>to be finalized/signed by 1st week of November</i>
Saudi Arabia	Jeddah	Amman		X		<i>to be finalized/signed by 1st week of November</i>
		*Asmara		X		
		*Baghdad		X		
		Bahrain	X			<i>to be finalized/signed by 1st week of November</i>
		Cairo		X		<i>to be finalized/signed by 1st week of November</i>
		Kuwait		X		
		*Khartoum			X	
		Sana'a		X		

STATUS OF LETTERS OF AGREEMENT (LOAs)						
States	ACCs concerned	Adjacent ACCs	Status of LOAs			
			Draft	Final	Signed	Remarks
Syria	Damascus	Amman		X		<i>to be finalized/signed by 1st week of November</i>
		Ankara		X		<i>to be signed on 27 October 2003</i>
		*Baghdad			X	
		Beirut			X	
		Nicosia			X	
United Arab Emirates	Emirates	Bahrain			X	<i>No Change</i>
		Muscat			X	<i>No Change</i>
		Tehran			X	<i>No Change</i>
Yemen	Sana'a	Addis Ababa				<i>Not yet</i>
		*Asmara				<i>Not yet</i>
		Djibouti	X			<i>FL 240 and below</i>
		Jeddah		X		
		*Mogadishu		X		<i>Not yet</i>
		Muscat				
* Non RVSM						

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DRAFT MODEL PROPOSED BY SAUDI ARABIA

Note: This Model may be used by States/service providers in the elaboration of switch over procedures. It is however clarified that it might not be applicable throughout the region and the final responsibility rests with States/Service providers to ensure that the proper procedures, adapted to the airspace structure/complexity/environment be put in place for ensuring a smooth switch over.

RVSM SWITCH OVER PLAN FOR THE MID REGION STATES

1 GUIDANCE MATERIAL FOR SECTOR PROTECTION DURING SWITCH OVER TO RVSM PROCEDURES IN THE MID REGION

1.1. INTRODUCTION

1.1.1 As part of its preparation for the Switch Over to RVSM Operations, this RVSM Switch Over Plan provides guidance to ANS Providers as to the extent and duration of any temporary capacity reduction measures needed to ensure a safe and effective start of RVSM. The RVSM Switch Over Plan contains procedures, phraseology, system changes etc to work effectively, shortly before and during implementation of RVSM and extend into the Post-Implementation Phase.

1.2 RATIONALE FOR POSSIBLE FLOW CONTROL RESTRICTIONS, FOR AN APPROPRIATE PERIOD, FOLLOWING THE IMPLEMENTATION OF RVSM

1.2.1 The prime reason for some protection is that air traffic controllers should not be expected to work to their sector capacity during their first exposure to RVSM. Time perhaps will be required to build up controller confidence in processes, procedures and systems. States should make their own assessment of local conditions as to whether sector protection and appropriate flow control measures are required.

1.2.2 Equally, many pilots will also be experiencing and planning for RVSM flight for the first time. It is important that the infrastructure in terms of flight planning and ATS system modifications are found to be working effectively within the new RVSM environment.

1.2.3 The other factors, which need to be carefully monitored as part of the switch over phase, is the impact on military non-RVSM Compliant flights, wake vortex reports and flights that have, as a result of the implementation of RVSM, been pushed below FL290 or above FL410

2. SEQUENCE OF STEPS FOR SWITCH OVER FROM CVSM TO RVSM

ON START DAY :

0100 UTC : Coordination to prepare for the change from CVSM to RVSM between adjacent ACC's supervisors will start.

0100 UTC : Flight Plans will be checked for the letter "W" to be entered in Field 10 or in the case of an RPL, EQPT/W in item Q.

0100 UTC : All ACC sectors shall begin broadcasting an alert message to all aircraft announcing that RVSM will be implemented at 2000 UTC . This alert message shall be repeated every 15 minutes and then 5 minutes, prior to 2001 UTC. A version of this alert message could be included in the ATIS message for 0100 & 0200 UTC as well.

NOTE : The alert message shall be, " **ALL STATIONS, ALL STATIONS, JEDDAH CONTROL , BE ADVISED, RVSM OPERATIONS WILL COMMENCE AT TIME 0201 UTC, I REPEAT, RVSM OPERATIONS WILL COMMENCE AT TIME 0201 UTC, JEDDAH CONTROL OUT " .**

0100 UTC : Actions to establish RVSM Compliant status of each flight shall start. The RVSM Compliant status of each aircraft under control shall need to be established, before Switch Over, to determine potential course of action for level changes and a subsequent comparison against flight plan information and the associated status as displayed on radar. The approved phraseology is:

- a) For a controller to ascertain the Compliant status of an aircraft, each aircraft will be asked;:

Call sign << CONFIRM RVSM APPROVED >>.

- b) For a pilot to report RVSM Compliant status or Non-RVSM Compliant, as appropriate.

Call sign << AFFIRM RVSM >>.

**Call sign<< NEGATIVE RVSM>> or
<<NEGATIVE RVSM STATE AIRCRAFT>>**

0100 UTC : Following prior coordination between the adjacent ACC controllers,

- a) RVSM Compliant aircraft shall be re-cleared to appropriate RVSM Flight Levels in accordance with ICAO Annex 2, Appendix 3, (a). (See Attachment 1) . **To avoid the risk of human errors or coordination errors, FL 310, FL 350 and FL 390 shall not be assigned to any flight from 0100 UTC until 0300 UTC.**
- b) Non RVSM Compliant flights shall be restricted to FL280 or below or FL430 and above...

0200UTC : Confirm RVSM Flight Levels are now in use and correct RVSM Compliant and Non RVSM Compliant status information is appropriately printed on flight progress strips and properly displayed in radar data blocks.

0300 UTC : ACC Supervisors review facility log book and collect significant event data that occurred during the RVSM Switch Over period (0100 UTC to 0300 UTC).. This Switch Over data shall be submitted to MECMA for subsequent analysis.

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MECMA RVSM SAFETY ASSESSMENT

1.8 Operational Errors

- 1.8.1 Data on operational errors have been reported since 01 July 2001 and has been analysed to perform an evaluation of operational risk. Substantiated (atypical) assigned altitude deviations, emergency descents and ATC/pilot errors involving integers of vertical separation standards have been reported and form the basis for calculation of operational risk.
- 1.8.2 A large volume of data on coordination failures has been amassed and is analysed for risk implications. While some risk-free evaluation has been carried out, no suitable methodology for overall quantification of type of risk has been identified. Consequently, these errors have been categorized according to the operational risk implications and their frequency at coordination points established to enable concerned ATC units to institute mitigating measures.
- 1.8.3 Uncontrolled flights through the Red Sea have for decades constituted “operational errors” particular to the Middle East Region. This safety problem, rooted in long-standing disputes, was identified as a potential hindrance for safe RVSM implementation and resolved through an agreement brokered by a group of stakeholder organizations. It serves as an example of a spin-off safety improvement from the MID RVSM implementation programme.
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NATIONAL SAFETY PLANS FOLLOW-UP

1. During the meeting, Integra Consult performed a follow-up on the National Plans and the recommendations from TF/9 including a review of all safety related activities performed since TF/9.
2. The review, based on the National Safety Plans, other available documentation and interviews performed during the meeting focused on the following:
 - Update of National Safety Plans
 - Status of Training activities
 - Status of Technical update
 - Status of Safety Awareness
 - Safety activities in connection with Switchover (availability of switchover plan)
 - Post-Implementation Safety Activities

Simultaneously a follow-up was made on any major issue identified during the interviews performed at TF/9.

3. The status for the implementation of Safety Management Systems was made during the review, as required in accordance with the provisions of Annex 11. The RVSM safety activities should be incorporated in the overall ATS Safety Management System.
4. During the interviews it was recognized that:
 - States take Safety work seriously and have followed National Safety Plan requirements;
 - Training activities are being performed on an on-time basis;
 - Technical systems are prepared for RVSM;
 - Switchover activities are under preparation
 - Post-implementation Safety Activities are not yet developed on a regional basis
5. Based on the interviews performed and the documentation made available for Integra Consult before and during the review, the conclusion is that the safety work is progressing well, and that all necessary safety activities are performed or are planned to be performed before switchover. From a safety point of view there are no indications that the go-decision from TF/9 should be changed.
6. With respect to the safety work, the process leading up to the implementation of RVSM on the 27th of November 2003 shall continue. However, it is of vital importance that effort is devoted to the planning of the switchover, and that safety activities are integrated in the switchover process.

In this context it should be stressed that it is of vital importance the post implementation activities are co-ordinated on a regional basis ensuring a follow-up of the RVSM implementation, as well as from a safety point of view.

7. During the interviews it was noted that not all recommendations from TF/9 were implemented. The recommendation concerning the update of National Safety Plans with respect of the post implementation of safety activities has not been fully achieved by all States. However, all States are aware of the importance of planning and documenting the post implementation safety activities.

8. Taking into account the ongoing safety activities, it is recommended that the States:
- Update of National Safety Plan covering post-implementation activities
 - Regional approach to the implementation of Safety Management System
 - Focus is put on the switchover activities, as a safe switchover is a prerequisite for the successful implementation of RVSM

Concerning the update of the National Safety Plans a regional approach is recommended with respect to the development of a Safety Management System.

9. It is of vital importance that the implementation of Safety Management Systems is giving the highest priority, as the implementation of the Safety Management Systems can benefit strongly from the safety activities performed in connection with the RVSM implementation. However, it is also of vital importance that the concept of Safety Management is well understood by all the States, as this will facilitate the implementation of a Safety Management System in accordance with the provisions of ICAO.
10. In this context it was emphasised that participation in the ICAO Seminar concerning Runway Safety and Air Traffic Services Safety Management Seminar in Cairo the 15th to 19th of December 2003 would support the implementation of Safety Management Systems in accordance with the ICAO provisions. Participation in regional Safety Management activities is also highly recommended.
11. The ICAO Guidelines and an invitation to the Implementation of Safety Management System Seminar in Cairo were made available to all participants.
12. It is concluded that with the continuation of the established safety programme, implementation of RVSM will not have a negative impact on the safety level in the Middle East Region. If the safety work is continued, the implementation of RVSM and Safety Management System could have a positive impact on the general safety level of the provision of services.
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RVSM IMPLEMENTATION
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