INTERNATIONAL CIVIL AVIATION ORGANIZATION
MIDDLE EAST OFFICE

REPORT OF THE FIRST JOINT COORDINATION MEETING OF THE ICAO REDUCED VERTICAL SEPARATION MINIMUM (RVSM) IMPLEMENTATION TASK FORCES OF THE MIDDLE EAST AND ASIA REGIONS
(JCM-RVSM MID/ASIA)

(Abu Dhabi, 19 20 October 2002)
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PART 1 HISTORY OF THE MEETING

1. MEETING VENUE

1.1 The first Joint Coordination Meeting of the ICAO Reduced Vertical Separation Minimum (RVSM) Implementation Task Forces of the Middle East and Asia Regions (JCM-RVSM MID/ASIA/1) for implementation of RVSM in the Bay of Bengal and Beyond was held at the conference room of the Hilton Hotel, Abu Dhabi, United Arab Emirates (UAE) from 19 to 20 October 2002. A preparation and planning meeting was held on 18 October.

2. OPENING

2.1.1 He emphasized the importance of harmonisation of procedures and implementation timescales which will ensure that airlines can operate in a seamless RVSM environment all the way from Europe to the Far East in a safe environment, thus reaping the benefits of RVSM.

2.1.2 He urged both regions to take up the challenge and not shy away from the task at hand and, notwithstanding its complexity we should not be daunted by it. Many States have accomplished this before us, and we can benefit from their experiences.

2.2 Mr. Ahmed Zerhouni, Regional Director of the ICAO Middle East Office, Cairo welcomed delegates to this first Joint Coordination Meeting. He thanked the Director General of the GCAA for hosting the meeting and providing excellent services and support.

2.2.1 He noted with satisfaction that implementation planning was progressing well in the Middle East and Asia Regions and was confident that the good work already accomplished would lead to implementation of RVSM as planned on 27 November 2003. This would result in a seamless RVSM environment from Asia through the Middle East to Europe on the major ATS trunk routes, which would provide significant benefits to users and ATS providers including increased airspace capacity, operational efficiency, significant cost saving and enhancement of flight safety. The convening of this inter-regional RVSM coordination meeting was an important step forward and would pave the way for a harmonized implementation process in which the collective sharing of experience and expertise would ensure a successful outcome.

3. ATTENDANCE

3.1 The meeting was attended by a total of 19 participants from 11 States (Australia, Bahrain, Egypt, Indonesia, I.R. Iran, Maldives, Oman, Pakistan, Singapore, United Arab Emirates and Yemen) and two International Organizations (IATA and IFALPA). The list of participants is at Appendix A.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was jointly Chaired by Mr. Sabri Al Busaidy of Oman, Chairman of the Middle East RVSM Task Force and Mr. Sydney Maniam of Singapore, Chairman of the Asia/Pacific RVSM Task Force. Mr. Dhiraj Ramdoyal, Regional Officer, Air Traffic Management ICAO Middle East
Office, Cairo and Mr. David Moores, Regional Officer Air Traffic Management, Asia/Pacific Office were joint Secretaries of the meeting and assisted by the Rapporteurs of the RVSM Task Forces ATC Working Groups: Mr. Mohammed Abdullah Zainal of Bahrain and Mr. Greg Hood of Australia. The meeting was also supported by Mr. M R. Khonji, Deputy Regional Director, ICAO Middle East Office.

5. **LANGUAGE**

5.1 The meeting was conducted in English. The documentation was issued in English.

6. **AGENDA**

6.1 The following Agenda was adopted:

- **Agenda Item 1**: Operational considerations
- **Agenda Item 2**: Development of a common amendment proposal to the Regional SUPPs
- **Agenda item 3**: Safety and airspace monitoring
- **Agenda Item 4**: Other business

7. **ACTION AGREED**

**RVSM Implementation Strategy**

7.1 The meeting agreed that the MID and ASIA Regions will implement RVSM based on the following strategy:

a) In the MID Region, RVSM would be implemented within all FIRs/airspace forming part of the MID RVSM Implementation from FL290 to FL410 inclusive;

b) Implementation of RVSM in the MID Region would be in an RNP 5 environment and interface with the Asia and AFI Region in an RNP 10 environment;

c) In the Asia Region, RVSM will be implemented on EMARSSH routes in an RNP 10 Oceanic environment. States concerned will include other routes in the operational plan for RVSM implementation, as necessary.

d) The date for implementation of RVSM in the MID and Asia Regions will be 27 November 2003. The exact time for the transition will be determined jointly by the RVSM Task Forces by March 2003;

e) The Go/No-go decision for RVSM implementation will be made in August and September 2003 for the MID and Asia Regions respectively; and

f) At this point of the planning process, no transition area between the two regions was identified, except the interface with Kabul FIR.
Radio Communication Failure Procedures

7.2 The meeting agreed that:
   a) Radio communication failure (RCF) procedures in the MID region will be aligned with procedures applicable in the European RVSM airspace;
   b) When operating in meteorological conditions (IMC), aircraft will maintain the last assigned speed and level or minimum flight altitude for a period of 20 minutes instead of 7 minutes; and
   c) The ICAO Secretariat will develop an amendment to the Regional Supplementary Procedures (SUPP Doc 7030) to reflect the changes relating to RVSM operations.

Letters of Agreement (LOAs)

7.3 The meeting agreed that:
   a) States concerned should ensure that all LOAs be signed at least one month prior to the implementation date. To this end, draft LOAs should be prepared as soon as possible in consultation with adjacent ACCs; and
   b) The relevant ICAO Regional Offices concerned would assist in the coordination of the procedures, as necessary.

Weather Deviation Procedures

7.4 In the MID Region, weather deviation procedures will be applied in accordance with the provisions of the MID/ASIA Regional Supplementary Procedures and be included in the MID Region ATC Manual. However, States at interface area(s) would review and harmonize their procedures with the procedures applicable in the Asia Region.
PART II REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: OPERATIONAL CONSIDERATIONS

1.1 The meeting was presented with an update on progress for the implementation of the revised ATS route structure Asia to Middle East and Europe, South-of-the-Himalayas (EMARSSH) in the Asia Region by the EMARSSH Task Force, as reported to the thirteenth meeting of the Asia-Pacific Planning and Implementation Regional Group (APANPIRG/13) (9-13 September 2002).

1.1.1 The meeting noted that the eighth meeting of the EMARSSH Task Force (August 2002) had finalised all outstanding issues associated with the EMARSSH project in order to achieve the target implementation date of AIRAC 28 November 2002. These issues included AIS matters, route structure and coordination between adjacent FIRs/States. In regard to safety management requirements, Airservices Australia who was undertaking the safety analysis for the EMARSSH routes was expected to complete the task prior to 31 October 2002.

1.1.2 The meeting was pleased to note that civil/military coordination had been successful in the majority of cases. With the cooperation of some military authorities, military airspace would be made available for civil use for limited periods to facilitate civil traffic flow during specified periods.

1.1.3 It was noted that this project was one of the largest ATS route structure changes undertaken covering three ICAO regions. A key element for successful implementation was the timely provision of aeronautical data to the aviation industry, especially to charting companies and aircraft database providers to ensure that databases necessary for aircraft navigation systems were made available to airlines.

1.1.4 The meeting noted that for the Kabul FIR, agreement had been reached with the military authority, the Coalition Forces, the control authority for Afghanistan airspace, for two of the EMARSSH RNP 10 routes to be implemented. These routes are L750 (formerly V838) and a new route N644, which replaced V888, were implemented on 5 September 2002. Additional EMARSSH routes were under regular review by the Coalition Forces and would be implemented when conditions permitted.

1.1.5 In respect to transition from the old to the new route structure, this was a one time event that would be accomplished by ATC giving specific route instructions to a specific intersection for each individual flight. All transitions were to be completed by 0230 UTC.

1.2 The meeting was presented with an update on RVSM implementation in the Asia Region where RVSM had been progressively implemented in accordance with the RVSM Implementation Plan established by the APANPIRG. RVSM was first introduced on the major route systems in the Pacific Region oceanic airspace on 24 February 2000 followed by Phase 1 of the new South China Sea route structure on 21 February 2002. Phase 2 is scheduled for 31 October 2002.

1.2.1 Following successful implementation of RVSM in the Pacific and South China Seas area, the next step in the Asia/Pacific Plan was to implement RVSM on the EMARSSH routes in the Bay of Bengal and Beyond (within the ICAO Asia Region) scheduled for 27 November 2003. The meeting was reminded that in the Middle East Region, RVSM was being implemented in all FIRs/airspace of States participating in the MID RVSM Implementation Programme. Integration of the MID ATS routes with the EMARSSH routes at the FIR boundaries between the MID and Asia Regions had been finalized. Further, the meeting was advised that the MID route restructuring including RNP 5 routes/areas had been completed, and the implementation date harmonized with EMARSSH, i.e. 28 November 2002.

1.2.2 The meeting was informed that the RVSM Task Force had adopted the definition
airspace in which RVSM will be implemented. The RVSM airspace will include the Bangkok, Chennai, Colombo, Delhi, Dhaka, Jakarta, Karachi, Katmandu, Kolkata (Calcutta), Kuala Lumpur, Lahore, Male, Mumbai and Yangon FIRs.

1.2.2 In regard to a question as to whether there were any outstanding issues that could lead to a delay in implementation of the EMARSSH routes in the Asia Region, the meeting was informed that no issues had been identified and smooth implementation was expected on 28 November 2002.

1.2.3 The meeting was further informed that RVSM planning for the EMARSSH routes was in the early stages in line with the implementation schedule. With the experience and lessons learnt from implementation of RVSM in other areas of the Asia/Pacific Region, the process was well established and the implementation date was realistic. One of the essential steps to harmonize inter-regional implementation is now being addressed at this meeting.

1.2.5 The meeting established a small review group under the Rapporteurs of the MID/Asia RVSM ATC Working Groups to consider operational issues to be harmonized between the MID/Asia RVSM Implementation Plans. The group reviewed the RVSM Task Forces task lists and aligned the major milestones for the implementation of RVSM as shown in Appendix B. The group entered into preliminary discussions concerning publishing of AIC/AIP SUPPs and subsequent trigger NOTAMs to ensure dates and content were comparable as shown in Appendices C-1 & C-2.
REPORT ON AGENDA ITEM 2: DEVELOPMENT OF A COMMON AMENDMENT PROPOSAL FOR THE REGIONAL SUPPS

2.1 The meeting recognized that there was a need to review the Regional Supplementary Procedures (Doc 7030) for MID/ASIA for large weather deviation and loss of communication procedures. In this regard, the meeting was advised that a study undertaken by the Middle East Central Monitoring Agency (MECMA) had shown that large weather deviations were rare occurrences in the Middle East. The meeting was advised that the ICAO Secretariat was reviewing weather deviation procedures with a view to harmonizing global procedures, and this matter would be pursued by the respective ICAO Regional Offices.

2.2 In regard to loss of communication procedures, the meeting was informed that the eighteenth meeting of the Informal Pacific ATC Coordination Group (IPACG/18) (8-11 October 2002) had developed a proposed amendment to the Pacific SUPPs for oceanic loss of communication procedures. This would be progressed by IPACG/18 and in due course by ICAO. It was intended to develop a common global procedure for oceanic airspace. Procedures relevant to other airspaces such as continental and radar environments would need to be addressed.

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**REPORT ON AGENDA ITEM 3: SAFETY AND AIRSPACE MANAGEMENT**

3.1 The meeting was briefed on progress being made by MECMA to address airspace safety management requirements. At the MID RVSM TF/2 meeting, traffic samples for the period 20 January 2001 to 20 February 2002, which were used for the readiness assessment, had shown that 80 percent of aircraft movements already had RVSM approval as the majority of aircraft operated in the European RVSM airspace. A target of 90 percent RVSM aircraft approval (same as the Asia Region) was required for implementation, and this was expected to be readily achieved.

3.2 In regard to a question as to why a passing frequency rate of 1.25 had been adopted in the MID RVSM airspace when the global rate was 2.5, the meeting was informed that as part of the be safely accommodated, and that route systems remain in place for long periods of time. Additionally, it should be noted that, in view of the numbers of aircraft navigating with GNSS input and certified to RNP 0.3, no trade-off against the lateral overlap probability ($P_L$) is possible. Accordingly, a passing frequency rate of 1.25, half the global rate, was adopted for the MID RVSM airspace. Monitoring requirements had been fixed in March 2002. The airspace safety issues were progressing well.

3.3 The meeting was provided information on the establishment of an airspace safety monitoring structure for the Asia/Pacific Region. It was recognized by the twelfth meeting of APANPIRG that as a matter of priority, there was a need to provide a robust and functional management team to ensure that the services of a regional monitoring agency were provided to all regional airspace and safety authorities, air traffic service providers and aircraft operators, in an efficient and cost effective manner. In this regard, APANPIRG/12 established the Asia/Pacific Airspace Safety and Monitoring Task Force (APASM/TF) to develop a plan for the establishment of a regional airspace safety monitoring agency (RASMA).

3.4 The APASM/TF presented the RASMA plan to the APANPIRG/13 meeting (September 2002) with the following objectives:

   a) Provide data collection and analysis services to States to enable them to meet their airspace safety management requirements;
   
   b) Contribute to meeting the quantitative safety goal for Asia Pacific Region;
   
   c) Contribute to fostering the safe implementation of CNS/ATM initiatives within the Asia Pacific Region; and
   
   d) Provide a regional comprehensive airspace safety monitoring structure.

3.5 In respect to funding the RASMA, APANPIRG/13 considered that funding arrangements were of significant importance. In this regard, it was recognized that the cost of some airspace safety monitoring services could be recovered either directly or indirectly from the users of the airspace. The region has, on a collective basis, already been successful in establishing aircraft height-kee that resources to meet airspace safety monitoring and assessment obligations would be provided through a user charges levy based on a unit cost per flight in the Asia/Pacific Region. Operating charges to airlines would be based on each aircraft movement originating from/within the Asia/Pacific Region. The provision of safety monitoring services through RASMA would need to be cost effective to the industry as a whole.

3.6 The APASM/TF is continuing its work and the final plan was expected to be presented to the APANPIRG/14 in August 2003. Monitoring requirements for RVSM implementation in the Asia Region will continue to be provided by the Asia/Pacific Approvals Registry and Monitoring Organization (APARMO) operated by the United States Federal Aviation Administration (FAA). The meeting was advised that the FAA would not be able to continue to support the monitoring services in
the Asia Region in the longer term. In this regard, APANPIRG/13 endorsed the transfer of responsibility to Aeronautical Radio of Thailand (AEROTHAI), who was presently working with the FAA to take over the RVSM monitoring requirements for the Asia Region.
REPORT ON AGENDA ITEM 4: OTHER BUSINESS

4.1 The meeting recognized that this first Joint Coordination Meeting had provided an excellent forum to progress the coordination and harmonization of the RVSM Implementation Plans for the Middle East and Asia Regions. Delegates had appreciated the unique characteristics of the two regions that were significantly different in nature. Therefore, it was essential that both RVSM Task Forces understood each others problems and worked closely together to achieve the objective of a seamless RVSM implementation and operation from Asia to Europe through the Middle East Region. There was much to learn and benefit from the experiences of both groups, and the meeting appreciated the spirit of cooperation and goodwill that prevailed in the discussions. All parties recognized the enormous task they had undertaken and good progress was being made, which would lead to successful implementation on 27 November 2003.

4.2 The meeting recognized that a second meeting should be held prior to the Go/No-go date for the Middle East of 27 August 2003. It was therefore agreed to hold the meeting in the Asia Region in early June 2003 at a date and venue to be determined. The arrangements for the meeting will be made by the ICAO Asia/Pacific Office, Bangkok.

5. CLOSING OF THE MEETING

5.1 Mr. Ahmed Zerhouni, Regional Director, ICAO Middle East Office expressed his appreciation to participants for the excellent results achieved at this first Joint MID/ASIA RVSM Task Force Coordination Meeting, and emphasized the importance of holding such meetings to ensure the smooth and harmonized implementation of major airspace projects affecting adjacent regions. In this regard, he informed the meeting that a similar inter-face meeting would be held between the Middle East and European Regions to harmonize procedures for the implementation of RVSM in the Middle East.

5.2 Mr. Sydney Maniam, Chairman of the Asia/Pacific RVSM Task Force, on behalf of his colleagues from Asia/Pacific, expressed his sincere appreciation to the Director General of the GCAA and in particular to Mr. Riis Johansen, Director, Air Navigation Services and staff of the GCAA for their excellent support and warm hospitality extended to the participants during the meeting. He also thanked Mr. Zerhouni for his presence and participation, which underlined the importance of the work being progressed by the RVSM Task Forces of the two regions.

5.3 Mr. Sabri Al Busaidy, Chairman of the Middle East RVSM Task Force in closing the meeting thanked participants for the professional manner in which the meeting was conducted. The harmonization process was now well established and will significantly contribute to the successful implementation of RVSM between Asia, the Middle East and Europe. On behalf of his colleagues from the Middle East, he appreciated being able to work with colleagues from the Asia/Pacific and strong ties had been established. He also thanked the staff of GCAA who had supported this meeting as well as the preceding MID RVSM Task Force meeting.
## List of Participants

10 December 2002

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| **ASIA/PACIFIC REGIONAL OFFICE** | Regional Officer Air Traffic Management  
 Asia/Pacific Regional Office  
 252/1 Wiphawadi-Rangsit Road  
 Latyao, Chatuchak  
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 SITA: CAICAYA  
 E-mail: dramdoyal@cairo.icao.int  
 dramdoyal@hotmail.com |
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<tr>
<td>1</td>
<td>Identify Operational Need</td>
<td>18-Jan-02</td>
<td>31-Oct-02</td>
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<td>2</td>
<td>Agree operational concept for Bay of Bengal and beyond traffic flow</td>
<td>18-Jan-02</td>
<td>27-Nov-02</td>
<td>ATC/WG, RVSM Task Force</td>
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<tr>
<td>3</td>
<td>Conduct Cost Benefits Analysis</td>
<td>18-Jan-02</td>
<td>31-Mar-03</td>
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<tr>
<td>4</td>
<td>Conduct preliminary benefit cost analysis</td>
<td>18-Jan-02</td>
<td>31-Mar-03</td>
<td>SAM WG</td>
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<tr>
<td>5</td>
<td>Finalize benefit cost analysis</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>SAM WG</td>
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<tr>
<td>6</td>
<td>Safety Assessment</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
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<tr>
<td>7</td>
<td>Review available summary data (non-compliant aircraft, aberrant aircraft etc)</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>SAM/WG, RVSM Task Force</td>
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<tr>
<td>8</td>
<td>Examine history of height keeping errors related to ATC clearances and assess possible RVSM impact</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>SAM/WG, RVSM Task Force</td>
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<tr>
<td>9</td>
<td>Confirm RVSM risk model assumptions/parameters are consistent with airspace where RVSM is to be applied</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>SAM/WG, RVSM Task Force</td>
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<td>10</td>
<td>Ensure transferability of aircraft data from other Regions (ie liaison with MECMA)</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>SAM/WG, APARMO, RVSM Task Force</td>
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<tr>
<td>11</td>
<td>Collect weather and turbulence data for analysis - this should include Himalayan standing wave analysis</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>SAM/WG, RVSM Task Force</td>
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<tr>
<td>12</td>
<td>Report large height deviations to APARMO or equivalent monitoring agency (including level assignment errors)</td>
<td>18-Jan-02</td>
<td>Ongoing</td>
<td>ATS Providers, Users</td>
</tr>
<tr>
<td>13</td>
<td>Feasibility Analysis</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
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<tr>
<td>14</td>
<td>Examine the operational factors and workload associated with implementation</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>ATC/WG, RVSM Task Force</td>
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<tr>
<td>15</td>
<td>Determination of Requirements (airborne &amp; ground systems)</td>
<td>18-Jan-02</td>
<td>31-May-03</td>
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<tr>
<td>16</td>
<td>Determine need for additional GMUs</td>
<td>18-Jan-02</td>
<td>31-May-03</td>
<td>SAM/WG, RVSM Task Force</td>
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<tr>
<td>17</td>
<td>States assess the impact of RVSM implementation on controller automation systems (e.g., equipment) and plan for upgrades/modifications</td>
<td>18-Jan-02</td>
<td>31-May-03</td>
<td>States</td>
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<tr>
<td>18</td>
<td>Aircraft &amp; Operator Approval Requirements</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
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<td>19</td>
<td>Promulgate the operational approval process</td>
<td>18-Jan-02</td>
<td>Ongoing</td>
<td>OPS/AIR/WG, RVSM Task Force</td>
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<td>20</td>
<td>Notify States when significant changes occur to RVSM documentation</td>
<td>18-Jan-02</td>
<td>Ongoing</td>
<td>OPS/AIR/WG, RVSM Task Force</td>
</tr>
<tr>
<td>21</td>
<td>Perform Rulemaking (if required)</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
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<tr>
<td>22</td>
<td>Recommend State airspace regulatory documentation</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
<td>States</td>
</tr>
<tr>
<td>23</td>
<td>Perform Necessary Industry &amp; International Co-ordination</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
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<tr>
<td>24</td>
<td>Notify States when significant changes occur to RVSM documentation</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
<td>RVSM Task Force</td>
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## APPENDIX B

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<tr>
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<tr>
<td>25</td>
<td>Check MID RVSM Manual against APAC Regional Guidance Material</td>
<td>18-Jan-02</td>
<td>21-Jun-03</td>
<td>ICAO, RVSM Task Force Chairperson</td>
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<tr>
<td>26</td>
<td>Process Doc 7030 amendment and assess need for chart amendments related to RVSM</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
<td>ICAO Regional Office</td>
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<tr>
<td>27</td>
<td>Publish advance AIC</td>
<td>18-Jan-02</td>
<td>28-Nov-03</td>
<td>States</td>
</tr>
<tr>
<td>28</td>
<td>Publish AIP Supplement containing RVSM policy/procedures</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>States</td>
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<tr>
<td>29</td>
<td>Review inter-facility coordination procedures</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>States</td>
</tr>
<tr>
<td>30</td>
<td>Finalize changes to Letters of Agreement</td>
<td>18-Jan-02</td>
<td>31-Oct-03</td>
<td>States</td>
</tr>
<tr>
<td>31</td>
<td><strong>Approval of Aircraft &amp; Operators</strong></td>
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<td>27-Sep-03</td>
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<td>32</td>
<td>Establish approved operations readiness targets</td>
<td>18-Jan-02</td>
<td>31-Mar-03</td>
<td>IATA, ATC/WG, RVSM Task Force</td>
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<tr>
<td>33</td>
<td>Assess readiness</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>IATA, OPS/AIR/WG</td>
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<td>34</td>
<td><strong>Develop Pilot &amp; ATC Procedures</strong></td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
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<tr>
<td>35</td>
<td>Review application of tactical offset procedure to mitigate the effects of wake turbulence and TCAS alerts</td>
<td>18-Jan-02</td>
<td>TBD</td>
<td>ATC/WG, OPS/AIR/WG, RVSM Task Force</td>
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<tr>
<td>36</td>
<td>Review weather and contingency procedures for applicability under RVSM</td>
<td>18-Jan-02</td>
<td>TBD</td>
<td>OPS/AIR/WG, ATC/WG, RVSM Task Force</td>
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<td>37</td>
<td>Publish appropriate ATC policy &amp; procedures on RVSM website</td>
<td>18-Jan-02</td>
<td>Ongoing</td>
<td>RVSM Task Force</td>
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<tr>
<td>38</td>
<td>Identify transition areas and procedures</td>
<td>18-Jan-02</td>
<td>TBD</td>
<td>States, ATC/WG</td>
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<tr>
<td>39</td>
<td>Conduct simulations</td>
<td>18-Jan-02</td>
<td>TBD</td>
<td>States, ATC/WG</td>
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<tr>
<td>40</td>
<td>Report on simulation activity</td>
<td>18-Jan-02</td>
<td>TBD</td>
<td>ATC/WG, RVSM Task Force</td>
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<tr>
<td>41</td>
<td>Continue to recommend that RVSM operators adopt TCAS V.7</td>
<td>18-Jan-02</td>
<td>1-Jan-03</td>
<td>OPS/AIR/WG, RVSM Task Force</td>
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<tr>
<td>42</td>
<td>Develop procedures for handling non-compliant aircraft in ATS documentation</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>OPS/AIR/WG, ATC/WG, RVSM Task Force</td>
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<tr>
<td>43</td>
<td>Develop mutually acceptable ATC procedures for non-approved State acft to transit RVSM airspace</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>ATC/WG, RVSM Task Force</td>
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<tr>
<td>44</td>
<td>Consider procedures for suspension of RVSM</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>ATC/WG, RVSM Task Force</td>
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<tr>
<td>45</td>
<td>Liaise with State defense authorities regarding &quot;due regard&quot; military operations</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>States</td>
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<tr>
<td>46</td>
<td><strong>Pilot &amp; ATC Training</strong></td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
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<tr>
<td>47</td>
<td>Provide ATC training documentation to States based on past experience</td>
<td>18-Jan-02</td>
<td>Ongoing</td>
<td>ICAO, RVSM Task Force Chairperson</td>
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<tr>
<td>48</td>
<td>Conduct local RVSM training for air traffic controllers, pilots and dispatchers</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
<td>States, ATC/WG</td>
</tr>
<tr>
<td>49</td>
<td><strong>Perform System Verification</strong></td>
<td>18-Jan-02</td>
<td>TBD</td>
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<td>50</td>
<td>Height keeping performance monitoring needed to undertake safety analysis</td>
<td>15-Dec-02</td>
<td>15-Mar-03</td>
<td>APARMO and SAM/WG, RVSM Task Force</td>
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<tr>
<td>51</td>
<td>Provide representative traffic movement data to APARMO for period 15 December 2002 - 15 January 2003</td>
<td>15-Dec-02</td>
<td>15-Jan-03</td>
<td>States</td>
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<tr>
<td>52</td>
<td>Undertake initial safety analysis</td>
<td>15-Dec-02</td>
<td>15-Mar-03</td>
<td>SAM/WG, RVSM Task Force</td>
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<tr>
<td>53</td>
<td>Prepare/maintain regional status report detailing RVSM implementation plans</td>
<td>15-Mar-03</td>
<td>Ongoing</td>
<td>RVSM Task Force</td>
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<tr>
<td>54</td>
<td>Final Implementation Decision</td>
<td>18-Jan-02</td>
<td>27-Sep-03</td>
<td>RVSM Task Force</td>
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<tr>
<td>55</td>
<td>Review aircraft altitude-keeping performance and operational errors</td>
<td>15-Mar-03</td>
<td>27-Sep-03</td>
<td>SAM/WG, OPS/AIR/WG</td>
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<tr>
<td>56</td>
<td>ATS State documentation complete</td>
<td>15-Mar-03</td>
<td>27-Sep-03</td>
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<tr>
<td>57</td>
<td>Publish Trigger NOTAM</td>
<td>15-Mar-03</td>
<td>17-Nov-03</td>
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<td>58</td>
<td>Complete readiness assessment</td>
<td>15-Mar-03</td>
<td>27-Sep-03</td>
<td>APARMO</td>
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<tr>
<td>59</td>
<td>Complete safety analysis</td>
<td>15-Mar-03</td>
<td>27-Sep-03</td>
<td>RVSM Task Force</td>
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<tr>
<td>60</td>
<td>Declare Initial Operational Capability</td>
<td>18-Jan-02</td>
<td>27-Nov-03</td>
<td>APARMO and SAM/WG, RVSM Task Force</td>
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<tr>
<td>61</td>
<td>Monitor System Performance</td>
<td>27-Nov-03</td>
<td>27-Nov-04</td>
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<td>62</td>
<td>Perform Follow-On Monitoring</td>
<td>27-Nov-03</td>
<td>Ongoing</td>
<td>OPS/AIR/WG, SAM/WG</td>
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<td>63</td>
<td>Declare Full Operational Capability</td>
<td>27-Nov-03</td>
<td>27-Nov-04</td>
<td>RVSM Task Force</td>
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<tr>
<td>64</td>
<td>Task Force/14 and 15 (Bangkok)</td>
<td>3-Jun-02</td>
<td>7-Jun-02</td>
<td>RVSM Task Force (Bay of Bengal and South China Sea)</td>
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<td>Task Force/16 (Bangkok)</td>
<td>23-Sep-02</td>
<td>25-Sep-02</td>
<td>RVSM Task Force (South China Sea)</td>
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<td>66</td>
<td>Joint Interface Meeting (Abu Dhabi)</td>
<td>19-Oct-02</td>
<td>20-Oct-02</td>
<td>MID/APAC Task Forces</td>
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<td>67</td>
<td>Seminar/5 (Bangkok)</td>
<td>15-Jan-03</td>
<td>17-Jan-03</td>
<td>RVSM Task Force (Bay of Bengal)</td>
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<td>68</td>
<td>Task Force/17 (Bangkok)</td>
<td>20-Jan-03</td>
<td>24-Jan-03</td>
<td>RVSM Task Force (Bay of Bengal)</td>
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<td>69</td>
<td>MID RVSM TF/7 (Abu Dhabi)</td>
<td>23-Feb-03</td>
<td>26-Feb-03</td>
<td>MID TF ONLY</td>
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<td>70</td>
<td>Task Force/18 (Viet Nam) - 1 year Western Pacific/South China Sea and 90 day Phase II Review</td>
<td>26-Mar-03</td>
<td>28-Mar-03</td>
<td>RVSM Task Force</td>
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<tr>
<td>71</td>
<td>MID RVSM TF/8 (Abu Dhabi)</td>
<td>25-May-03</td>
<td>28-May-03</td>
<td>MID TF ONLY - DATES SUBJECT TO CHANGE</td>
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<td>72</td>
<td>Task Force/19 and (Location TBD)</td>
<td>9-Jun-03</td>
<td>11-Jun-03</td>
<td>RVSM Task Force (Bay of Bengal) - SUBJECT TO CHANGE</td>
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<td>Joint Interface Meeting (Location TBD)</td>
<td>12-Jun-03</td>
<td>13-Jun-03</td>
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<td>MID RVSM TF/9 (Abu Dhabi)</td>
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<td>27-Sep-03</td>
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<td>75</td>
<td>Task Force/20 (Location TBD) - GO/NO GO DECISION</td>
<td>24-Sep-03</td>
<td>26-Sep-03</td>
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<td>MID RVSM TF/10 (Abu Dhabi)</td>
<td>19-Oct-03</td>
<td>22-Oct-03</td>
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<td>Task Force/21 (Location TBD) - 90 day Bay of Bengal/South of the Himalayas Follow Up</td>
<td>2-Feb-04</td>
<td>4-Feb-04</td>
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<td>Task Force/22 (Location TBD) - 1 year Bay of Bengal/South of the Himalayas Follow Up</td>
<td>1-Nov-04</td>
<td>2-Nov-04</td>
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</table>
ADVANCE RVSM IMPLEMENTATION NOTAM OR AIC
FOR MID/ASIA RVSM IMPLEMENTATION

Note: Draft AIC applicable to the MID Region is at Appendix C-2

RECOMMENDATION: ATS Service Providers planning to implement RVSM on 27 November 2003 should publish an advance RVSM implementation NOTAM or AIC based on the example below no later than 28 November 2002.

ADVANCE NOTAM OR AIC TO BE PUBLISHED 28 November 2002.

This (NOTAM or AIC) serves as Notice of Intent to implement RVSM in the ________ FIR on 27 November 2003.

Reduced Vertical Separation Minimum (RVSM) is vertical separation of aircraft by 1,000 ft above FL 290. By 1 October 2003, operators should have received RVSM aircraft (airworthiness) and operational approval from the appropriate State authority. Operator/aircraft approval by 1 October 2003 will enable air traffic to plan for orderly RVSM implementation.

Starting 27 November 2003, only RVSM compliant aircraft will be cleared to operate in the ________FIR between FLs 290 and 410 (inclusive). Aircraft that are not RVSM compliant (e.g., ferry and maintenance flights) will only be cleared to operate in the ________ FIR between FLs 290 and 410 (inclusive) after prior coordination with the appropriate Center. 2,000 ft vertical separation will be applied to such aircraft. ________ Center contacts will be published on web sites and in follow-up NOTAMS.

RVSM will be implemented in the ________ FIR in accordance with ICAO regional agreements. ICAO recommends that State authorities and operators use FAA Interim Guidance 91-RVSM (as amended), Joint Airworthiness Authorities Temporary Guidance Leaflet 6 or equivalent State documents as the basis for approving aircraft and operator programs for RVSM. Current information and RVSM approval documents, including revisions, can be found on the web site maintained by the FAA on behalf of the ICAO Asia/Pacific RVSM Implementation Group and on individual State web sites. To access the FAA RVSM web site, type:

http://www.faa.gov/ats/ato/rvsm1.htm

The RVSM Documentation section of the FAA website contains guidance on aircraft/operator approval. Operators must begin coordination with the appropriate State authority as soon as possible to ensure that they are approved to begin RVSM operations on 27 November 2003.

For questions on the aircraft and operator approval process, the following contacts may be used:

ICAO:
David Moores: Ph 66-2-537-8189; fax 66-2-537-8199; dmoores@icao.bangkok.int

IATA Singapore
Dave Behrens: Ph 65-239-7267 fax 65-536-6267; behrensd@iata.org
Neil Jonasson: Ph 65-239-7262 fax: same as above; jonassonn@iata.org
The following text to be inserted in Field E of trigger NOTAM and issued 10 days prior to implementation:

E) TRIGGER NOTAM (name of State/authority) AIRAC AIP SUP (reference number),
EFFECTIVE XXXX (TBA) UTC 27 NOV 2003, REDUCED VERTICAL SEPARATION MINIMA WILL BE IMPLEMENTED IN THE MIDDLE EAST AND BAY OF BENGAL REGIONS

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DRAFT AERONAUTICAL INFORMATION CIRCULAR (AIC)

IMPLEMENTATION OF REDUCED VERTICAL SEPARATION MINIMA

Effective date: 27 November 2003.
Type: Permanent.

Appendix 3 - A
This AIC serves as Notice of Intent to implement RVSM 2003.

Reduced Vertical Separation Minimum (RVSM) is vertical separation of aircraft by 1,000 ft above FL 290. By 27 September 2003, operators should have received RVSM aircraft (airworthiness) and operational approval from the appropriate State authority. Operator/aircraft approval by 27 September 2003 will enable air traffic services (ATS) to plan for orderly RVSM implementation.

Starting 27 November 2003, only RVSM compliant aircraft will be cleared for operation within the FIR between FLs 290 and 410 (inclusive). Aircraft that are not RVSM compliant (e.g., ferry and test flights) will be cleared after prior coordination with the appropriate Center. 2,000 ft vertical separation will be maintained for such flights, with the exception of follow-up NOTAMS.

Regional agreements. ICAO recommends that State authorities and operators use FAA Interim Guidance 91-RVSM (as amended); Joint Airworthiness Authorities (JAA) Temporary Guidance Leaflet 6 (TGL 6) or equivalent State documentation as the basis for approving aircraft and operator programs for RVSM.

The Middle East Region has established the Middle East Central Monitoring Agency for implementation of RVSM (MECMA), which would host the database of all information regarding the RVSM approval process. Current information and RVSM approval documents, including revisions, can be found on the website maintained by the FAA, Eurocontrol, MECMA and on individual State websites.

To access the FAA, Eurocontrol and MECMA RVSM websites, type:

http://www.faa.gov/ats/ato/rvsm1.htm
http://www.eur-rvs.com
http://www.mecma.com

The RVSM Documentation section of the FAA, Eurocontrol websites contain guidance on aircraft/operator approval. Operators must begin coordination with the appropriate State authority as soon as possible to ensure that they are approved to begin RVSM operations on 27 November 2003.

For questions on the aircraft and operator approval process, the following contacts may be used:

MECMA:
Tel : 971-2-405-4339; fax : 971-2-449-1599; e-mail : traffic@mecma.com

CAA

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