



INTERNATIONAL CIVIL AVIATION ORGANIZATION

BAGHDAD FIR RVSM IMPLEMENTATION WORKING GROUP

First Meeting (BFRI WG/1)

(Cairo, 18 - 20 January 2010)

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

Approved by the Meeting
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BFRI WG/1
History of the Meeting

PART I – HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The First Meeting of the Baghdad FIR RVSM Implementation Working Group, was convened at the ICAO MID Regional Office in Cairo, from 18-20 January 2010.

2. OPENING

2.1 The Meeting was opened by Mr. Mohamed R. M. Khonji, ICAO Regional Director, Middle East Office who welcomed the delegates to Cairo. In his welcome address Mr. Khonji recalled that RVSM has been successfully implemented in the MID Region since 27 November 2003, nevertheless, he highlighted that RVSM has not yet been implemented within Baghdad FIR.

2.2 Mr. Khonji pointed out that the pressing need and importance of implementing RVSM in the Baghdad FIR was underlined and recognized by Users and States during many meetings. In this regard, he recalled that MIDANPIRG/11, through Decision 11/23, agreed to the establish of the Baghdad FIR RVSM Implementation Working Group (BFRI WG), for the development of necessary planning materials related to RVSM implementation in the Baghdad FIR and for assisting the Iraqi Civil Aviation Authority (ICAA) in the implementation of such an important project in an expeditious manner.

2.3 Mr. Khonji referred to the previous meetings held to support Iraq's initiative to enhance airspace capacity and in building its infrastructure. He reiterated the commitment of ICAO to fully support the initiative by Iraqi CAA for further enhancement of airspace capacity in the Baghdad FIR and the creation of economic routes to satisfy user requirements without jeopardizing the safety of air navigation; finally he wished the meeting fruitful deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of twenty one (21) Participants from seven (7) States (Bahrain, Iraq, Jordan, Kuwait, Saudi Arabia, Syria and Turkey) and two (2) Organizations (IATA and IFALPA). The list of participants is at **Appendix A** to the Report.

4. OFFICERS AND SECRETARIAT

4.1 Mr. Mohamed Smaoui, Regional Officer, Aeronautical Information Service and Meteorology (AIS/MET) was the Secretary of the meeting supported by Mr. Jehad Faqir, Deputy Regional Director, Mr. Raza Gulam, Regional Officer, Communications, Navigation and Surveillance (CNS) and Mr. Saud Al Adhoobi, Regional Officer, Air Traffic Management (ATM) from the ICAO Middle East Office.

4.2 The meeting was also supported by, Mr. George Firican, Deputy Regional Director and Mrs. Patricia Cuff, Technical Assistant, CNS/ATM from the ICAO EUR/NAT Office, Paris.

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History of the Meeting

5. LANGUAGE

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

6. AGENDA

6.1 The following Agenda was adopted:

- Agenda Item 1: Adoption of Provisional Agenda and Election of a Rapporteur
- Agenda Item 2: Review of the Requirements for the Implementation of RVSM within Baghdad FIR
- Agenda Item 3: Action Plan for the Implementation of RVSM within Baghdad FIR
- Agenda Item 4: Future Work Programme
- Agenda Item 5: Any other Business

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Report on Agenda Item 1

PART II: REPORT ON AGENDA ITEMS

**REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF A
RAPPORTEUR**

1.1 The meeting reviewed and adopted the provisional agenda as at paragraph 6 of the history of the meeting.

1.2 The meeting unanimously elected Mr. Ali Khalil Ibrahim, Director of ATS, Iraq CAA, to act as the Rapporteur of the Working Group.

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Report on Agenda Item 2

REPORT ON AGENDA ITEM 2: REVIEW OF THE REQUIREMENTS FOR THE IMPLEMENTATION OF RVSM WITHIN BAGHDAD FIR

2.1 The meeting recalled that the requirements for the implementation of RVSM in the MID Region have been initiated by MIDANPIRG/5 through Decision 5/3. MIDANPIRG/6 then, under Conclusion 6/9 agreed to the establishment of the MID RVSM Task Force, in order to, amongst others, develop a comprehensive implementation plan for RVSM in the MID Region and identify any areas within the MID Region where it may not be feasible to introduce RVSM in the initial implementation.

2.2 The meeting recalled that RVSM has been successfully implemented in the MID Region since 27 November 2003. However, RVSM has not yet been implemented within Baghdad FIR.

2.3 It was highlighted that the purpose of the implementation of RVSM was to increase capacity, through the provision of six additional flight levels, to reduce controller workload, while maintaining, or improving the level of safety, and to provide the airspace user community with an improved operating environment for optimizing flight profiles.

2.4 The meeting recognized that major changes to the ATM System in Iraq are necessary in order to cope with the continued traffic growth. The implementation of RVSM was considered to be the most cost effective means of meeting this need.

2.5 The meeting recalled that MIDANPIRG/11, through Decision 11/23, agreed to the establishment of the Baghdad FIR RVSM Implementation Working Group (BFRI WG), for the development of necessary planning materials related to RVSM implementation in Baghdad FIR and for assisting the Iraqi Civil Aviation Authority in the implementation of such an important project, in an expeditious manner.

2.6 The meeting noted that the RVSM Manual (Doc 9574) presents a five-step approach for the implementation of RVSM as shown at **Appendix 2A** to the Report on Agenda Item 2.

2.7 The meeting recalled also that the MIDANPIRG RVSM Task Force developed useful guidance material during the preparation of RVSM implementation in the MID Region, i.e. the ATC Manual and the Airworthiness Manual and recognized that these Manuals could be helpful for the preparation of RVSM implementation within Baghdad FIR. However, it was highlighted that these Manuals need to be updated. Furthermore, the meeting agreed that a proposal for amendment to the Regional Supplementary Procedures "SUPPs" (Doc 7030) should be developed as part of the work programme of the BFRI WG.

FIVE-STEP APPROACH FOR THE IMPLEMENTATION OF RVSM

Background

ICAO Doc 9574 presents a five-step process to guide RVSM implementation, as follows:

a) Step 1 — Identify the need for RVSM

This step should be conducted in consultation with provider States and user organizations and should include an assessment of:

- 1) The potential for an increase in the airspace system capacity;
- 2) The ability to provide improved vertical flight profiles to aircraft;
- 3) The consequences for ATS in terms of:
 - Workload;
 - Required facilities;
 - Re-Sectorization; and
 - Transition procedures;
- 4) The costs to non-RVSM approved operators of having to operate outside RVSM airspace;
- 5) The overall cost/benefit of the implementation of RVSM; and
- 6) The state of RVSM implementation in adjacent regions.

b) Step 2 — Preliminary assessment of system safety

This step should be undertaken to determine whether RVSM can be implemented in the defined airspace in conformance with the agreed safety objectives. This step should address conditions expected after RVSM implementation, and include:

- 1) An estimate of the maximum aircraft passing frequency within Baghdad FIR;
- 2) An assessment of the typical lateral track keeping accuracy of RVSM-approved aircraft within Baghdad FIR;
- 3) An evaluation of whether a TLS budget of 2.5×10^{-9} fatal accidents per flight hour, as a consequence of technical height-keeping deviations, can be satisfied;
- 4) An analysis of height deviations as a consequence of operational errors and emergency actions. this should assess the frequency of occurrence of such deviations together with an assessment of the level of risk of collision in the existing environment and in the planned RVSM airspace, the causes of the errors, and recommended measures to reduce the risk in RVSM airspace. Possible sources of information include:
 - Incident and/or occurrence reports of inadvertent departures from assigned flight levels;
 - Transponder height data;
 - Routine position reports that may identify operations at an incorrect flight level; and
 - Specific data collection;

- 5) An evaluation of whether the overall risk objectives can be satisfied; and
- 6) Consideration of any other operational problems which may affect safety, e.g. wake turbulence.

c) Step 3 — Planning and Preparation

This step should include:

- 1) the continued consultation, cooperation and commitment of regulatory authorities, ATS providers and airspace users;
- 2) the development of a detailed work programme and identification of those issues which lie on the critical path. The programme should incorporate:
 - Implementation considerations and requirements.
 - Airworthiness issues.
 - Procedures for the State approval of aircraft.
 - Flight crew operating procedures and training;
 - ATC system requirements, simulations, procedures and training.
 - System performance monitoring considerations.
 - If applicable, an agreed means of handling non-RVSM approved aircraft;
 - Completion of any remedial measures necessary; and
 - Possible requirements for phased implementation;
- 3) Regional agreement on implementation timescales.

d) Step 4 — Verification phase

Before commencing this phase, it is essential that a high proportion of the anticipated RVSM aircraft population meet RVSM requirements. Further, an appropriate means of monitoring aircraft height-keeping should be in place if sufficient height-keeping data are not already available. The verification process will take place over an agreed period of time during which the total system operation will be evaluated in the existing 600 m (2 000 ft) VSM environment. This phase should continue until:

- 1) It has been demonstrated that RVSM approval requirements and related guidance material are adequate, in the sense that compliance with such requirements leads to an observed height keeping performance consistent with the global height-keeping performance specification;
- 2) The causes of observed errors inconsistent with the global height-keeping performance specification have been remedied;
- 3) The technical TLS of 2.5×10^{-9} fatal accidents per aircraft flight hour has been met with a predetermined level of statistical confidence;
- 4) The system integrity has been verified; this should include confirmation, with a predetermined level of statistical confidence, that the introduction of RVSM does not increase the risk due to operational errors and in-flight contingencies. This may require the implementation of additional effective safety measures to reduce the risk as a result of these events; and
- 5) If quantification of the level of overall risk indicates, with a predetermined level of confidence, that the overall safety objectives will be violated in an RVSM environment, additional effective safety measures need to be determined and implemented in order to meet the overall safety objectives.

e) Step 5 — Operational use of RVSM

The commencement of the 300 m (1 000 ft) RVSM operations will be conditional upon the satisfactory completion of the 600 m (2 000 ft) verification phase. At the beginning of the operational application of RVSM, a comprehensive evaluation of all elements of RVSM operations should be carried out. After this evaluation, it will be necessary to ensure continued system safety. Particular attention will be required to ensure that:

- 1) All aircraft operating in RVSM airspace are RVSM approved;
- 2) The RVSM approval process remains effective;
- 3) The TLS of 2.5×10^{-9} fatal accidents per aircraft flight hour (in respect of monitored technical height-keeping performance of a representative sample of the aircraft population) continues to be met with a predetermined level of statistical confidence;
- 4) With a predetermined level of statistical confidence, the introduction of RVSM does not increase the level of risk due to operational errors and in-flight contingencies;
- 5) Additional safety measures, introduced to reduce the risk as a result of operational errors and in-flight contingencies and to meet the overall safety objectives are effective;
- 6) Evidence of altimetry system error (ASE) stability exists; and
- 7) ATC procedures remain effective.

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Report on Agenda Item 3

REPORT ON AGENDA ITEM 3: ACTION PLAN FOR THE IMPLEMENTATION OF RVSM WITHIN BAGHDAD FIR

3.1 The meeting recalled that the pressing need and importance of implementing RVSM in the Baghdad FIR was underlined and recognized by users and States during many meetings, in particular, the Special Baghdad FIR Coordination Meeting (Cairo, 28-29 May 2008), the ATM/SAR/AIS SG/10 (Cairo, 3-6 November 2008), the Special ATS Route Coordination Meeting (SARCM) between Bahrain, Iraq and Kuwait (Cairo, 15-16 July 2009), etc.

3.2 The meeting further recalled that MIDANPIRG/11 (Cairo, 9-13 February 2009) noted that IATA considered that with the efforts of all concerned parties, RVSM implementation in Baghdad FIR could be achievable in 2009. However, MIDANPIRG/11 was of view that the provision of required ATC and CNS facilities and services represent one of the pre-requisites for the RVSM implementation and that the Planning for RVSM implementation would require also the active participation of experts in airworthiness, flight operations, air traffic management, safety assessment and height monitoring, etc.

Status of CNS Infrastructure within Baghdad FIR

3.3 The meeting recognized that the implementation of the CNS requirements is one of the main important pre-requisites for the implementation of RVSM within Baghdad FIR. In this regard, it was highlighted that the lack of communication represented one of the main reason for non-implementation of some ATS Routes/segments.

3.4 Iraq updated the meeting that fibre optic project is under implementation and will take one year to complete, however the meeting reiterated that VSAT solutions are working in many parts of the world without any problem, hence urged Iraq to take necessary measures for proper operation and utilization of the current VSAT infrastructure leading to proper communication between Iraq and adjacent States Area Control Centers (ACCs).

3.5 The meeting reviewed the CNS action plan developed by the SARCM and highlighted the lack of necessary communication infrastructure. Consequently, the meeting urged Iraq to fulfil the requirement of the CNS infrastructure as per the MID ANP (Doc 9708) provisions.

3.6 Based on the above the meeting developed and updated the CNS action plan as at **Appendix 3A** to the Report on Agenda Item 3 in order to assist in the implementation of RVSM in Baghdad FIR.

ATS Route Network within Baghdad FIR and associated coordination issues

3.7 The meeting recalled that since the re-opening of the Baghdad FIR, many changes have been introduced to the ATS Route Network. However, a number of ATS Routes/segments, requested by the airspace users, have not yet been implemented.

3.8 The meeting reviewed a number of ATS route proposals made by Iraq and took action as follows:

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DESCRIPTION OF ATS ROUTE PROPOSAL	DECISION
M320 (KUWAIT-MOBIS-RAPLU)	<ul style="list-style-type: none"> - Not supported by Kuwait at present - Needs further studies - To be further discussed in the ARN TF/3 meeting
W3 (MUTEN-SODUG)	<ul style="list-style-type: none"> - Not supported by Turkey - Iraq to withdraw this route from the AIP - Iraq to further coordinate with Turkey and Iran - To be referred to the ARN TF/3 meeting for further discussions
G669 (NISER-SOLAT)	<ul style="list-style-type: none"> - Not supported by Kuwait at present - Kuwait will carry out further study - To be referred to the ARN TF/3 meeting for further discussions
G667 (ABADAN-ALSAN)	<ul style="list-style-type: none"> - Not supported by Kuwait at present - Kuwait will carry out further study - To be referred to the ARN TF/3 meeting for further discussions
A424 (LOTAN-LOVEK)	<ul style="list-style-type: none"> - Saudi Arabia has no objections to extend the route in Baghdad FIR - Proposed AIRAC date 1 July 2010
R652 (OVANO-DAXAN)	<ul style="list-style-type: none"> - Not supported by Jordan - ATS route R652 is in close proximity with ATS route UR785 that would cause traffic conflict - To be referred to the ARN TF/3 meeting for further discussions
G665 (ABADAN-ARAR)	<ul style="list-style-type: none"> - To be referred to the ARN TF/3 meeting for further discussions
J222 (ALSOX-SOKA)	<ul style="list-style-type: none"> - Not supported by Syria - ATS route J222 is in close proximity with ATS route UR785 that would cause traffic conflict - Iraq was asked to reconsider to join the ATS route with G202 and change the route designator. - To be referred to the ARN TF/3 meeting for further discussions
W8 (DEIR-ZZOR-SANANDAJ)	<ul style="list-style-type: none"> - Syria to discuss proposal with Military - To be referred to the ARN TF/3 meeting for further discussions

3.9 With regard to ATS Route **UT888 (NINVA-SIDAD)** and ATS Route **R784 (KABAN-MOBIS)**, the main problem with these routes is the direction of traffic flow, which is different between the EUR Region and the MID Region. It was recognized that this issue is directly linked to RVSM implementation in the Baghdad FIR.

3.10 The meeting further noted that there is a difference in the description of the ATS Route R784 (trajectory) between the Iraq AIP and the MID Basic ANP (ATS 1 Table) and agreed to refer this to the ARN Task Force for further consideration.

Action Plan for the Implementation of RVSM within Baghdad FIR

3.11 The meeting recalled that the SARCM was apprised of the difficulties facing Baghdad ACC in handling the traffic entering/exiting Kuwait FIR. In this regard, it was highlighted that traffic northbound into the Baghdad FIR is routed over position TASMI at RVSM Flight Levels from FL240 to FL410. This requires that Baghdad ACC has to transition the RVSM traffic which is at FL300 and above to non-RVSM Flight Levels prior to the Ankara FIR boundary. More specifically, Baghdad ACC is currently receiving westbound traffic from Kuwait ACC at the position TASMI at FL240, FL260, FL280 and FL 430, and at RVSM Flight Levels: FL300, FL320, FL340, FL360, FL380 and FL400. A vast majority of the TASMI traffic is requesting to remain at or climb to FL300 and above, for fuel conservation. This flow of traffic at ten (10) different Flight Levels has to be transitioned into mainly five (5) Flight Levels (FL280, FL310, FL350, FL390 and FL430) prior to reaching the Ankara FIR.

3.12 The traffic eastbound from the Ankara FIR and the departures from Baghdad FIR enter Kuwait FIR over position SIDAD at non-RVSM Flight Levels, from FL250 to FL410, excluding FL310.

3.13 The meeting noted that the SARCM meeting recognized the need for improvement of traffic flow and noted with appreciation Baghdad and Bahrain ACCs readiness to implement 40 NM longitudinal separation for traffic entering/exiting Baghdad FIR and their commitment to work-out a reasonable solution to alleviate the congestion and the difficulties faced by Kuwait ACC. Accordingly, Kuwait agreed to conduct further coordination with Bahrain and to look into traffic crossing issues with both Tehran and Jeddah ACCs to ensure proper separation of crossing traffic from Iran and Saudi Arabia before implementing the 40 NM longitudinal separation minima and availing additional flight levels for traffic bound to Baghdad FIR.

3.14 The meeting further noted that, in accordance with the outcome of the SARCM meeting, Bahrain prepared and sent to Kuwait an updated Letter Of Agreement (LOA) between Bahrain and Kuwait ACCs. However, no official reply has been received from Kuwait in this regard. Nevertheless, the meeting noted with appreciation that the situation was improved due to the excellent cooperation of Kuwait. In this respect, it was highlighted that the 10 minutes longitudinal separation was reduced to 40 NM separation and all requests for assignment of Flight Levels by Bahrain ACC were being approved by Kuwait ACC; but this is not yet formalized by the signature of the updated LOA.

3.15 The meeting noted that a coordination meeting was held between Bahrain and Kuwait from 10 to 11 January 2010 to finalize the Letter Of Agreement (LOA). Kuwait has advised during the coordination meeting with Bahrain that it was not possible to officially sign the LOA with Bahrain in the absence of the communication and surveillance service between Kuwait and Iraq in addition to the lack of information on the progress with regard to the improvement of the necessary CNS infrastructure.

3.16 It was further noted that Kuwait ACC will continue to hand over traffic to Baghdad ACC at position TASMI at FL240, FL260, FL280 and FL430, and RVSM Flight Levels FL300, FL320, FL340, FL360, FL380 and FL400. On the other hand, Baghdad ACC will continue to handover the traffic to Kuwait ACC over SIDAD at FL290, FL330, FL350, FL370, FL390 and FL410.

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3.17 The meeting was apprised of the difficulties facing Iraq and Turkey for the coordination/handover of traffic flow over KABAN (R784). In this regard, the meeting recalled that during the RDGE/10 meeting (Antalya, Turkey, April 2009), an agreement was reached for the establishment of a dual/unidirectional ATS route system inside Baghdad FIR, connected to the Turkish ATS route system, in order to offer increased capacity for transit flights to-from the Gulf area. Accordingly, the following was agreed upon:

- a) establish a new entry/exit point between Ankara and Baghdad FIRs (NINVA 3721N 04313E) east of KABAN;
- b) a new ATS route (UT888) would link the new NINVA point to MUS in Ankara FIR, ensuring a proper connection to the existing ATS route network;
- c) the agreed traffic flows would be southbound over KABAN and northbound over NINVA;
- d) the traffic would be 5 minutes (40NM) separated;
- e) communications hand-over points would be established for the two ATS routes within Baghdad FIR (approximately 30 - 40NM south of the FIR boundary), in order to ensure continuous radio contact with aircraft; and
- f) the flight level system used in Baghdad FIR would be the conventional ICAO flight level system and Turkey would ensure the necessary transition from/to RVSM.

3.18 The meeting noted that these proposals/agreement were not supported by Bahrain and Kuwait during the SARCM meeting, due to the conflict of traffic flows, since they require major changes to the exiting ATS route structure within both FIRs and would also affect other adjacent FIRs in the Gulf Area, mainly; Emirates and Oman.

3.19 The meeting further noted that, through AIP Edition 41 which became effective 19 November 2009, Iraq published unilaterally route direction changes which were not agreed with Turkey. Accordingly, the meeting urged the concerned parties to continue discussions to address the outstanding issue.

3.20 The meeting evaluated possible solutions to improve the situation and alleviate the capacity issues within Baghdad FIR, in a safe manner, until the successful implementation of RVSM. Accordingly, the following options were considered:

- a) reopening of UP975 within Damascus FIR for southbound traffic. The proposal considered as well the delegation of ATS provision from Syria to Turkey, considering the coordination problems between Damascus and Baghdad ACCs. Taking into account the southbound direction of this route, and the crossing of traffic within Baghdad FIR, Iraq considered that this route could not be implemented before the RVSM implementation within Baghdad FIR. Syria confirmed that the segment of the route UP975 within Damascus FIR could be implemented when the communication problems are solved;
- b) reversing of traffic flows in Kuwait FIR and beyond. This proposal would require significant changes in the ATS route structure within Kuwait, Bahrain and Muscat FIRs, affecting some of the most dense traffic areas in the MID region; and

- c) reversing of traffic flows in Ankara FIR, (northbound traffic over KABAN and southbound traffic over NINVA). It was noted that this proposal is in opposition to the agreed traffic flows during the RDGE/10. Turkey stated that this solution would be considered only for a limited period of time and together with the use of 2000 ft traffic at RVSM Flight Levels, as it would not respond to the expected full dualisation of the traffic flows in the area.

3.21 The meeting agreed that any long-term solution would be linked to the RVSM implementation within Baghdad FIR. Therefore, all efforts should be made to expedite this implementation.

3.22 Taking into account the existing traffic flows linking the European Region with the Middle East Region, it was recognized that the solution proposed during RDGE/10 in Antalya would offer the long-term solution. In this respect, meanwhile (until RVSM is fully implemented with Baghdad FIR), the meeting agreed that Iraq investigate the possibility of establishment of a limited RVSM area within the Baghdad FIR (where radar and radio coverage would be ensured). This area should cover the intersection of the two traffic flows linking Kuwait FIR to Ankara FIR under safe conditions and would respond to the agreement reached during the RDGE/10 meeting.

3.23 It was emphasized that if none of the proposed options described above is implemented, ATFM measures/restrictions could be required over KABAN.

3.24 The meeting recognized that one of the pre-requisite for RVSM implementation within Baghdad FIR would be the development of a pre-implementation safety analysis. In this regard, recognizing that the MID RMA would be heavily involved in the preparation for RVSM implementation within Baghdad FIR, the MID RMA Board/9 meeting (Beirut, Lebanon, 13-15 October 2009) noted with appreciation the commitment of Iraq to become a full MID RMA Member State and agreed to the following Draft Conclusion, which will replace and supersede MIDANPIRG/11 Conclusion 11/17 related to the Membership of the MID RMA:

DRAFT CONCLUSION 9/2: MEMBERSHIP OF THE MID RMA

That, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Syria, UAE and Yemen committed themselves to participate in the MID RMA project, through the signature of the Memorandum of Agreement (MOA).

3.25 In connection with the above, the meeting noted with appreciation that the MID RMA MOA was signed by Iraq on 11 January 2010.

3.26 Taking into consideration, the constraints of all concerned States and the different proposed solutions, the meeting agreed to the following:

- a) Iraq should make all efforts and take necessary measures in order to prepare for RVSM implementation in an expeditious manner;
- b) the MID RMA and concerned parties should support the planning for the implementation of RVSM within Baghdad FIR in coordination with Iraq, to expedite the process;
- c) Iraq to review the ATS Route Network within Baghdad FIR and amend its AIP accordingly;

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- d) Kuwait ACC will continue to handover traffic to Baghdad ACC at position TASMI at FL240, FL260, FL280 and FL430, and RVSM Flight Levels FL300, FL320, FL340, FL360, FL380 and FL400;
- e) Baghdad ACC will continue to handover the traffic to Kuwait ACC over SIDAD at FL290, FL330, FL350, FL370, FL390 and FL410;
- f) Baghdad ACC and Ankara ACC will hand-over 2000 ft separated traffic over KABAN and/or NINVA at RVSM levels;
- g) Turkey to investigate the possibility of establishment of temporary traffic flows over KABAN northbound and NINVA southbound with 2000 ft RVSM Flight Levels not later than RDGE/12 meeting (Paris, 8-12 March 2010);
- h) Iraq to investigate the establishment of a limited RVSM airspace within Baghdad FIR to cover the crossing of North-South traffic flows (radius and centre of circle to be determined) and to present the result of this evaluation to the MSG/1 Meeting (Amman, Jordan, 9-11 March 2010);
- i) ICAO to provide Iraq with guidance material related to partial implementation of RVSM (within a specified geographic area) based on the experience of the European Region;
- j) Kuwait to further consider the implementation of 40 NM longitudinal separation minima and avail additional flight levels for traffic bound to Baghdad FIR;
- k) ICAO to approach EUROCONTROL Central Flow Management Unit (CFMU) in Brussels to investigate the possibility of providing traffic information and estimates regarding inbound flights originating from Europe at entry points on the Kuwait FIR boundary;
- l) Syria and Iraq to expedite the implementation of the routes UP975 and UL602 and to present a progress report to the ARN TF/3 meeting (Cairo, 15-17 March 2010);
- m) Syria to consider delegation of the segment UP975 to Turkey;
- n) Iraq and adjacent States to expedite the signature of up-to-date LOAs to reflect the current situation;
- o) the Action Plan at **Appendix 3B** to the Report on Agenda Item 3 was agreed upon, with a tentative date for **RVSM implementation in the Baghdad FIR on 10 March 2011**.

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Appendix 3A to the Report on Agenda Item 3

CNS ACTION PLAN

ITEM ID	ACTION	TO BE DELIVERED BY	DELIVERABLE	TARGET DATE	REMARKS
1	Iraq to send draft VSAT Agreement and follow-up for replies	Iraq	Agreements for VSAT signed	30 Mar 2010	Draft agreements sent by Iraq to concerned States waiting reply from : Syria, Saudi Arabia and Turkey
2	Confirmation on VSAT Supply and usage of same bandwidth	Iraq	VSAT Equipments ready	TBD	Syria objected installation of VSAT in Syria, Other States based on above
3	confirmation and preparation of secured site with power and other facilities for VSAT Accommodation	Jordan	- Secured site with facilities - confirmation of training location	30 Mar 2010	Not priority for ICAA this year instead, ICAA will investigate obtaining additional AFTN connection with Iran and Turkey Iraq to reconsider since site is ready
4	Supply and install the VSAT Station in Amman	Iraq	VSAT Station operational in Amman	TBD	As above
5	Training for VSAT support to concerned States accommodating Iraq supplied VSAT	Iraq Jordan Kuwait Iran Syria Turkey	Adequate number (2-3)engineers from concerned States are trained	TBD	Not priority for ICAA this year Iraq to reconsider
6	ICAA CNS department to send a team to Kuwait and discuss with Kuwait AFTN manager the most efficient way to improve connection between Kuwait AFTN switch and ICAA VSAT	Iraq	Stable connection and smooth AFTN message between Iraq and Kuwait	28 Feb 2010	

ITEM ID	ACTION	TO BE DELIVERED BY	DELIVERABLE	TARGET DATE	REMARKS
7	Confirmation of AFTN link Establishment Iraq and Iran	Iraq Iran	Confirmation of VSAT link	28 Feb. 2010	Under final stages of project review
8	Testing for the distribution of AFTN messages from Iraq to concerned Sates	Iraq	Test report on exchange of AFTN messaging	30 June 2010	
9	Iraq to approach telecom operators to establish Land lines	Iraq	Link between ACC and Telecom operator	28 Feb. 2010	Through ITPC we have landlines to Amman, Damascus and Ankara. Requesting access to Iran, Saudi Arabia and Kuwait. Iraq to clarify
10	Matching request filed with agreed telecom operator	Iraq and other	Confirmation on request acceptance And International links establishment	TBD	Pending above
11	Alternate/backup solutions for AFTN and voice connectivity	Iraq Bahrain	Bahrain proposed solution and Iraq to provide reply	28 Feb. 2010	Received Solution proposed by Bahrain. ICAA will review and provide follow-up questions to Bahrain
12	Iraq to organize a meeting for CNS experts to agree on action plan for communication issues and the VSAT training	Iraq	Meeting conducted and detailed action plan agreed with concerned States	TBD	Could be arranged during the CNS SG/3
13	VHF radios repaired and repositioned in Iraq for filling the VHF communication Gap, and VHF Radio test	Iraq	VHF radio coverage as needed Test results	28 Feb. 2010	
14	ICAA CNS VSAT revitalization	Iraq	Upgrade VSAT communications network for ATC throughout Iraq	30 April 2010	VSAT revitalization project to provide radio ATC comm. For Iraq
15	Completion of Installation and testing of Basrah Radar	Iraq	Operational confirmation of the BASRAH Radar	TBD	Basrah radar is operational, however data feed has not been integrated into

ITEM ID	ACTION	TO BE DELIVERED BY	DELIVERABLE	TARGET DATE	REMARKS
					AutoTrac II system. working with Thales to complete feed
16	ERBIL Radar PROCUREMENT/INSTALLATION	Iraq	Operational confirmation of the ERBIL Radar	TBD	Future project DASR-11
17	RUTBA Radar PROCUREMENT/INSTALLATION	Iraq	Operational confirmation of the RUTBA Radar	TBD	No longer considered.WAM/ADS-B solution is being evaluated to provide coverage throughout Iraq including the west
18	ICAA to take appropriate actions to fulfill CNS infrastructure requirements as per MID ANP/FASID 9708 and CNS SG to follow up	Iraq	CNS Infrastructure installed	May 2010	

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Appendix 3B to the Report on Agenda Item 3

ACTION PLAN FOR RVSM IMPLEMENTATION IN BAGHDAD FIR

ID	ACTION	TO BE DELIVERED BY	TARGET DATE	REMARKS
1	Nomination of RVSM Focal Point	Iraq	19 Jan2010	done
2	Nomination of Baghdad FIR RVSM Program Manager	Iraq	1 Mar 2010	
3	Promulgation of national regulation to enable the implementation of RVSM	Iraq	1 Jun 2010	
4	Provide the MID RMA with traffic data for the month of February 2010 (including A/C REG)	Iraq	15 Mar 2010	
5	Submission of the latest airways structure for Baghdad FIR to the MID RMA	Iraq	15 Apr 2010	
6	Calculating the passing frequency for all Bagdad FIR airways	MID RMA	15 May 2010	
7	Conclusions of the passing frequency results, evaluation of the need for ATS Route Network amendments related to RVSM and follow up implementation of the proposals with Iraq	MID RMA	15 May 2010	
8	Submit RVSM approvals to the MIDRMA for all Iraqi registered aircraft or any airline operators certified by Iraq and to continue updating these approvals as necessary	Iraq	15 Mar 2010 (on monthly basis)	
9	Submit Coordination Failure Reports (CFR) and Altitude Deviation Reports (ADR) to the MIDRMA on a monthly basis	Iraq	On Monthly basis	
10	Develop ATC operational policy & procedures for normal RVSM operations	Iraq	1 May 2010	

ID	ACTION	TO BE DELIVERED BY	TARGET DATE	REMARKS
11	Assess the impact of RVSM implementation on controller automation systems and plan for upgrades/modifications	Iraq	1 Jun 2010	
12	Develop ATC procedures for non-approved State aircraft to transit RVSM airspace	Iraq	1 Jun 2010	
13	Develop procedures for handling non-compliant civil aircraft	Iraq	1 Jun 2010	
14	Develop procedures for suspension of RVSM	Iraq	1 Jun 2010	
15	Development of Iraq national safety plan	Iraq	1 Jun 2010	
16	Simulations to assess ATC workload and possible need for airspace/air route/Sector changes	Iraq	1 Aug 2010	
17	ATC training plan	Iraq	1 Jun 2010	
18	Update of LOAs between Iraq and all adjacent FIRs	Iraq	15 Dec 2010	
19	ATCOs trained for RVSM operation	Iraq	15 Jan 2011	
20	Carry out pre-implementation safety analysis	MID RMA	1 Dec 2010	
21	Carry out pre-implementation readiness Assessment	MID RMA	1 Dec 2010	
22	Prepare necessary proposal for amendment to Doc 7030 related to RVSM implementation within Baghdad FIR	BFRI WG	15 Dec 2010	
23	Go-No-Go Decision for RVSM Implementation effective 10 March 2011	BFRI WG	15 Dec2010	

BFRI WG/1
Report on Agenda Item 4

REPORT ON AGENDA ITEM 4: FUTURE WORK PROGRAMME

4.1 The meeting recalled that MIDANPIRG/11, through Decision 11/23, agreed to the establishment of the Baghdad FIR RVSM Implementation Working Group (BFRI WG), with Terms of Reference (TOR) as at **Appendix 4A** to the Report on Agenda Item 4, for the development of necessary planning materials related to RVSM implementation in Baghdad FIR.

4.2 The meeting reviewed the BFRI WG TOR and agreed that they are current and do not need any update.

4.3 Taking into consideration that 10 March 2011 is the tentative date of implementation of RVSM within Baghdad FIR, the meeting agreed that the BFRI WG/2 meeting be tentatively scheduled to held in Cairo, from 13 to 15 December 2010.

BFRI WG/1
Appendix 4A to the Report on Agenda Item 4

**BAGHDAD FIR RVSM IMPLEMENTATION WORKING GROUP
(BFRI WG)**

A) TERMS OF REFERENCE

With a view to coordinate and support the RVSM implementation activities in the Baghdad FIR, the Baghdad FIR RVSM Implementation Working Group (BFRI WG) shall:

- 1) Carry out a readiness assessment survey for RVSM implementation within Baghdad FIR;
- 2) Assist Iraq in the development of a comprehensive RVSM implementation plan and national safety plan;
- 3) Monitor and coordinate with Iraq the implementation of the RVSM programme within Baghdad FIR;
- 4) Carry out a Functional Hazard Analysis (FHA) which provides assurance that all hazards and risks associated with RVSM implementation within Baghdad FIR have been identified and analyzed;
- 5) Assist Iraq in the identification of necessary ATS equipment changes to accommodate the RVSM operations within Baghdad FIR;
- 6) Assist Iraq in the development of necessary ATS procedures related to RVSM operations within Baghdad FIR, including the contingency procedures;
- 7) Develop in coordination with the MID RMA an RVSM Pre-Implementation Safety Case (PISC) to provide evidence about the safe implementation of RVSM in Baghdad FIR;
- 8) Identify the needs for training and assist Iraq in the development of a training plan for the ATS personnel;
- 9) Consider interface issues related to RVSM implementation and operations with the adjacent Regions;
- 10) Assist Iraq in the publication of necessary Aeronautical Information Publication related to RVSM implementation within Baghdad FIR;
- 11) Monitor the process of signature of updated Letter of Agreements between Baghdad ACC and the adjacent ACCs;
- 12) Prepare necessary proposal for amendment to Doc 7030 related to RVSM implementation within Baghdad FIR; and
- 13) Address any other issue related to RVSM implementation within Baghdad FIR.

B) COMPOSITION

The BFRI WG will be composed of:

Bahrain, Iran, Iraq, Jordan, Kuwait, Saudi Arabia and Syria, MID RMA, IATA and IFALPA.

Other representatives, who could contribute to the activity of the Working Group, could be invited to participate as observers.

C) WORKING ARRANGEMENTS

1) The BFRI WG shall:

- report to the ATM/SAR/AIS Sub Group;
- appoint a Rapporteur to facilitate its proceedings; and
- meet as required and be dissolved once RVSM is implemented within Baghdad FIR.

2) The work of the BFRI WG shall be carried out mainly through exchange of correspondence (email, facsimile, tel, etc) between its Members; and

3) The convening of the Working Group meetings should be initiated by the Rapporteur in coordination with the Members of the Group and the ICAO MID Regional Office.

BFRI WG/1
Report on Agenda Item 5

REPORT ON AGENDA ITEM 5: ANY OTHER BUSINESS

5.1 Nothing has been discussed under this agenda item.

BFRI WG/1
Attachment A to the Report

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