



International Civil Aviation Organization

**Middle East Air Navigation Planning and
Implementation Regional Group (MIDANPIRG)**

Fourteenth Meeting
(Jeddah, Saudi Arabia, 15-19 December 2013)

**Agenda Item 4: Performance Framework for Regional Air Navigation Planning and
Implementation**
4.3 ATM/SAR

UPDATE ON THE NORMALIZATION OF THE BAGHDAD FIR

(Presented by Iraq)

SUMMARY

This Information Paper provides update on the Normalization of the Baghdad FIR.

Action by the meeting is at paragraph 3

REFERENCE

- BFPRI-SCM Summary of Discussions
- MIDANPIRG/13 Report
- Baghdad FIR Reduced Radar Longitudinal Separation Meeting
- ATM/AIM/SAR SG/13 Report

1. INTRODUCTION

1.1 This information paper is prepared by the Iraq Civil Aviation Authority to present the current situation of IRAQ Civil Aviation as a follow to the Action Plan for the Normalization of the Baghdad FIR developed by the Baghdad FIR Post RVSM Implementation - Special Coordination Meeting (BFPRI-SCM), held in Amman, Jordan on 8-9 February 2012, as at **Appendix A** to this information paper.

2. DISCUSSIONS

2.1 The meeting may wish to recall that MIDANPIRG/13 recognized that the continuous unresolved ATC coordination, communication and surveillance issues between Baghdad ACC and the neighbouring ACCs represent a safety risk and urged Iraq to take necessary measures to expedite the implementation of the Action Plan developed by the BFPRI-SCM. Furthermore, the meeting reviewed the Action Plan and noted with concern that very low progress has been achieved. Accordingly, the meeting agreed to MIDANPIRG Conclusion 13/10 below:

CONCLUSION 13/10: POST RVSM IMPLEMENTATION IN THE BAGHDAD FIR

That,

- a) Iraq be urged to implement the actions agreed by the BFPRI-SCM in an expeditious manner to solve the ATC coordination, communication and surveillance issues between Baghdad ACC and the neighbouring ACCs;*
- b) States and all stakeholders be invited to support Iraq in the process of normalization of the Baghdad FIR; and*
- c) in case of low progress of implementation of the necessary actions by Iraq before 15 October 2012, the RVSM operations be suspended in the Baghdad FIR.*

2.2 The meeting may wish to note that the Baghdad FIR Reduced Radar Longitudinal Separation Meeting was hosted by IATA, in Amman, Jordan, 19-21 June 2012. The meeting reviewed and updated the Action Plan developed by the BFPRI-SCM. The meeting also discussed the reduction of the Radar Longitudinal Spacing to 20 NM within Baghdad FIR, in addition to other issues such as Communication, Navigation, and Surveillance (CNS), and signatures of Letter of Agreements (LoAs) between Iraq and its neighbouring States.

2.3 The meeting may wish to note that Iraq provided the ICAO MID Regional Office with consecutive updates on the Normalization of the Baghdad FIR, which were presented and discussed during the Sixth meeting of ATS Route Network Task Force (ARN TF/6), Cairo, Egypt, 22-24 April 2013 and the Thirteenth meeting of the ATM/AIM/SAR Sub-Group (ATM/AIM/SAR SG/13), Cairo, Egypt, 30 September–3 October 2013. The last updated Action Plan at **Appendix B** to this information paper, includes only Five (5) pending Actions.

2.4 It is to be highlighted that Iraq has been carrying out an incredible amount of effort and work to achieve the actual significant progress related to the Normalization of the Baghdad FIR, especially with regard to the CNS infrastructure in Baghdad FIR. In addition, it's to be noted that Search and Rescue (SAR) Regulations and Procedures have been developed and SAR LoAs were sent to Iran, Jordan and Turkey for signature.

2.5 In line with the above, it is to be noted that thirteen (13) deficiencies related to Iraq would be eliminated, pending final approval by MIDANPIRG/14.

2.6 More information on Iraq latest developments and future plans related to air navigation are highlighted in **Appendix C** to this information paper.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

APPENDIX A

ACTION PLAN FOR THE NORMALIZATION OF THE BAGHDAD FIR

ID	ACTION	RESPONSIBLE	TARGET DATE	STATUS	Remarks
1	Nomination of RVSM Focal Point	Iraq	8 Feb. 2012	Completed	Mr. Ali Mohsin Hashim is the RVSM Focal Point. Mr Najah Ali Rahim is the Alternate
2	Nomination of Baghdad FIR RVSM Programme Manager	Iraq	8 Feb. 2012	Completed	Mr. Ali Mohsin Hashim is the Baghdad FIR RVSM Programme Manager
3	To provide an update on the promulgation of national regulations related to RVSM implementation	Iraq	15 Mar. 2012	Open	The Iraqi Civil Aviation Law was expected to be amended (before RVSM implementation) to include provisions related to RVSM implementation. An AIC has been published as advance notification to airspace users on 15 Oct 2010. Until the Iraqi Civil Aviation Law is amended, the AIP is to be used as the regulatory document. Iraq will provide the ICAO MID Office before 15 Mar 2012 an update on the progress achieved so far for the amendment of the Civil Aviation Law and the status of the aeronautical information publications related to RVSM (AIP ENR Section and the AIC).
4	Provide the MIDRMA with traffic data for the month of October 2012 for the development of the RVSM SMR 2013	Iraq	31 Dec. 2012	Open	After the implementation of RVSM within Baghdad FIR on 10 March 2011, the RVSM SMR 2013, which will be presented to MIDANPIRG/14, will cover the Baghdad FIR.
5	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	On monthly basis	Ongoing	Last update provided to the MIDRMA is dated Aug. 2011.

ID	ACTION	RESPONSIBLE	TARGET DATE	STATUS	Remarks
6	Submit Large Height Deviation Reports (LHD) to the MIDRMA on a monthly basis	Iraq	On Monthly basis	Ongoing	Last Altitude Deviation Report (ADR)/Coordination Failure Report (CFR) submitted to the MIDRMA is dated Dec. 2010. In accordance with the MIDRMA Board/11 Draft Conclusion 11/4 the monthly submission of LHD has replaced the monthly submission of ADRs and CFRs.
7	Update of LOA between Baghdad ACC and Tehran ACC	Iraq, Iran	Apr. 2012	Open	The LOA should have been updated before the implementation of RVSM. A draft LOA is ready for signature. Ultimately, the LOA should include the agreed Contingency Procedures between the two ACCs.
8	Update of LOA between Baghdad ACC and Amman ACC	Iraq, Jordan	Apr. 2012	Open	The LOA should have been updated before the implementation of RVSM. The current LOA needs a complete review. Ultimately, the LOA should include the agreed Contingency Procedures between the two ACCs.
9	Update of LOA between Baghdad ACC and Jeddah ACC	Iraq, Saudi Arabia	Mar. 2012	Open	The LOA should have been updated before the implementation of RVSM. The updated LOA has been already signed by Saudi Arabia. Signature of Iraq is still pending. Ultimately, the LOA should include the agreed Contingency Procedures between the two ACCs.
10	Finalize the RVSM post-implementation safety analysis	Iraq and MIDRMA	15 Mar 2012	Open	Draft Report on Safety of application of RVSM in the Baghdad FIR after 90 days of use was developed by the Iraqi Civil Aviation Authority (sent to ICAO on 26 September 2011). The comments made by the MIDRMA should be taken into consideration in the development of the final version of the Post-RVSM Implementation Safety Report, which would be presented to MIDANPIRG/13.

ID	ACTION	RESPONSIBLE	TARGET DATE	STATUS	Remarks
11	Iraq to take necessary actions for the elimination of the identified AIS deficiencies (AIRAC, QMS, WGS-84, etc)	Iraq	ASAP	Open	The need for the signature of Service Level Agreements with the data originators has been underlined.
12	To improve the efficiency and capacity of the Iraqi airspace, including the implementation of the reduced longitudinal radar separation, the ICAA to consider the implementation of an additional sector for the over-flights (FL 340 and above)	Iraq	ASAP	Open	Other operational improvements (procedure, technology) should be explored. IATA is willing to provide support.
13	<p>Longitudinal Separation:</p> <ol style="list-style-type: none"> 1. Revert back to 40 NM longitudinal separation 2. Issue NOTAM with start date and end date (publication date should be at least 1 week prior to the effective date) 3. Issue an AIP SUP to replace the NOTAM and cover the whole period of implementation (restriction) of 40 NM long separation, if needed (i.e: if the use of 40 NM longitudinal separation will be used for more than 90 days) 4. Issue NOTAM for all traffic transition Kuwait FIR (exit point TASMI) to expect delay on low levels 	<ol style="list-style-type: none"> 1. Iraq 2. Iraq 3. Iraq 4. Bahrain/ Kuwait 	<p>20 Feb. 2012</p> <p>TBD</p> <p>TBD</p>	Open	<p>Despite the agreement for the implementation of 20 NM longitudinal separation, in many cases, the situation imposed to revert back to 40NM longitudinal separation.</p> <p>Through NOTAM A0004/12, effective from 9 Jan. to 9 Apr. 2012, Iraq has imposed the use of 40 NM longitudinal separation for the South-bound traffic (over NINVA and SIDNA) with a maximum capacity of 20 ACFT per hour.</p>
14	To expedite the implementation of SMS for ATS	Iraq	ASAP	Open	

ID	ACTION	RESPONSIBLE	TARGET DATE	STATUS	Remarks
15	Iraq to present a WP/IP to MIDANPIRG/13 providing an update on the normalization of the Iraqi airspace and the progress achieved to fulfill the ICAO requirements related to the ATM, AGA, AIS, CNS and MET fields.	Iraq	15 Mar. 2012	Open	
16	Enhance the Integration of Basra and Kirkuk radars at Baghdad ACC	Iraq	Sep. 2012	Ongoing	The three radar heads (Baghdad, Basra and Kirkuk) which cover most of the Baghdad FIR except for the western part are operational. The repetitive radar failures of Basra and Kirkuk (integration of radar data into the Baghdad ACC RDPS) are due mainly to the use of old VSAT stations. Plan exists for replacing these VSATs. Iraq to consider ADS-B for surveillance improvement
17	Improve communication infrastructure	Iraq	Sep. 2012	Ongoing	Agreement signed for 14 new VSAT stations that will be supplied within 6 months and will be integrated with fiber optic.
18	Provide VHF coverage in the western part of the Baghdad FIR	Iraq	Mar. 2012	Ongoing	Work in progress at Rutba for the installation of the VHF station (the VSAT links are ready)
19	Improve the Ground-Ground (G-G) Communications with Kuwait	Iraq Kuwait	Sep. 2012	Ongoing	AFTN and Direct speech circuit operational with intermittent unavailability. A Plan for the replacement of the old VSAT with a new one to be installed in Kuwait is approved. Kuwait is to facilitate logistics.

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ID	ACTION	RESPONSIBLE	TARGET DATE	STATUS	Remarks
20	Improve G-G Communications with Jordan using VSAT	Iraq Jordan	Sep. 2012	Ongoing	Dial-up speech circuit operational with intermittent unavailability. Jordan prepared the site for the installation of VSAT which will be installed in Sep 2012 Jordan to facilitate logistics
21	Improve G-G Communications with Turkey	Iraq Turkey	Jun 2012	Open	Dial-up speech circuit operational with intermittent unavailability. Difficulties in obtaining approval for the installation of VSAT (Telecom Authority in Turkey). Iraq and Turkey to coordinate with their Telecom Authorities for the implementation of a direct speech circuit.
22	Improve G-G Communications with Iran	Iraq Iran	Sep 2012	Open	VSAT and Dial-up speech circuit are operational with intermittent unavailability. Iraq and Iran to coordinate for the replacement of the old VSAT with a new one.
23	Improve G-G Communications with Saudi Arabia by performing periodic test of the existing direct speech circuits	Iraq Saudi Arabia	On monthly basis	Open	
24	Iraq to take appropriate measures for the timely implementation of the ICAO New FPL (INFPL) provisions	Iraq	15 Nov. 2012	Open	Iraq is planning to implement a new message switching system which will be capable to accept INFPL. Iraq to attend the INFPL SG*/4 meeting (Cairo, 27-29 Feb. 2012) Iraq to provide update on the level of preparedness for the implementation of the INFPL on 15 Nov. 2012.

APPENDIX B

Iraq Civil Aviation Authority
Air Traffic Services

Republic of Iraq



IRAQ CIVIL AVIATION AUTHORITY

Normalization of the Baghdad FIR

Update to ICAO

Cairo, Egypt

Background

The ICAA received approval to implement RVSM airspace in the Baghdad FIR in 2011. At that time, an action plan was developed in coordination with ICAO which detailed specific tasks that were required to be completed to meet the normalization efforts in the Baghdad FIR.

Since then, most of the requirements listed in the initial action plan have been met. During a meeting in Cairo, Egypt in April 2013, a new action plan was agreed which highlighted the remaining outstanding items.

Action Plan

<u>Iraq RVSM Action Plan</u>			
Subject:		Six Point Action Plan for RVSM	
Date of Issue:		1-Sep-13	
Not Addressed		Pending	Completed
ITEM	ACTION	Target	Plan
1. To provide an update on the promulgation of national regulations related to RVSM implementation	A Civil Aviation Regulation has been published.		
2. Iraq to take necessary action for the completion of WGS-84 surveys.	Preliminary work has been conducted and a plan put in place for the completion of WGS-84 survey.		Selection of organization that will conduct survey.
3. Iraq to take necessary actions for the elimination of the identified AIS deficiencies (AIP, Maps and Charts, QMS)	The AIS department does not currently have the capability to meet ICAO standards. 1) There is a need to become ISO9001 compliant.2) The AIP is not accurate and therefore poses a significant safety risk. 3)We currently do not meet any of the ICAO charting requirements		ICAA personnel are planned to attend Charting courses. With the completion of WGS-84 Surveys, work towards meeting all ICAO requirements can commence.
4. To improve the efficiency and capacity of the Iraqi airspace, including the implementation of the reduced longitudinal radar separation, the ICAA to consider the implementation of additional sector(s) for over-flights.	Safety survey completed with two options for implementation of additional sector(s) for over-flights. Definitive decision can be made after completion of discussions regarding UP975 (converging airway).		There has been no response from neighbouring FIRs regarding proposals sent.
5. Implement reduced longitudinal separation of 20 nm in Baghdad FIR.	The implementation of reduced longitudinal separation will require the cooperation and coordination of neighboring FIRs. Current converging airways in Iraq airspace do not allow for reduced longitudinal separation capability.		There has been no response from neighbouring FIRs regarding proposals sent.
6. Iraq to take appropriate measures for the timely implementation of the ICAO New FPL (INFPL) provisions	Bahrain ACC is assisting Iraq by providing a conversion of INFPL information to old FPL information.		ICAA to acquire necessary equipment and capability to handle INFPL messages.

Action Item #2

The ICAA plans to complete the WGS-84 survey and is currently studying all alternatives for the completion of such.

Action Item #3

With the support of an AIS professional, an action plan specific to meeting the objectives of the AIS department has been prepared and is currently being implemented.

Action Item #4 and #5

The items noted in point 4 and 5 are directly related to the airspace structure and more particularly to the issue of UP975. These matters have been discussed at great length during ICAO meetings and conferences. The ICAA has presented many possible solutions which involve the agreement and participation of neighbouring states and it was agreed that a follow on meeting would be scheduled to review the favoured proposals (attached).

During the ARN/TF6 meeting in Cairo, April 2013, the ICAA agreed with Ankara (and Eurocontrol) to relax the maximum aircraft per hour requirement from 25 aircraft to 30. Measurements taken during the month of July has shown that in fact there are more than 30 aircraft per hour entering the Baghdad FIR from the north during the pushes (sometimes up to 34) and this has significantly increased the controller workload.

Since the Cairo meeting, the ICAA has sent a number of requests to its affected neighbouring states with proposals to alleviate the issue of UP975 but to date, no response has been received.

In the meantime, the ICAA continues to work on expanding its communication and surveillance infrastructure. Namely, the ICAA has;

- Completed approximately 70% of its VHF-UHF radio installations across the FIR. These new installations will either be new installations for increased coverage, or will replace or act as back-up for established sites. This project will help ensure that continuous communications with aircraft can be maintained.
- Contracts for additional radar installations which are at various levels of agreement. A new Radar has been installed at Erbil airport and a data feed will be connected to the BACC. New radars will be installed at Al Najaf and Sulaymania airport as well as 3 additional area radars with new automation suite.
- Completed approximately 80% of its VSAT project. The project plans are to replace all VSAT stations in the Baghdad FIR as well we install new stations in Amman and Ankara. The Amman installation will also provide redundant AFTN capabilities.
- Completed more than one half of its new Fiber-optic installation project which will connect Baghdad FIR via fiber to all its neighbouring FIRs as well as Beirut and Cairo.

With the re-alignment of UP975, we are confident that we can move to reduce the longitudinal separation in the Baghdad FIR to 20 nm within a short time period.

Action Item #6

The ICAA had previously entered into a contract with a company for the provision of an AMHS system. The company proved unreliable and the contract has recently been rescinded. A new tender process will be initiated and a more capable company selected which can provide us with the required equipment and service.

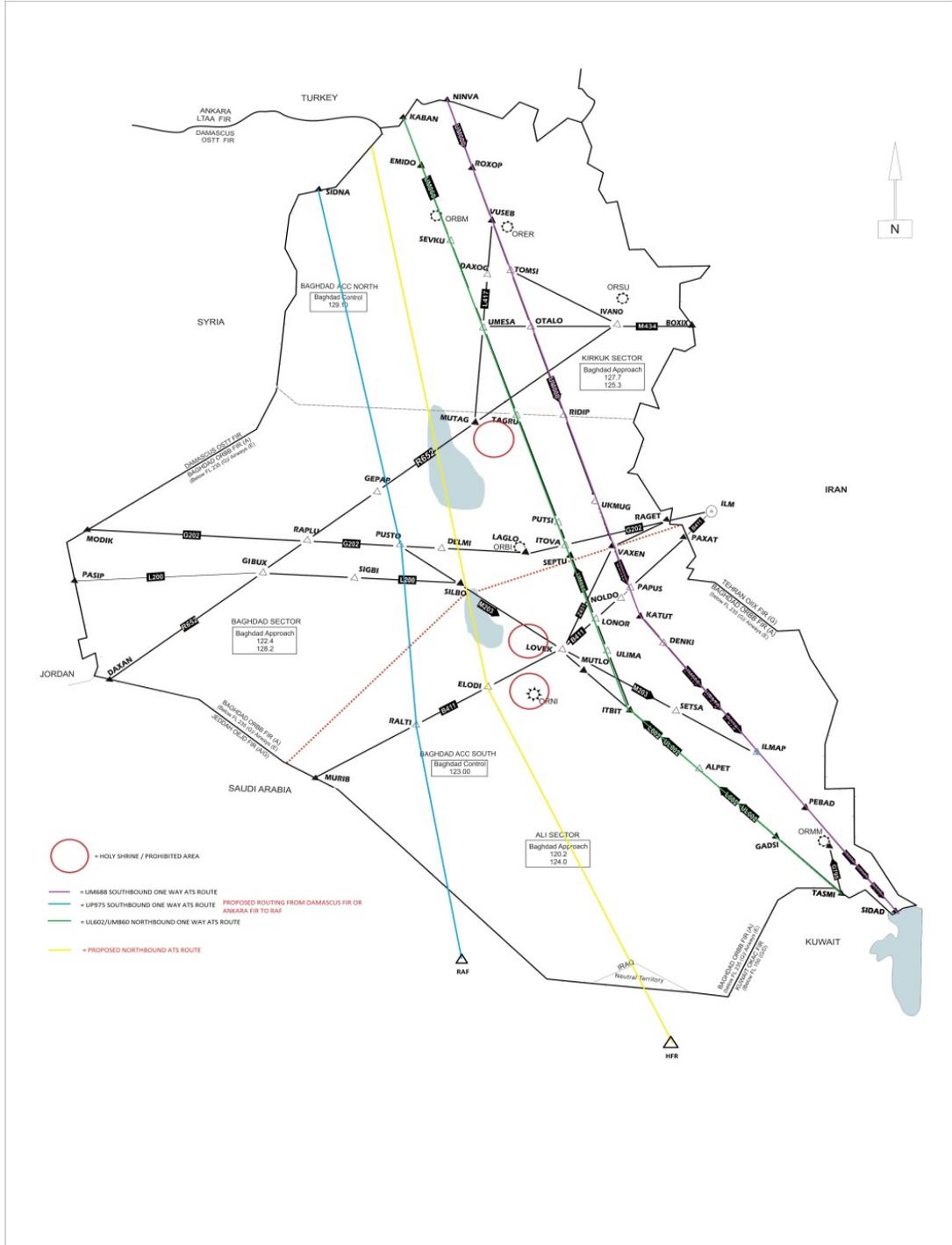
UP975 proposals

The attached proposals were discussed during the Cairo ARN/TF6 meeting and agreed as the most favourable options to pursue.

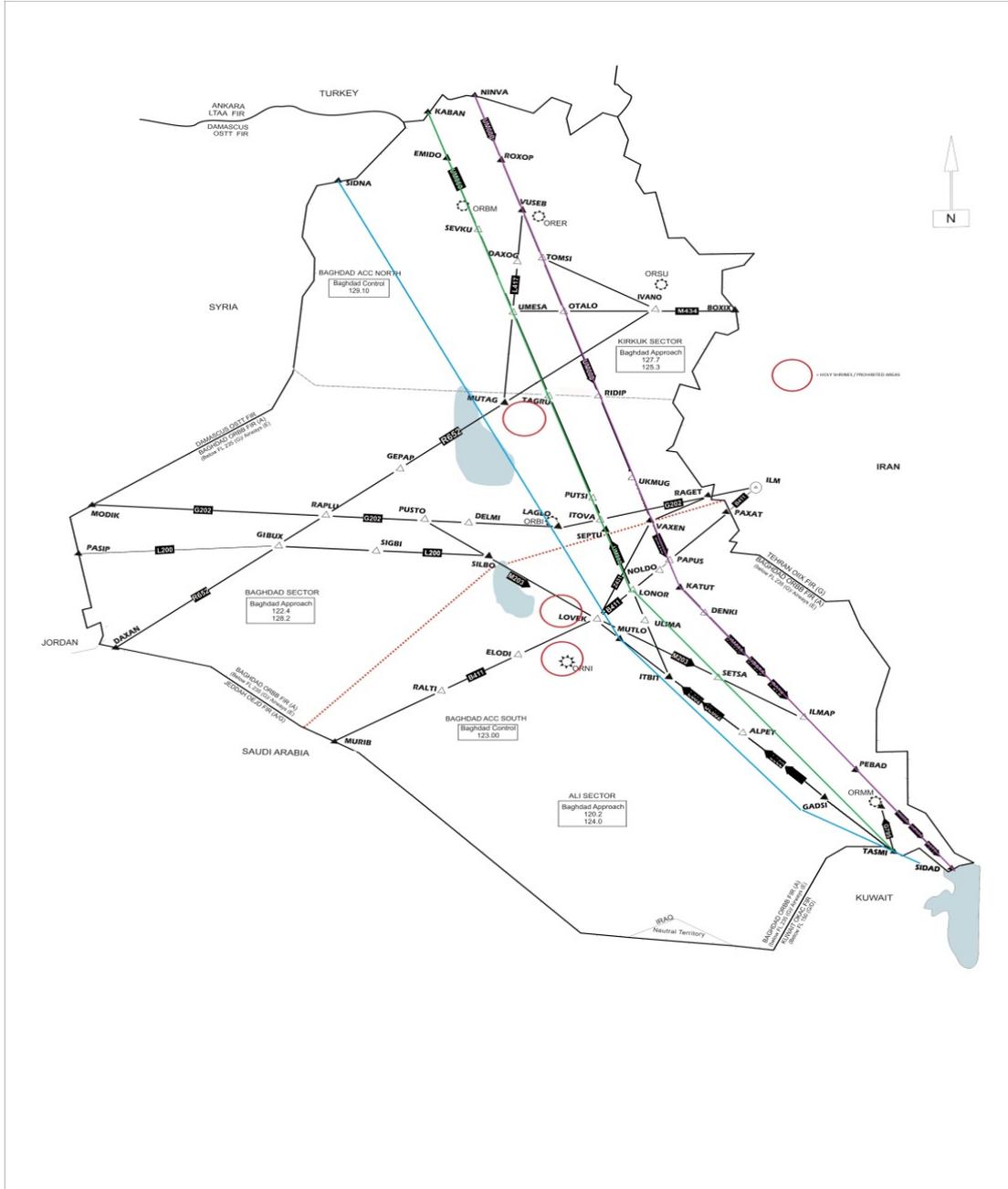
Proposal #1 – contemplates 2 new routes (one south bound and one north bound) that would traverse the Damascus, Ankara and Jeddah FIRs. This change would affect the whole region, but may also be the most beneficial in the long term. The proposal was sent to Jeddah for their review and comment and no reply has been received to date.

Proposal #2 – This proposal has little effect on any of the adjacent FIRs except for Kuwait. The majority of the work would occur in the Baghdad FIR. This proposal fits well with other proposals from Bahrain for added airways into the Kuwait FIR. In this scenario, UP975 would continue south bound in the western part of Iraq and as it approached the boundary with Kuwait, would veer to the east so as to remain clear of the Kuwait military airspace. The envisaged south bound airway would cross the north bound traffic at the boundary where little or no level changes occur. It would be agreed that this area would be designated as a no climb zone.

PROPOSAL #1 – NEW ROUTES THROUGH JEDDAH FIR



PROPOSAL #2 – NEW ROUTE THROUGH KUWAIT FIR



APPENDIX C

Republic of Iraq



IRAQ CIVIL AVIATION AUTHORITY

Baghdad FIR

Update to ICAO

Jeddah, Saudi Arabia

Background

Over the past two decades the State of Iraq has endured many challenges which have affected the provision of Air Navigation Services in a profound manner. As a result, the country suffered a steady decline in its technological capability as well as its professional expertise.

It was only in 2008 that the ICAA began to re-establish itself as the national civil aviation body in Iraq. Since then, the ATS department has successfully completed the following:

- The successful transition of the control of Iraqi airspace from the Coalition Forces to the ICAA
- Development of Unit Training Plans supporting the validation of new Iraqi controllers
- Increased the airspace capacity by reducing spacing between aircraft and implementing RVSM
- The provision of Approach Radar services in Iraq airspace
- The completion of Letters of Agreement with neighbouring ACCs
- The development of Local Air Traffic Service Instructions (LATSI)
- Represented the ICAA in regional initiatives relating to ICAO, IATA and MIDRMA
- Implementation of an Aviation Safety Policy and a Safety Management Manual for ATS
- Installation of a new 270 degree Tower simulator in the ATC Academy
- Provision of English language assessments and Aviation English language training
- Delivered Tower, Approach Procedural and Approach Radar training

Current Operational Status

The ICAA is pleased to have recently been able to reduce its requirement for spacing between aircraft in the entire state to 20 nm. With the continued development of new ATS routes and the realignment of problematic ones, further relaxation of restrictions is planned and anticipated.

Through the excellent cooperation of its neighbors, Iraq has been successful in coming to agreement with Saudi Arabia for the implementation of two new routes designed to alleviate the traffic congestion that is currently being experienced in the north/south corridor through Kuwait and Bahrain. What remains to be completed is an agreement with Ankara ACC for the provision of a new northbound air route through their airspace.

Over the past year as the ICAA installed new VSAT stations and replaced its radio transceiver equipment. This has resulted in significant improvements to Iraq's communication systems. The country has also moved forward on its fiber-optic initiative and completion of the country wide project is planned in 2014.

With the current increase in air traffic and the anticipated growth through 2020, the ICAA has begun a longer term recruitment plan which has the ATC Academy fully engaged with new recruit training. Also, the ATS department is reviewing its procedures and sectorization plans as part of a wider safety case in order to ensure that the anticipated increase in traffic can be accommodated in a safe and efficient manner.

In addition to the above, the ICAA has identified the need for an increased surveillance capability and contracts for additional radar installations are at various levels of agreement.

A new radar has been installed at Erbil and additional radar sites are planned for Al Najaf and Sulaymania airports. As well as, three additional area radars are planned with a complete new automation suite to support ATC operations into the future.

Future Plans

Although much has been accomplished over the past few years, the ICAA is committed to the continuous improvement of its organization, Iraq's airspace and its service delivery to users.

Points of focus in the near future are:

- The continued development of new air routes to increase safety and efficiency
- The development and implementation of new sectors in the BACC
- Develop plans for the continuous training of Iraqi air traffic control candidates
- Develop and expand middle management capability within ATS
- The continuous liaising with neighboring FIRs
- To continue participation in ICAO and MIDRMA forums in order to strengthen those relationships

With the continued cooperation of neighboring states, and support from organizations like ICAO and IATA, the ICAA is well positioned to continue its growth and play an important role in the region.

The immediate next step is the development of two new ATS routes through the Baghdad FIR (one north bound and one south bound) to alleviate the current north/south traffic congestion (see figure below). Implementation for the southern portion of these new routes is planned for Feb/2014 (through the Jeddah FIR). With Ankara's cooperation, once the northbound route is implemented through their airspace, a review of the entire traffic flow can take place with a view to further reducing restrictions and spacing between aircraft.

In addition to this, plans are in place for an additional south bound airway through Kuwait FIR once they have implemented RNAV1 routes (planned for June 2014).

