



International Civil Aviation Organization

MIDANPIRG ATM/AIM/SAR Sub-Group

Thirteenth Meeting (ATM/AIM/SAR SG/13)
(Cairo, Egypt, 30 September – 3 October 2013)

Agenda Item 4: ATM/SAR Issues

REALIGNMENT OF BAHRAIN/JEDDAH FIRs BOUNDARY

(Presented by Bahrain)

SUMMARY

This paper presents a summary of the activities related to the realignment of Bahrain/Jeddah FIR Boundary and the implementation of significant air-route changes within the new Northern sector of Bahrain FIR effective date 9th January 2014.

Action by the meeting is at paragraph 3.

REFERENCES

- ARN TF 6 Final Report
- MID-ANP Doc 9708
- MID ANP BASIC ATS-1 Table

1. INTRODUCTION

1.1 Bahrain and Saudi Arabia CAAs on 9 January 2014 at time 0001 UTC will realign their FIR boundary to a new coordinates to be in line with the agreement reached between the higher authorities in both Kingdoms. The new Jeddah FIR will be extended to the east to encompass the East portion of Saudi Arabia airspace.

1.2 The two brotherly Kingdoms have jointly sent a letter to ICAO MID Office in May 2013 requesting, the Secretariat to take the appropriate actions to amend ICAO MID ANP as required.

1.3 A joint Committee established between the two brotherly Civil Aviation Authorities, to adopt and implement the transition activities. Which includes, AIS publication, Development Safety Case on all changes, Revision of all LoAs, Revision of internal ATC procedures, and not least, Training of ATCOs and all concerned Staff.

2 DISCUSSION

2.1 The new realignment of the Bahrain/Jeddah FIRs boundary will affect operation in Bahrain, Dammam, Riyadh and Jeddah ACCs. Bahrain ATM studied this change from all aspects and found that the following need to be changed in Bahrain ACC prior the transition date of 9th January 2013:

- Bahrain Sectors
- Bahrain airways located north of Bahrain FIR
- Operational Letter of Agreements
- Internal ATC procedures
- ATM Systems & FPL Systems.
- AIS Publication
- Training
- Flow Control Measures.

2.2 Bahrain Sectors:

Prior to Jeddah realignment of airspace Bahrain FIR encompassed 6 sectors of which one was high altitude only and one was a South Sector Procedural only. Realignment will affect our West Sector and also the South Procedural sector. In order to accommodate the changes required for Jeddah and better handle the growing traffic we have developed a new North Sector which will do initial sequencing and descent for Qatar Landing traffic from Kuwait FIR and also climbing traffic from Qatar and Bahrain for which is proceeding over Kuwait and allow more flexibility and better usage of altitudes.

2.3 Bahrain airways located north of Bahrain FIR:

Presently we have total of four airways interfacing with Kuwait FIR.

Two West bound airways of which one is solely for Kuwait arrivals and the other for over flying traffic to Baghdad FIR. There are also two East bound airways from Kuwait of which one is for Southern UAE and Landers in the Bahrain FIR and the other for Northern UAE.

With the initiative of RNAV1 airways, on 9 January 2014 we will expand this to 6 RNAV-1 airways in the same airspace. Of these 6, three will be westbound and three eastbound. Airway flexibility in this area will allow the splitting of Bahrain FIR landers and Southern UAE traffic as well as give another airway to climb traffic departing Bahrain FIR for Kuwait FIR. Presently these airways will merge back into the original 4 airways prior to Kuwait FIR. Coordination is in process with Kuwait ATM to accommodate the additional airways. This will meet Iraq request of implementing additional southbound route to UP975 in order to relieve the congestion in Baghdad FIR and to implement two parallel ATS Routes from Ankara through Kuwait to the Gulf as requested by Iraq during ARN TF/6 Meeting (Cairo, Egypt 22 -24 April 2013).

In the coming few days, Bahrain will send letter to ICAO MID Office with PROPOSAL FOR AMENDMENT OF THE ICAO MID AIR NAVIGATION PLAN (DOC 9708), VOLUME I BASIC ANP accordingly.

2.4 Operational Letter of Agreements have recently been negotiated with UAE and Doha to reflect changes in airspace and traffic. We are in the process of negotiating a new agreement with Jeddah which will encompass Jeddah, Riyadh and Dammam areas and the new airspace realignment. The Letter of Agreement with Kuwait is being renegotiated in order to accommodate the new airway structure in Bahrain. The Tehran agreement will also be affected by new airway structure and procedures. There will no longer be a requirement for a Muscat/Bahrain LOA or a Sanna/Bahrain LOA with the realignment as Bahrain and these areas will no longer share any borders.

2.5 Internal ATC procedures in Bahrain are being modified to accommodate the new Jeddah realignment. These procedures include;

- New North Sector will be opened.
- New RNAV-1 Routes North of BAH FIR will be established.
- Traffic from Doha westbound only climbing to FL280 or below over KFA with in-stream spacing

- FL280 is not available for traffic from UAE westbound for GIBUS/BPN.
- FL350 is not available for traffic from KUW FIR
- FL330 is not available for traffic from JED and west.
- Departing traffic from Bahrain for COPPI routing via KFA
- Reducing the crossing points between Jeddah and Bahrain to a manageable number. Presently there are converging airways in Bahrain FIR which are being removed.
- New arrival gate to north and sector in Bahrain to reduce workload in the Central Sector
- Conflict point between eastbound traffic north of Bahrain is being assessed with Jeddah working the aircraft until very close to the point of conflict.

2.6 ATM Systems & FPL Systems:

Bahrain is using a Eurocat system which is based on Entry Exit Points to Bahrain FIR. Changing the boundary of Bahrain FIR is a major task for the ATM systems personnel and this has major ramifications on the flight planning system.

2.7 AIS Publication:

AIRAC 1/14 which include all route changes and AIP preferential routes which have been modified to address the new airspace structure will be published in time, on 14th November 2013 with effective date 9 January 2014 for airlines and adjacent FIRs to react.

2.8 Training:

Bahrain and Saudi Arabia are working to make the transition as safe and orderly as possible by providing expertise for training the Jeddah ATCO's and making available their Training Manager and allowing Jeddah controllers to sit on Bahrain West sector and receive familiarity. Bahrain is also providing simulation exercises to Jeddah using the existing traffic for development of the training package for Jeddah.

2.8 Flow Control measures:

Flow Control measures **might** be implemented on adjacent FIRs initially on 9 January 2014. Adjacent ATC Units and airlines cooperation and support would be highly appreciated.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a. note the information contained in this working paper;
- b. update the MID ANP BASIC ATS-1 Table to reflect the new RNAV-1 routes north of Bahrain FIR; and
- c. request States concerned to review/sign their current letter of Agreement with Bahrain to reflect the new changes resulted from the FIR realignment prior 9 January 2014.