



International Civil Aviation Organization

**The First Meeting of the Ad Hoc Afghanistan Contingency Group Meeting
(AHACG/1)**

Kuala Lumpur, Malaysia, 11-12 September 2014

Agenda Item 2: Afghanistan ATS Status and Capability Building

STATUS OF ATM SUB-GROUP OUTCOMES RELATED TO AFGHANISTAN

(Presented by the Secretariat)

SUMMARY

This paper presents information on Afghanistan that was presented at the Second Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/2, 04-08 August 2014).

1. INTRODUCTION

1.1 The Second Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/2) was held at the Headquarters of the Civil Aviation Department, Hong Kong, China from 04 to 08 August 2014.

1.2 At the ATM/SG/2 ICAO provided information in WP19 on certain aspects of the transition from military to civilian control of Afghanistan's airspace, and suggested considerations for sub-regional airspace contingency planning, should the Kabul FIR become restricted, either in part or as a whole. Currently, the situation in Afghanistan remained fluid, with no certainty regarding the level of Air Traffic Control (ATC) services. The paper noted that the ATC contract for provision of services from the Kabul ACC was due to expire in December 2014 and would not be renewed by the military. Moreover, although the Afghanistan government was in negotiations to contract services, as at the time of the ATM/SG/2 meeting the contract had not been awarded.

2. DISCUSSION

2.1 A copy of ATM/SG/2/WP19 is appended at **Attachment A**.

2.2 IATA stated at the ATM/SG/2 that the development of contingency routes and procedures for Afghanistan was of paramount importance, and should be undertaken as a matter of urgency. They further stated that many airlines would be planning to avoid the Kabul FIR in the same way that they were currently avoiding other airspace defined by their risk management processes. Noting that most carriers were able to utilise Iranian airspace, IATA stressed that reasonable contingency routing schemes were of vital importance, as a number of alternative options involved substantial costs that may threaten the financial viability of affected airlines.

2.3 India stressed the need for the communications coordination meeting with Pakistan and Afghanistan Civil Aviation Authority (ACAA) scheduled for 9-10 December 2014 in Bangkok should be held earlier if possible. ICAO would discuss this internally within the Regional Office.

2.4 The ATM/SG/2 meeting recognised that the overriding importance of the contingency planning for the Kabul FIR required an urgent response. An ad hoc group made up of affected States and International Organizations to examine the situation and develop proposals for contingency operations in the event of disruption to services or unsafe airspace in the Kabul FIR was proposed by the ATM/SG/2 Chair.

2.5 Thailand notified the meeting that they would support contingency measures as far as possible, and that the Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT) could be reconfigured to provide enhanced services.

2.6 It was noted that there needed to be coordination between the ICAO EUR/NAT Office (Paris), MID Office (Cairo) and the Asia/Pacific Office. In this regard, the meeting were apprised of the forthcoming Fourth Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/4, 29 to 31 October 2014, Bangkok), at which all three offices would be present.

2.7 The ATM/SG/2 meeting agreed to the following Decision developed by the RACP/TF/3 meeting:

Decision ATM/SG/2-4: Ad Hoc Afghanistan Contingency Group

That, an ad hoc group is convened supported by the ICAO Asia/Pacific Office to urgently discuss contingency planning to address any contingency aspects for the continued safe and efficient operation of aircraft between Europe and the Asia/Pacific Region, consisting of IATA, IFALPA, Afghanistan, China, India, Iran, Oman, Pakistan, Singapore, the United States, Thailand and other affected parties as necessary.

3. ACTION BY THE MEETING

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

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International Civil Aviation Organization

**The Second Meeting of the APANPIRG ATM Sub-Group
(ATM /SG/2)**

Hong Kong, China, 04-08 August 2014

Agenda Item 5: ATM Coordination (Meetings, Route Development, Contingency Planning)

AFGHANISTAN AIRSPACE CONTINGENCY PLANNING

(Presented by the Secretariat)

SUMMARY

This paper provides information on certain aspects of the transition from military to civilian control of Afghanistan's airspace, and presents considerations for sub-regional airspace contingency planning, should the Kabul Flight Information Region (FIR) become restricted, either in part or as a whole.

1. INTRODUCTION

1.1 In the past, the Kabul FIR had been unavailable due to military operations (Soviet Union 1979-1988, and the international coalition led by the United States from 2001 to the present). The security and operating environment had remained uncertain in Afghanistan, despite the rebuilding effort that had taken place over the past decade.

2. DISCUSSION

Air Navigation Services Situation

2.1 Currently, the situation in Afghanistan remained fluid, with no certainty regarding the level of Air Traffic Control (ATC) services. The ATC contract for provision of services from the Kabul Area Control Centre (ACC) expires in December 2014 and would not be renewed by the military. The Afghanistan government was in negotiations to contract services, but as at July 2014 the contract had yet not been awarded. Besides the uncertainty regarding security and the transition from military to civilian control of the Kabul FIR during the second half of 2014, there were also significant uncertainties regarding the provision of air navigation services in Afghanistan¹:

- the lack of redundancy for the air-ground Very High Frequency (VHF) communication system, which was only capable of covering the Kabul FIR by use of Very Small Aperture Terminal (VSAT) units (there was no High Frequency (HF) or Satellite Communications (SATCOM) backup to this crucial function);
- the continued lack of ATS surveillance across all ATS routes supporting international air traffic (the wide area multilateration system was not currently operating and there was a planned reduction of Secondary Surveillance Radar coverage);

¹ ICAO conducted a Mission to Afghanistan in June 2014

- the reliance on VSAT to communicate to other ATS units, with no redundant landline capability (all inter-ATS unit communications were conducted by normal telephone, with no direct lines, backup or redundancy); and
- the lack of a formal ATM contingency plan.

2.2 The communications remedial plan had not progressed, so the Afghanistan Civil Aviation Authority (ACAA) had accepted the need for another coordination meeting with Pakistan and India, scheduled for 9-10 December 2014 in India.

Civil/Military Cooperation

2.3 Within the Kabul FIR, FL300 remained unavailable to civilian traffic because of military operations. Despite the drawdown of international coalition forces at the end of 2014, this would remain the case for the foreseeable future. De-confliction between military activities and aircraft flying at altitudes above FL300 by prior coordination with the Kabul ACC was a priority procedural mechanism for the international coalition, and this involved the ACAA establishing the necessary arrangements with the Afghan Ministry of Defence.

2.4 It was clear that some planning was necessary by the States involved and IATA to ensure the least possible disruption and safety of operations affected by any reduction in air navigation services within the Kabul FIR. This was a matter of some urgency, given the reduction of international support in the next four months.

2.5 While it is not ICAO's role to determine the precise contingency arrangements, the Regional Office is committed to assisting States and airspace users to formulate broad plans that have a number of options, dependent on the situation. Ultimately, it is the airlines operating on advice from the States that make the decision on which option is suitable in any given circumstances.

Scenario A – South of the Himalayas: Partial Kabul FIR Contingency Services

2.6 In the event that some parts of the Kabul FIR are unable to be provided with an ATC service (most likely due to the loss of some VSAT facilities supporting VHF), the following short term arrangements should be considered as part of planning:

- If the upper airspace is not affected by military or security concerns, delegation of ATC responsibility in that portion of airspace to another ATC unit; or
- Closure of the affected ATS routes (this may cause congestion on other routes).

Scenario B – South of the Himalayas: Kabul FIR Contingency Services

2.7 In the event that the entire Kabul FIR is unable to be provided with an ATC service, the following short to medium term arrangements should be considered as part of planning:

- If the upper airspace is not affected by military or security concerns, Thailand's Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT) could be configured to operate H24 for both west and east direction traffic at a specified time-based separation such as 20 minutes, monitored by neighbouring ATC units; and
- Crossing ATS routes such as A219, A453, G202, G206 and G668 may need to be closed to ensure no converging traffic (see **Figure 1**); and
- Traffic Information Broadcasts by Aircraft (TIBA) could be utilised; and
- Aircraft should operate with lights and surveillance systems such as Automatic Dependent Surveillance-Broadcast (ADS-B) on; and

- Advisory services could be provided by an adjacent ATC unit.

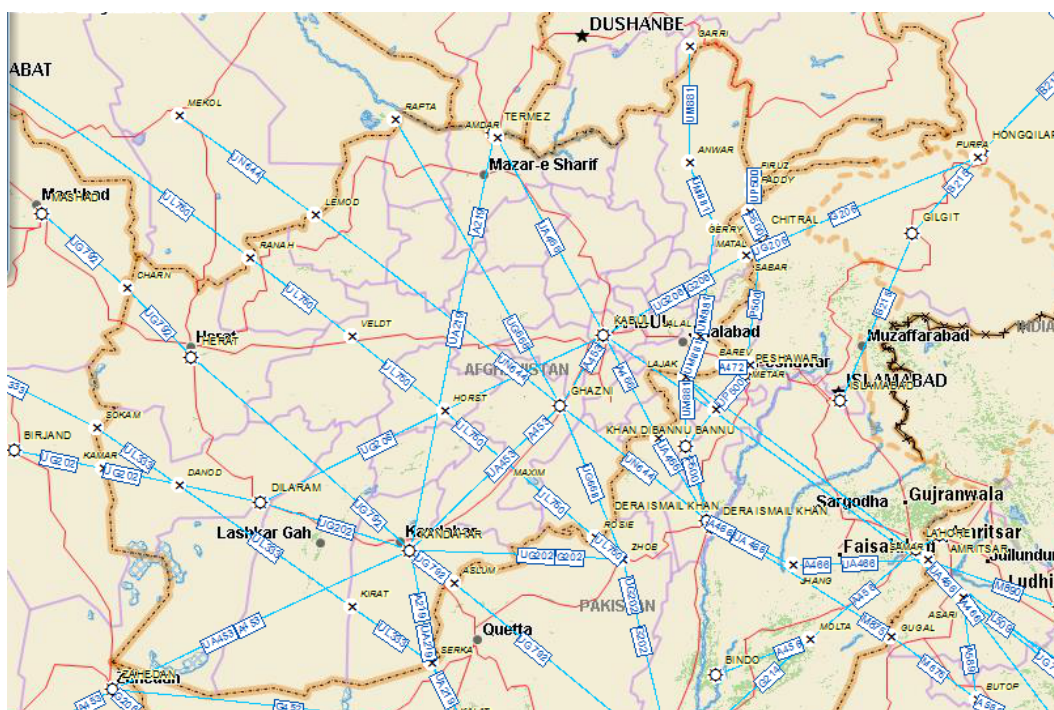


Figure 1: Kabul FIR international ATS Routes

Scenario C – South of the Himalayas: Iranian Airspace Routes

2.8 The Third Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/3, Bangkok, Thailand, 18 – 22 February 2013), the Islamic Republic of Iran presented WP10 (**Attachment A** to this paper), which provided a series of ATS route proposals indicating that the Islamic Republic of Iran’s willingness to work with the Asia/Pacific region to establish more efficient and alternative routes, which could be useful in a scenario whereby the Kabul FIR was effectively closed.

2.9 In the event that the I. R. Iran could cope with additional traffic (Iran had previously reported that they had complete ATS surveillance coverage), it was possible in the short term to operate two major flows of traffic through ATS routes L124 and L125, with a southern ‘branch’ through route G665 (**Figure 2**). It should be noted that L125 passes close to the Kabul FIR at position Zahedan, and then eastbound passed even closer on G452 through Pakistan’s airspace, so may not be available).

2.10 In the short to medium term, it was possible to specifically design several parallel RNAV2 routes through the Tehran FIR spaced approximately between 8 to 20NM apart (the parallel route structure in the Republic of Korea refers), to provide a procedural means of managing any heavy traffic through the airspace. This work could be conducted with the assistance of ICAO, in coordination with the I. R. Iran.

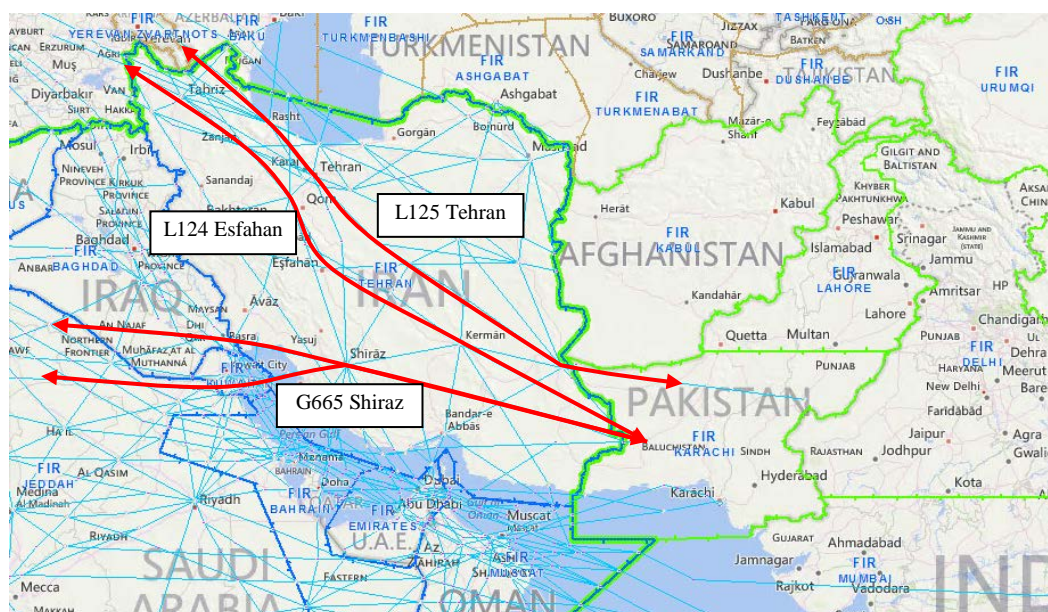


Figure 2: Possible main Tehran FIR contingency Options

Scenario D – South of the Himalayas: Middle East Contingency Procedures

2.11 In the event of airspace closures to international civil aviation or where operators wished to avoid airspace due to a perceived risk to flight safety, these Contingency Routing Plans for Asia/Middle East/Europe (CRAME) procedures had been developed in 2001 to provide alternative routings for various scenarios if the Kabul FIR was closed. In 2003 this plan was updated as CRAME 03¹ to take into account possible restrictions in the Baghdad FIR.

2.12 The original contingency routes were given CRAME designators based on various scenarios that may take place to avoid the Baghdad FIR, which were:

- CRAME 1: avoidance of ATS route G452 immediately south of Afghanistan;
- CRAME 2: avoidance of Pakistan (Karachi and Lahore FIRs);
- CRAME 3: avoidance of Pakistan and the Gulf area (UAE/Oman, etc.);
- CRAME 4: avoidance of Pakistan, the Gulf, and the Arabian Sea (Muscat FIR); and
- CRAME 5: avoidance of Pakistan, the Gulf, and the Arabian Sea (Muscat, Sanaa FIRs).

¹ Approved by the ICAO Council on 13 March 2003

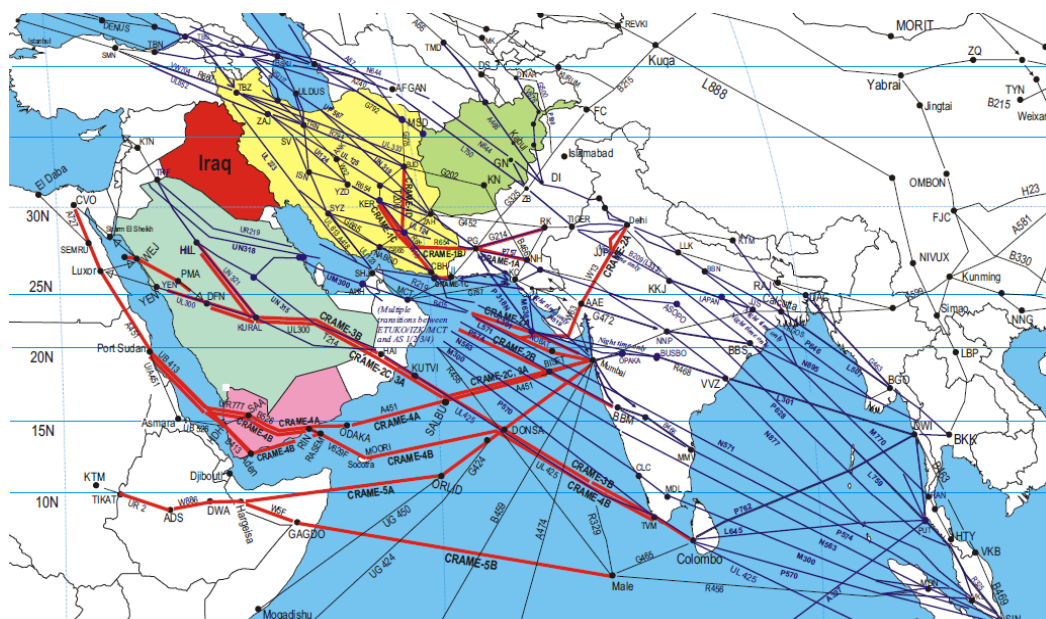


Figure 3: CRAME Contingency Routing System

2.13 The ICAO Middle East (MID) Office had updated the original CRAME procedures, although the ATS capability, traffic densities and route systems within the CRAME airspace had all changed dramatically since 2001 (see **Attachment B**). While the staged approach to risk (whereupon several routing options were provided) was still relevant, there were continued risks in Northern Iraq and instability within Syrian airspace that affected CRAME, and the options largely used ATS routes that resulted in major additional track miles over the Arabian Peninsula and Africa.

2.14 It should be noted that in the event that the UAE/Oman airspace through the Gulf was available, it may not be possible to accommodate a large number of extra aircraft in this already congested airspace. In any case, if contingency planning for Afghanistan airspace included reference to the MID Office's planning, it should be integrated with Scenario C (Iranian routes).

Scenario E – North of the Himalayas: ATS route L888

2.15 Some years ago, China implemented Area Navigation (RNAV) ATS route L888, which provides a means of traversing through Chinese FIRs en-route to Europe (**Figure 4**). This provides a short-term alternative for airlines from Southeast Asia, but does not help South Asian traffic.

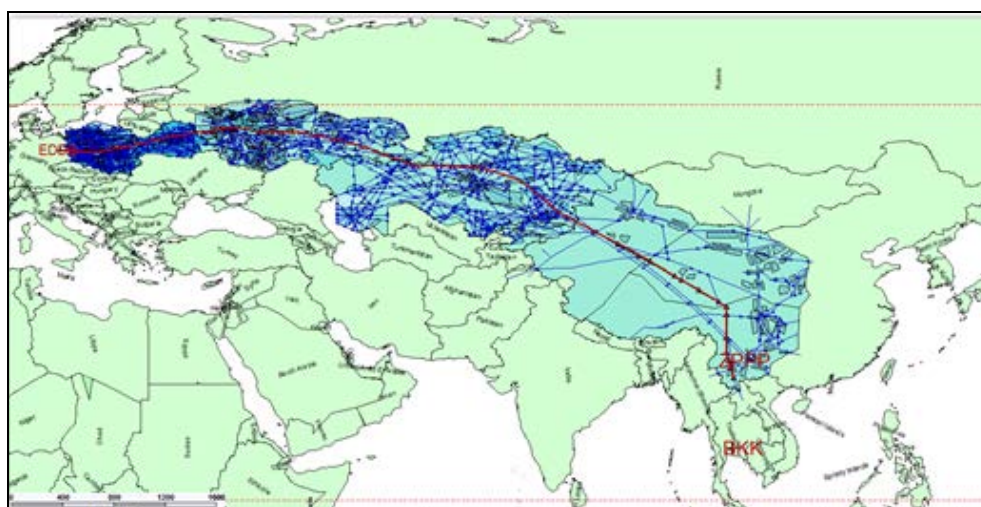


Figure 4: Kunming to Frankfurt using L888

2.16 It should be noted that as an RNAV10 route, the longitudinal capacity on L888 was limited and the integration of data-link systems such as Controller Pilot Data-link Communications (CPDLC) into Chinese ATM systems was still on-going.

Scenario F – North of the Himalayas: ‘Silk Road’

2.17 The ATM/SG/1 meeting considered a medium to long term concept of a contingency routing system north of the Himalayas, known as the ‘Silk Road’, with routes joining Europe and East/Southeast Asia, in order to provide alternative regional routes in case in South Asia Major Traffic Flow (MTF-4) airspace was not available. The thinking behind the Silk Road initiative was not new. As long ago as 1997 the Australian airline QANTAS commissioned a study that routing options that crossed part of the Tibetan plateau for their B747-400 aircraft would provide benefits, and that suitable depressurization escape routes were able to be determined. The QANTAS study did not take into account political and ATM matters, but did study terrain, meteorological and aircraft performance aspects.

2.18 This trans-regional concept would need to involve the APAC and EUR/NAT Regional Offices to seek endorsement and support from the States involved, as well as technical feedback from IATA and the airlines and procedure design organizations to consider issues such as high terrain areas, so was a medium-term proposition. The ICAO APAC Regional Sub-Office would also need to be heavily involved in terms of coordination with China.

2.19 A comparison of an example flight from Bangkok, Thailand to Frankfurt, Germany that would normally operate south of the Himalayas through Indian, Pakistan and Afghanistan airspace and the Silk Road concept via Kunming yielded encouraging results. The Silk Road ‘contingency’ route system at 4,999NM (**Figure 5**) was determined to be approximately 139NM or 18 minutes shorter than the typical route system on routes south of the Himalayas at 4,860NM (**Figure 6**).

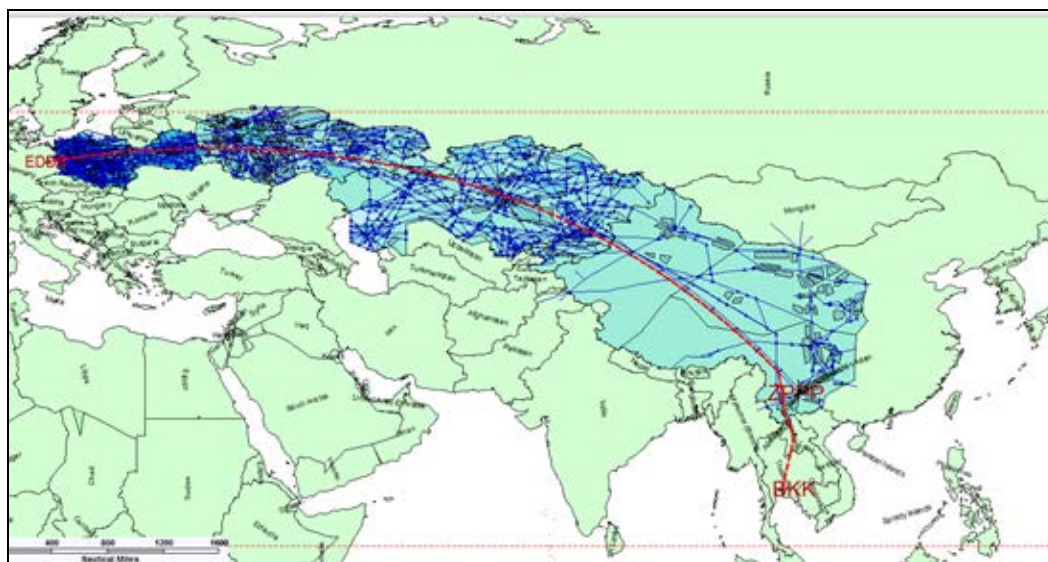


Figure 5: Conceptual ‘Silk Road’ route north of the Himalayas

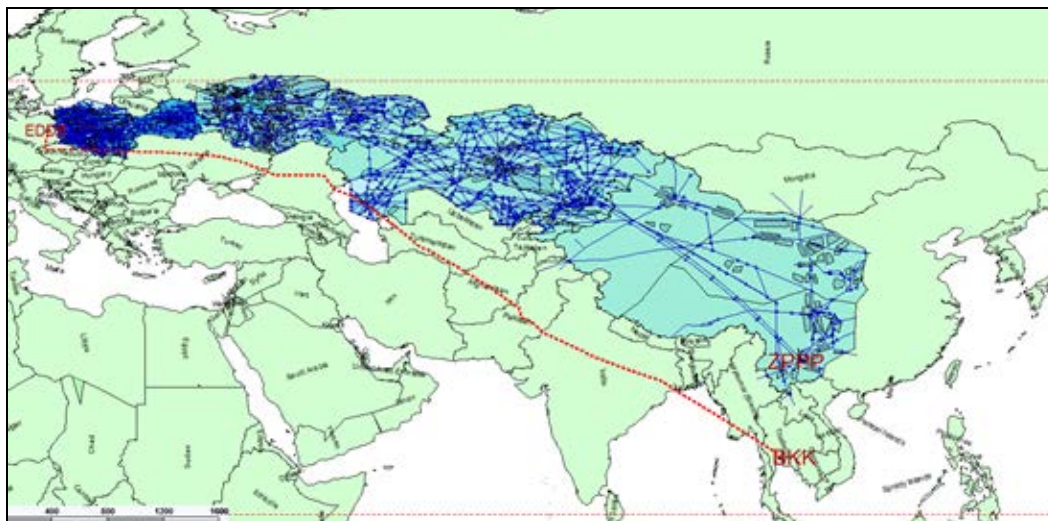


Figure 6: Typical Southeast Asia-Europe Route

2.20 In the Kunming – Frankfurt example (**Figure 4**), even using the established route L888 (4,455NM) was 245NM longer compared to the Silk Road concept (4,210NM). Thus if it was technically feasible to fly and provide air traffic services to this route system, the Silk Road it would offer a contingency alternative to overflying the Kabul FIR and also save fuel/emissions.

Planning

2.21 It was necessary to conduct coordination between affected States and airspace users to identify appropriate responses to future events if required. The Fourth Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/4) was due to take place from 29 to 31 October 2014 in Bangkok, and would involve the EUR/NAT and APAC Offices (and possibly the MID Office), certain trans-regional States and IATA. If some coordination by electronic means could be conducted before this meeting¹, it is possible that a contingency plan with various options could be presented to TRASAS and agreed by States and airspace users before the end of 2014. However this would require the heavy involvement of three ICAO Regional Offices and the Regional Sub-Office, plus IATA.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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¹ The Second Eurasia Special Coordination Meeting was planned in Beijing from 22-23 September 2014.



International Civil Aviation Organization

The Third Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/3) and the Twentieth Meeting of the South East Asian ATM Coordination Group (SEACG/20)

Bangkok, Thailand, 18 – 22 February 2013

Agenda Item 5: ATS Route Development

MID-EUR/NAT INTER REGIONAL ATS ROUTE NETWORK

(Presented by the Islamic Republic of Iran)

SUMMARY

This paper discusses the development of the South-east to MID to EUR/NAT region (and vice versa) ATS Route Network and issues pertaining to the changes on ATS routes that form part of inter regional network.

This paper relates to –

Strategic Objectives:

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

- GPI-1 Flexible use of airspace
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-6 Air traffic flow management
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management

1. INTRODUCTION

1.1 This WP presented by Iran for the purpose of proposing new direct and economic ATS route network for the flow of traffic between South east to Tehran FIR routed to EUR/NAT inter regional network and vice versa.

2. DISCUSSION

Current Routes

2.1 Airways **UL333**, **G792** and **G202** are the most direct and economic ATS routes which can be used by traffic transiting from Kabul FIR towards Ankara, Baku and Ashgabat FIRs and vice versa. So, according to the Asia Pacific ATFM (BOBCAT), Tehran ACC is ready to accept traffic from Kabul FIR via CHARN (on G792), SOKAM (on UL333) and KAMAR (on G202), based on RNAV separation (50 NM). To enhance the level of safety, Tehran request to establish new route of flight from KAMAR to SERKA within Kabul FIR as an eastbound unidirectional airway. In this case, airway UL333 within Kabul FIR and some part of this airway within Tehran FIR (SOKAM-ALROT) will be westbound unidirectional airway (**Figure 1**).

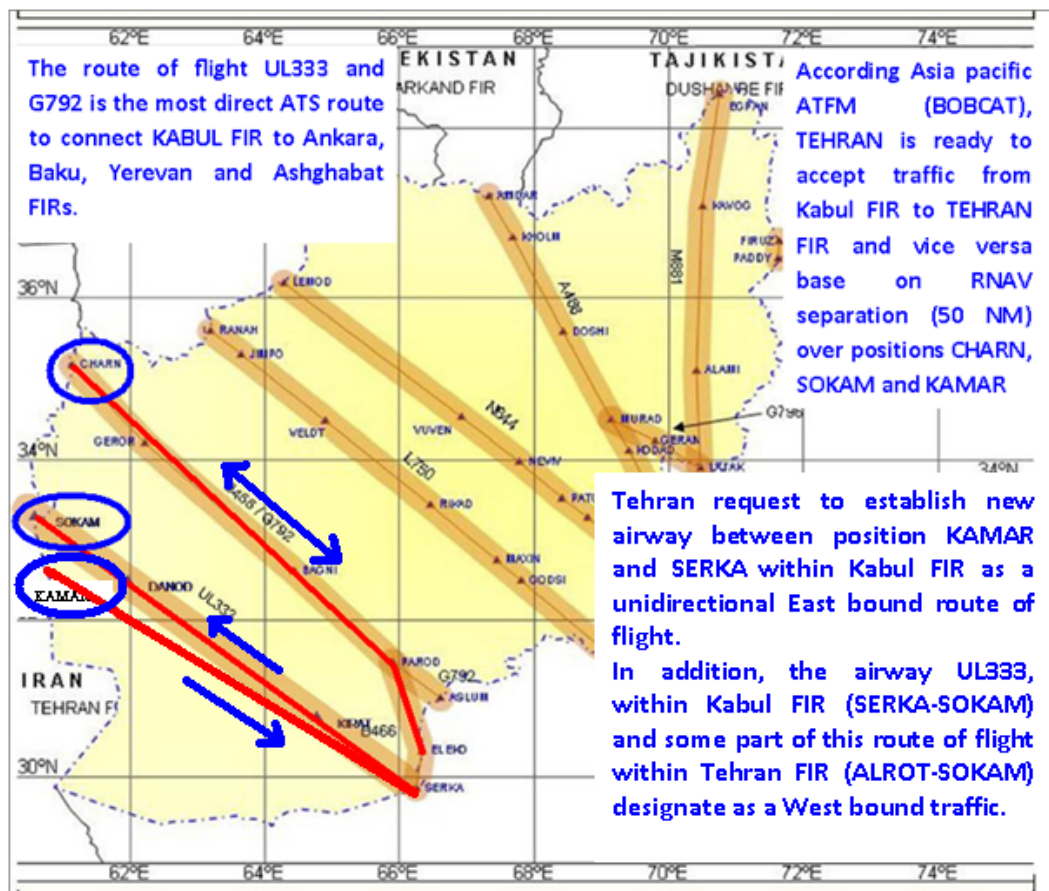


Figure 1: Trans-Regional Routes

Establishment of ATS Route L430 between SRJ and VAXIM

2.2 The new bidirectional airway L430 (**Figure 2**) was intended to be an efficient ATS route connecting traffic departing from south and southwest of Asia to European countries, and vice versa.

- For any traffic on airway L301 (within Mumbai FIR) which is going to proceed through Muscat FIR, after position RASKI continue towards position VAXIM, MESPO (FIR boundary point between Tehran and Muscat FIRs) then SRJ (within Tehran FIR) and continue to Ankara, Baku and Yerevan FIRs.
- Aircraft transiting from Mumbai to Muscat FIR via N571, after passing position PARAR (FIR boundary point between Mumbai and Muscat) continue towards position VAXIM, MESPO (FIR boundary point between Tehran and Muscat FIRs) then SRJ (within Tehran FIR) and continue to Ankara, Baku and Yerevan FIRs.

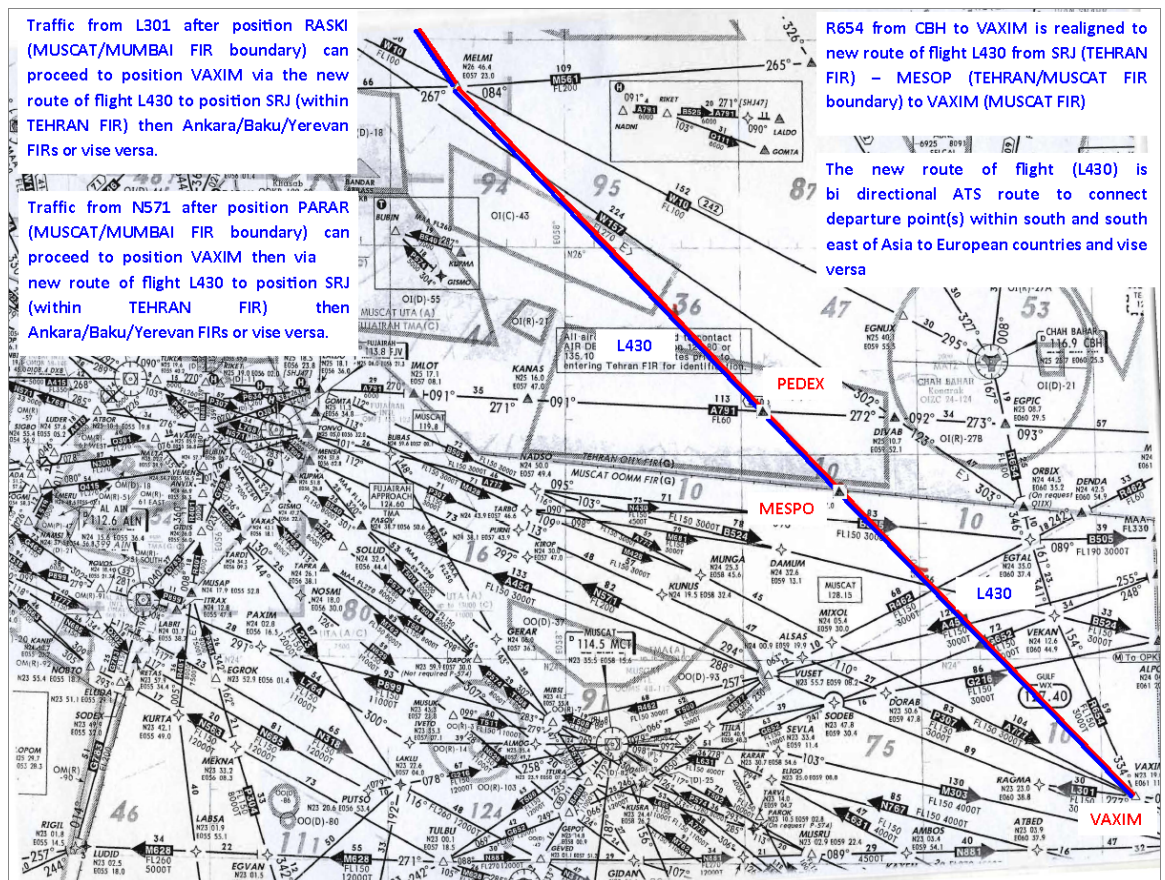


Figure 2: Proposed ATS Route L430

2.3 Airway B441 was a regional route; unfortunately a segment of B441 between OTRUZ (FIR boundary point between Tehran and Ashgabat FIRs) and MARAD (a significant point within Ashgabat FIR) had been withdrawn by Ashgabat ACC without any coordination with Tehran ACC, so the nature of this airway had been changed (**Figure 3**). Moreover, any aircraft which was going to depart from Mashhad (OIMM) airport (northeast Tehran FIR) destined to Bishkek, Tashkent and Dushanbe airports had to use an alternative route which was indirect. As a result, the distance of these flights would be increased.

The segment of B441 between OTRUZ and MARAD has been withdrawn by Ashgabat.



Figure 3: ATS Route B441

2.4 According to the IATA proposal in RDGE/17, Tehran agreed to establish a new bidirectional route of flight between MSD and UTAM (Mary).

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information in the working paper;
- b) request Afghanistan to-
 - i. establish new unidirectional eastbound airway between KAMAR to SERKA;
 - ii. designate UL333 as an unidirectional Westbound airway;
 - iii. modify the letter of agreement between Tehran and Kabul ACCs;
- c) note that Turkmenistan would be requested to reestablish the extension of AWY B411 between OTRUZ and MARAD or alternatively, establish new bidirectional airway between MSD and UTAM; and
- d) Note that IATA was requested to coordinate with airspace users for arrangement of the flow of traffic to use new proposed ATS route network.

Note: If Turkmenistan agrees to establish the new airway, modification of the letter of agreement between Tehran and Ashgabat ACCs would be required accordingly.

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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

MID REGION ATM CONTINGENCY PLAN

(Presented by the Secretariat)

SUMMARY

This paper presents a Draft MID Region Air Traffic Management Contingency Plan developed to ensure the continuity of Air Traffic Services in the event of disruption or potential disruption of ATS and supporting services in the MID Region.

Action by the meeting is at paragraph 3.

REFERENCES

- ARN TF/6 Report
- MIDANPIRG/13 Report

1. INTRODUCTION

1.1 The provisions regarding contingency arrangements, which detail States ATS obligations to develop and promulgate contingency plans for implementation in the event of disruption or potential disruption of ATS and supporting services, are contained in Chapter 2 of Annex 11. Guidance material relating to the development, promulgation and implementation of contingency plans is contained in Attachment C to Annex 11.

2. DISCUSSION

1.2 The meeting may wish to recognise that one of the challenges contributing to the low pace in implementation of contingency plans was the process of consultation and agreements with adjacent FIRs/States. However, it was noted that progress has been achieved, since a number of States have signed contingency planning agreements with adjacent FIRs/States.

2.1 The meeting may wish to recall that MIDANPIRG/13 through Conclusion 13/9 *MID REGIONAL CONTINGENCY PLAN*, urged States and Users to review the MID Regional Contingency Plan and the revised version of the Contingency Routing Scheme Asia/Middle East/Europe 2003 (CRAME-03) and provide updates and comments to the ICAO MID Regional Office before 1 September 2012.

2.2 Accordingly, the ICAO MID Regional Office issued State Letters Ref.: AN 6/1.2.1 – 12/166 dated 12 June 2012 and Ref.: 13/194 dated 21 July 2013, as a follow up action to the above MIDANPIRG/13 Conclusion and to the outcome of the Sixth meeting of the ATS Route Network Task Force (ARN TF/6) held in Cairo, Egypt, 22-24 April 2013. No replies/inputs were received from States or Users.

2.3 Based on the above, the ICAO MID Regional Office has developed a Zero Draft version of the MID Region ATM Contingency Plan, as at **Appendix A** to this working paper to replace and supersede the Draft Regional Contingency Plan and the CRAME 03.

2.4 The Draft MID Region ATM Contingency Plan was prepared taking into consideration the major traffic flows from/to the MID Region. The aim of the Plan is to provide alternative routings and procedures to ensure, to the extent possible, the continued safety of air navigation in the event of partial or total disruption of Air Traffic Services within the MID Region.

3. ACTION BY THE MEETING

3.1 The meeting is invited to review and provide inputs/comments to the MID Region Air Traffic Management Contingency Plan, as at **Appendix A** to this working paper.

APPENDIX A



INTERNATIONAL CIVIL AVIATION ORGANIZATION

MID REGION ATM CONTINGENCY PLAN

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.

MID Region Air Traffic management Contingency Plan

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FOREWORD

This Document is for guidance only. Regulatory material relating to the MID Regional aircraft operations is contained in relevant ICAO Annexes, PANS/ATM (Doc.4444), Regional Supplementary Procedures (Doc.7030), State AIPs and current NOTAMs, which should be read in conjunction with the material contained in this Document.

Guidelines for contingency measures for application in the event of disruptions of air traffic services and related supporting services were first approved by the Council on 27 June 1984 in response to Assembly Resolution A23-12, following a study by the Air Navigation Commission and consultation with States and international organizations concerned, as required by the Resolution. The guidelines were subsequently amended and amplified in the light of experience gained with the application of contingency measures in various parts of the world and in differing circumstances.

The purpose of the guidelines is to assist in providing for the safe and orderly flow of international air traffic in the event of disruptions of air traffic services and related supporting services and in preserving the availability of major world air routes within the air transportation system in such circumstances.

The MID Regional Air Traffic Management Contingency Plan is primarily for the information to operators and pilots planning and conducting operations in MID Region. The intent is to provide a description of the arrangements in place to deal with a range of contingency situations.

This Contingency Plan has been developed with the approval of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG); a MID Regional planning body established under the auspices of the International Civil Aviation Organization (ICAO). This Group is responsible for developing the required operational procedures; specifying the necessary services and facilities and; defining the aircraft and operator approval standards employed in the MID Region.

RECORD OF AMENDMENTS

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INTRODUCTION

The Air Traffic Management (ATM) Contingency Plan has been developed to ensure, to the extent possible, the continued safety of air navigation in the event of disruption or potential disruption of Air Traffic Services and related supporting services in the MID Region, in accordance with the provisions of ICAO Annex 11 – Air Traffic Services, Chapter 2, paragraph 2.30 and Attachment C.

The MID Region is fast growing continental airspace in the world, and is strategically situated between European and North Atlantic (EUR/NAT) Region to the North, Western and Central African (WACAF) Region to the west, Eastern and Southern African (ESAF) Region to the South East and Asia/Pacific (APAC) Region to the East. In 2010 in excess of **976400** flights transited the airspace. The ATS Route accommodates a high concentration of traffic which regularly sees traffic flows in excess of 100 flights per hour. Control of traffic in this vast and complex airspace is delegated to a number of states, with their Continental Control facilities geographically dispersed.

The table shows the aircraft movements forecast to the year 2030:

	Actual	Forecast	Average Annual Growth
			2010-2030
	2010	2030	(per cent)
AFR-MEA	68588	446722	9.8
ASIA-MEA	261359	1384191	8.7
EUR-MEA	276285	977855	6.5
INTRA MEA	349324	2287506	9.9
NAM-MEA	20843	107917	8.6
TOTAL	976399	5204191	8.7

Contingency Routing (CR) has been developed and contained in the Plan based on the major traffic flows through the MID Region, taking into consideration the number of the movements between City Pairs.

This Plan is designed to provide alternative routes for the traffic flows between the MID Region and Asia, Africa, and Europe, which will allow aircraft operators to circumnavigate airspace(s) in the MID Region, as deemed necessary, or due to a perceived risk to the safety of flight, with a minimum of disruption to flight operations.

These alternative routes (Contingency Routing – CR) are based mainly on the existing route network. Establishment of temporary routes could be considered to relief traffic congestion resulting from the implementation of the Contingency plan.

It is recognized that operators may incur economic penalties during application of the contingency scenarios. Therefore, air traffic flow control measures will be implemented as required.

By agreement between States and coordination with the International Organizations through the ICAO Regional Offices of APAC, ESAF, EUR/NAT, MID and WACAF, this Contingency Plan and its amendment should be approved by the President of the ICAO Council on behalf of the Council.

The appropriate ICAO Regional Office will distribute this contingency plan to all relevant States and international organisations within their regions.

This Contingency Plan should be reviewed regularly and amended as appropriate. Amendments and revisions are to be coordinated with affected States, organisations, and ICAO. Proposed amendments to the Contingency Plan should be forwarded to the relevant ICAO Regional Office for action.

This Document is available to users through the ICAO MID website <http://www.icao.int/mid/>

To assist in keeping this document up to date, Stakeholders are encouraged to provide the ICAO MID Regional Office (icaomid@icao.int) with their comments/suggestions.

MID Region ATM Contingency Focal Points

The List of the MID Region ATM Contingency Focal Points is at **Table 1**. This list should be reviewed and updated, as appropriate.

Table 1**MID Region ATM Contingency Focal Points**

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
BAHRAIN						
Mr. Ali Ahmed Mohammed	973 17321116		973 39969399	973 17321 9977	aliahmed@caa.gov.bh	Bahrain ACC Duty Supervisor Tel: 973 1732 1081/1080 Fax: 973 1732 1029 Email : bahatc@caa.gov.bh
Mr. Saleem Mohammed Hasan	9731732 1117		973 39608860	973 17321 9966	saleemmh@caa.gov.bh	
EGYPT						
Mr. Moatassem Bellah Abd Elraheem Baligh	202 265 7849	202 639 1792	01001695252	202 268 0627	moatassem_5@hotmail.com	
Mr. Aly Hussien Aly	202 637 3950	202 417 8460	201 01609 760	202 268 0627		
IRAN						
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Mr. Ramezan Ali Ziaee Deputy Director of ATS Dept.	9821-44544103		989123874917	9821 44544102	r.a.ziaee@airport.ir	

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Chapter 1

MID STATES' CONTINGENCY PLANS

Air traffic services authorities shall develop and promulgate contingency plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services. Such contingency plans shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.

The State(s) responsible for providing air traffic services and related supporting services in particular portions of airspace is (are) also responsible, in the event of disruption or potential disruption of these services, for instituting measures to ensure the safety of international civil aviation operations and, where possible, for making provisions for alternative facilities and services. To that end the State(s) should develop, promulgate and implement appropriate contingency plans. Such plans should be developed in consultation with other States and airspace users concerned and with ICAO, as appropriate, whenever the effects of the service disruption(s) are likely to affect the services in adjacent airspace.

The responsibility for appropriate contingency action in respect of airspace over the high seas continues to rest with the State(s) normally responsible for providing the services until, and unless, that responsibility is temporarily reassigned by ICAO to (an) other State(s).

States should periodically review their national contingency plan and coordinate any amendments with neighbouring States and ICAO.

MID States' Contingency Plans are available at the ICAO MID Regional Office and the status of contingency plans agreements in the MID Region is at **Table 2**.

Status of Contingency Plans Agreements in the MID Region

STATE	CORRESPONDING STATES	STATUS	STATE	CORRESPONDING STATES	STATUS
BAHRAIN	IRAN KUWAIT OMAN QATAR SAUDI ARABIA UAE	Signed Signed Signed Signed Signed Signed	OMAN	BAHRAIN INDIA IRAN PAKISTAN UAE YEMEN	Signed Signed Signed Signed
EGYPT	GREECE JORDAN LYBIA CYPRUS SAUDI ARABIA SUDAN	Signed Signed Signed Signed Signed Signed	QATAR	BAHRAIN SAUDI ARABIA UAE	Signed
IRAN	ARMENIA AZERBAIJAN TURKMANISTAN AFGHANISTAN BAHRAIN IRAQ KUWAIT OMAN PAKISTAN TURKEY UAE	Signed Signed Signed Signed	SAUDI ARABIA	BAHRAIN EGYPT ERITREA IRAQ JORDAN KUWAIT SUDAN YEMEN	Signed Signed Signed Signed
IRAQ	IRAN JORDAN KUWAIT SAUDI ARABIA SYRIA TURKEY		SUDAN	CENTRAL AFRICAN CHAD EGYPT ERITREA ETHIOPIA LIBYA SAUDI ARABIA SOUTH SUDAN	
JORDAN	EGYPT IRAQ ISRAEL SAUDI ARABIA SYRIA	Signed Signed	SYRIA	IRAQ JORDAN LEBANON CYPRUS TURKEY	
KUWAIT	BAHRAIN IRAN IRAQ SAUDI ARABIA	Signed Signed	UAE	BAHRAIN IRAN OMAN QATAR	Signed Signed
LEBANON	CYPRUS SYRIA		YEMEN	DJIBOUTI ERITREA ETHIOPIA INDIA OMAN SAUDI ARABIA SOMALIA	Signed
LIBYA	ALGERIA CHAD EGYPT MALTA NIGER SUDAN TUNIS				

Table 2

Chapter 2

COMMON PROCEDURES

Implementation of the plan

In the event of adoption of contingency procedures ANSPs will notify all affected agencies and operators appropriately.

In **Limited Service** situations the individual ANSP will decide upon the level of notification necessary and take action as required to cascade the information.

In **No Service** situations it is likely that the ATC facility involved will be subject to evacuation. In this instance the ANSP will issue NOTAMs and broadcast on appropriate frequencies that contingency procedures have been initiated. The notification process employed by individual ANSPs is detailed in their national plan. However the general format will be as the following example of the type of information which may be promulgated:

NOTAM

“Due to emergency evacuation of (States ACC) all ATC services are terminated. Flights within (States ACC) FIR should continue as cleared and contact the next ATC agency as soon as possible. Flights not in receipt of an ATC clearance should land at an appropriate airfield or request clearance to avoid (State) FIR. Flights should monitor (defined frequencies).”

Broadcast an evacuation message on appropriate frequencies:

“Emergency evacuation of (Sates ACC) is in progress. No air traffic control service will be provided by (States ACC). Use extreme caution and monitor (control frequencies), emergency frequencies and air to air frequencies. Contact the next air traffic control unit as soon as possible”.

Traffic Information Broadcast by Aircraft (TIBA) procedures

The following communications procedures have been developed in accordance with the Traffic Information Broadcast by Aircraft (TIBA) procedures recommended by ICAO (Annex 11 – Air Traffic Services, Attachment C). These procedures should be applied when completing an altitude change to comply with the ATC clearance.

At least 3 minutes prior to the commencement of a climb or descent the flight should broadcast on the last assigned frequency, 121.5, 243.0 and 123.45 the following:

“ALL STATION (callsign) (direction) DIRECT FROM (landfall fix) TO (oceanic entry point) LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (distance)(direction) FROM (oceanic entry point) AT (time)”

When the level change begins, the flight should make the following broadcast:

“ALL STATIONS (callsign) (direction) DIRECTION FROM (landfall fix) TO (oceanic entry point) LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number).”

When level, the flight should make the following broadcast:

“ALL STATIONS (callsign) MAINTAINING FLIGHT LEVEL (number).”

AIR TRAFFIC MANAGEMENT

ATS Responsibilities

Tactical ATC considerations during periods of overloading may require re-assignment of routes or portions thereof.

Alternative routes should be designed to maximize the use of existing ATS route structures and communication, navigation and surveillance services.

In the event that ATS cannot be provided within the (XXX) CTA/UTA/FIR, the Civil Aviation Authority shall publish the corresponding NOTAM indicating the following:

- a) Time and date of the beginning of the contingency measures;
- b) Airspace available for landing and overflying traffic and airspace to be avoided;
- c) Details of the facilities and services available or not available and any limits on ATS provision (e.g., ACC, APP, TWR and FIS), including an expected date of restoration of services if available;
- d) Information on the provisions made for alternative services;
- e) ATS contingency routes;
- f) Procedures to be followed by neighbouring ATS units;
- g) Procedures to be followed by pilots; and
- h) Any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

In the event that the CAA is unable to issue the NOTAM, the (alternate) CTA/UTA/FIR will take action to issue the NOTAM of closure airspace upon notification by corresponding CAA or the ICAO MID Regional Office.

Separation

Separation criteria will be applied in accordance with the *Procedures for Air Navigation Services-Air Traffic Management* (PANS-ATM, Doc 4444) and the *Regional Supplementary Procedures* (Doc 7030).

Level Restrictions

Where possible, aircraft on long-haul international flights shall be given priority with respect to cruising levels.

Other measures

Other measures related to the closure of airspace and the implementation of the contingency scheme with the (XXX) CTA/UTA/FIR may be taken as follows:

- a) Suspension of all VFR operations;
- b) Delay or suspension of general aviation IFR operations; and
- c) Delay or suspension of commercial IFR operations.

Transition to Contingency Plan

During times of uncertainty when airspace closures seem possible, aircraft operators should be prepared for a possible change in routing while en-route, familiarization of the alternative routes outlined in the contingency plan as well as what may be promulgated by a State via NOTAM or AIP.

In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all aircraft in their airspace, what airspace is being closed and to stand by for further instructions.

ATS providers should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to any request by aircraft and react commensurate with safety.

Transfer of Control and Coordination

The transfer of control and communication should be at the common FIR boundary between ATS units unless there is mutual agreement between adjacent ATS units. ATS providers should also review current coordination requirements in light of contingency operations or short notice of airspace closure.

Chapter 4

AIRSPACE AND ROUTES

This Contingency Plan has been developed based on existing ATS routes and making use of appropriate contingency routes in the MID Region. Priority has been given to safety considerations and to ensuring that to the extent possible, ATC operations are not complicated. Temporary routes are also established where necessary.

The contingency routings are designed to take into consideration that disruptions to normal traffic flows have the potential to create an additional burden and complexity to ATC. Therefore, temporary contingency routes would be designed to be safe and instantly manageable by ATC. This may require additional track miles to be flown by the aircraft operator.

The alternative routings were given CR designators based on various scenarios that may take place. It is to be highlighted that the scenarios drawn on the charts were developed based on the existing route network, and do not reflect new routes. Furthermore, one scenario could be used to avoid different FIRs, subject to users' requirements. The scenarios are detailed in the **Table 2** below:

CR	FIR(s) to be Avoided	<i>Traffic Flows through the MID Region</i> Alternative routings/FIRs	Remarks
CR 1	Bahrain	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> Ankara, Baghdad, Tehran, UAE, Muscat Ankara, Baghdad, Jeddah, Sana'a, Muscat <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> Nicosia, Beirut, Damascus, Amman, Jeddah, Sana'a; Muscat Nicosia, Damascus, Amman, Jeddah Nicosia, Cairo, Jeddah, Sana'a, Muscat <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> Cairo, Jeddah, Sana'a, Muscat <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> Khartoum, Jeddah, Sana'a, Muscat Addis Ababa, Mogadishu, Sana'a, Muscat 	
CR 2	Cairo	<p><i>Eastern Europe from/to Asia</i></p> <p>NA</p> <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> Nicosia, Beirut, Damascus, Amman, Jeddah Nicosia, Damascus, Baghdad; Kuwait, Bahrain, UAE Malta, Tripoli, Khartoum, Jeddah Malta, Tripoli, Khartoum, Asmara, Jeddah or Sana'a <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> Tripoli, Khartoum, Jeddah Tripoli, Khartoum, Asmara, Jeddah or Sana'a Algiers, Niamey, N'djamena, Khartoum, Asmara, Jeddah or Sana'a <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> Khartoum, Jeddah, Sana'a, Muscat Addis Ababa, (Asmara Jeddah) or (Mogadishu, or Sana'a) 	
CR 3	Amman, Beirut, Damascus	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> Ankara, Baghdad Jeddah or Kuwait; Ankara, Tehran 	

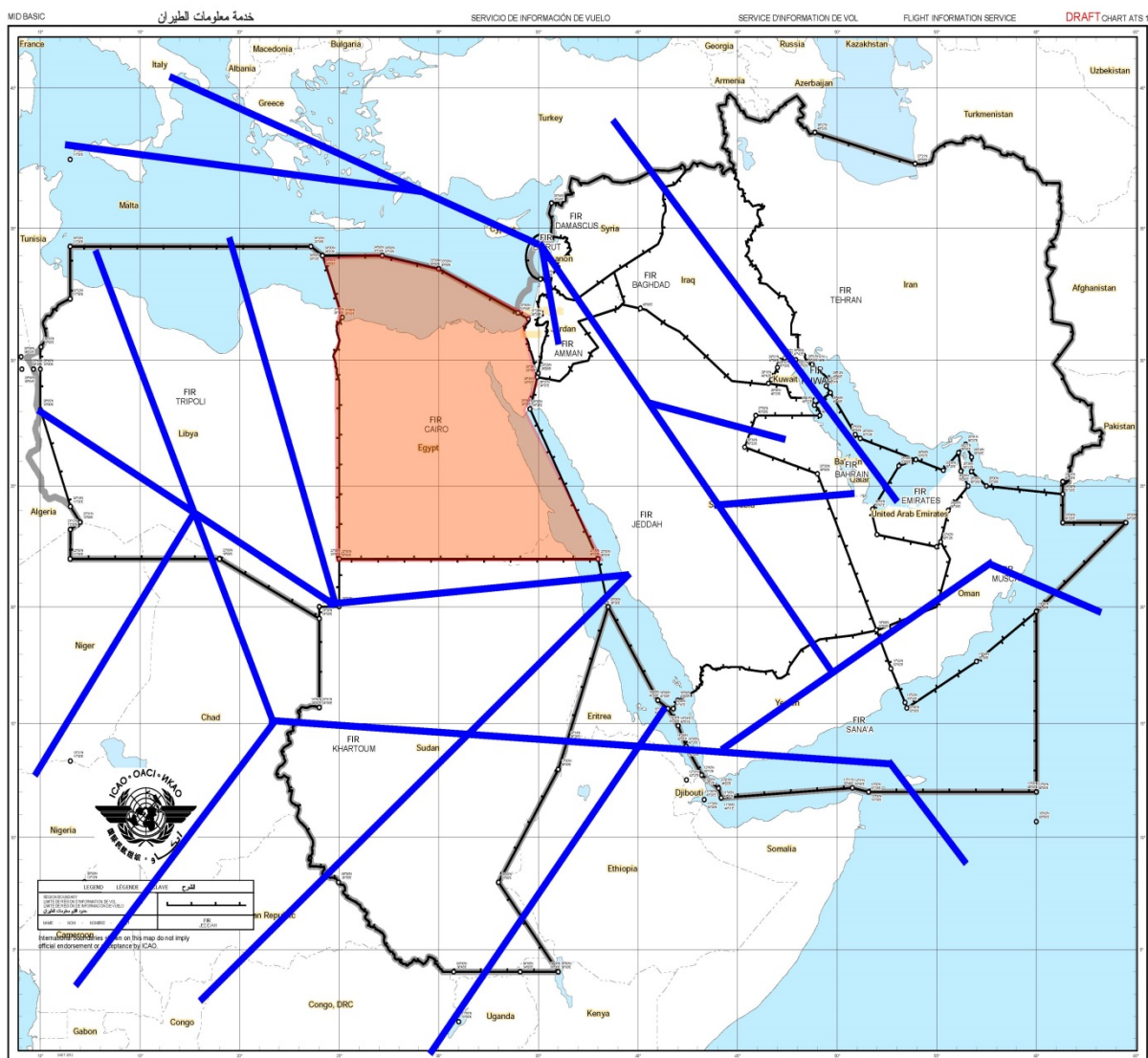
		<p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Nicosia, Cairo, Jeddah <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Cairo, Jeddah <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Khartoum Addis Ababa, Mogadishu, Sana'a ▪ Khartoum, Jeddah 	
CR 4	Iran	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Baku, Turkmenbashi, Ashgabat, Turkmenabat, Kabul, Karachi, Muscat or Delhi ▪ Baghdad, Kuwait, Bahrain, UAE, Muscat ▪ Nicosia Damascus Amman, Jeddah <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Tripoli, Cairo, Jeddah ▪ Tripoli, Khartoum, Jeddah <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Khartoum, Jeddah ▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, or Sana'a) 	
CR 5	Baghdad	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Ankara, Tehran, (Kuwait) or (Bahrain) or (UAE) ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Ankara, Damascus, Amman, Jeddah <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Damascus, Amman, Jeddahr ▪ Nicosia, Cairo, Jeddah <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Cairo, Jeddah <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, or Sana'a) 	
CR 6	Tripoli	<p><i>Eastern Europe from/to Asia</i></p> <p>NA</p> <p><i>Western Europe from/to Africa</i></p> <ul style="list-style-type: none"> ▪ Cairo, Khartoum <p><i>Northern Africa from/to South Africa or Middle East</i></p> <ul style="list-style-type: none"> ▪ Athens, or Nicosia to Cairo, Khartoum or Jeddah ▪ Tunis, Algiers, Niamey, N'djamena <p><i>Southern Africa from/to Asia</i></p> <p>NA</p>	
CR 7	Muscat, UAE	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Ankara, Baghdad, Tehran, UAE, Muscat ▪ Ankara, Baghdad, Jeddah, Sana'a, Muscat <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana'a; Muscat ▪ Nicosia, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah, Sana'a 	

		<p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Cairo, Jeddah, Sana'a <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Khartoum, Jeddah, Sana'a, Muscat ▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, or Sana'a) 	
CR 8	Jeddah	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Ankara, Baghdad, Jeddah, Sana'a ▪ Ankara, Damascus, Amman, Jeddah, Sana'a <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana'a ▪ Athens or Nicosia, Cairo, Jeddah, Sana'a <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Cairo, Jeddah, Sana'a <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Khartoum, Jeddah, Sana'a ▪ Addis Ababa, Mogadishu, Sana'a, Muscat 	
CR 9	Khartoum	<p><i>Eastern Europe from/to Asia</i></p> <p>NA</p> <p><i>Western Europe from/to Africa</i></p> <ul style="list-style-type: none"> ▪ Athens or Nicosia, Cairo, Jeddah, Asmara or (Sana'a, Mogadishu), Addis Ababa, Nairobi, Entebbe, Kinshasa, Brazzaville, N'djamena <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> ▪ Cairo, Jeddah, Asmara or (Sana'a, Mogadishu), Addis Ababa, Nairobi ▪ Tripoli, N'djamena, Brazzaville, Kinshasa, Entebbe, Nairobi Addis Ababa, Mogadishu, Sana'a, Jeddah or Muscat. <p><i>Southern Africa from/to Asia</i></p> <p>NA</p>	

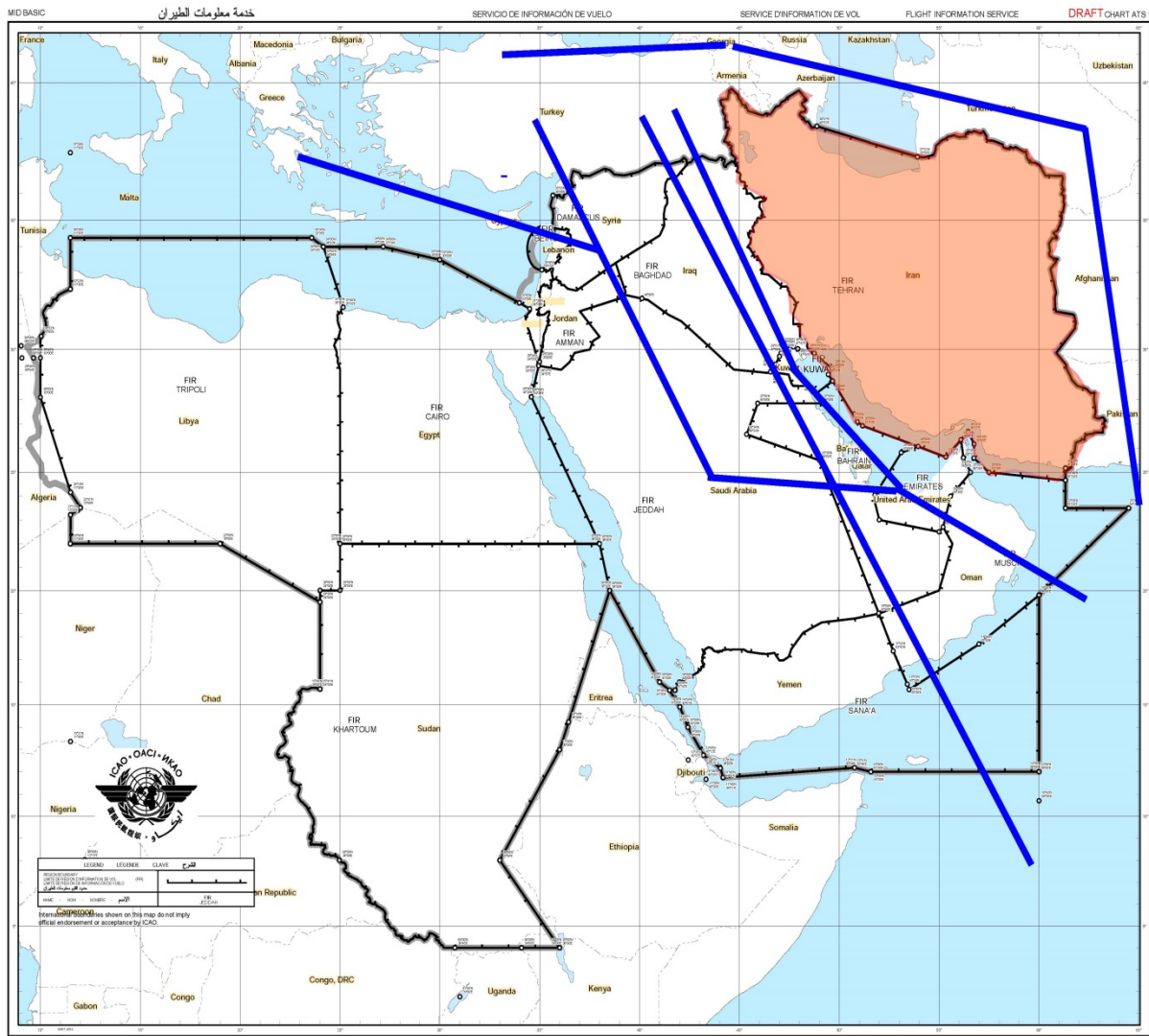
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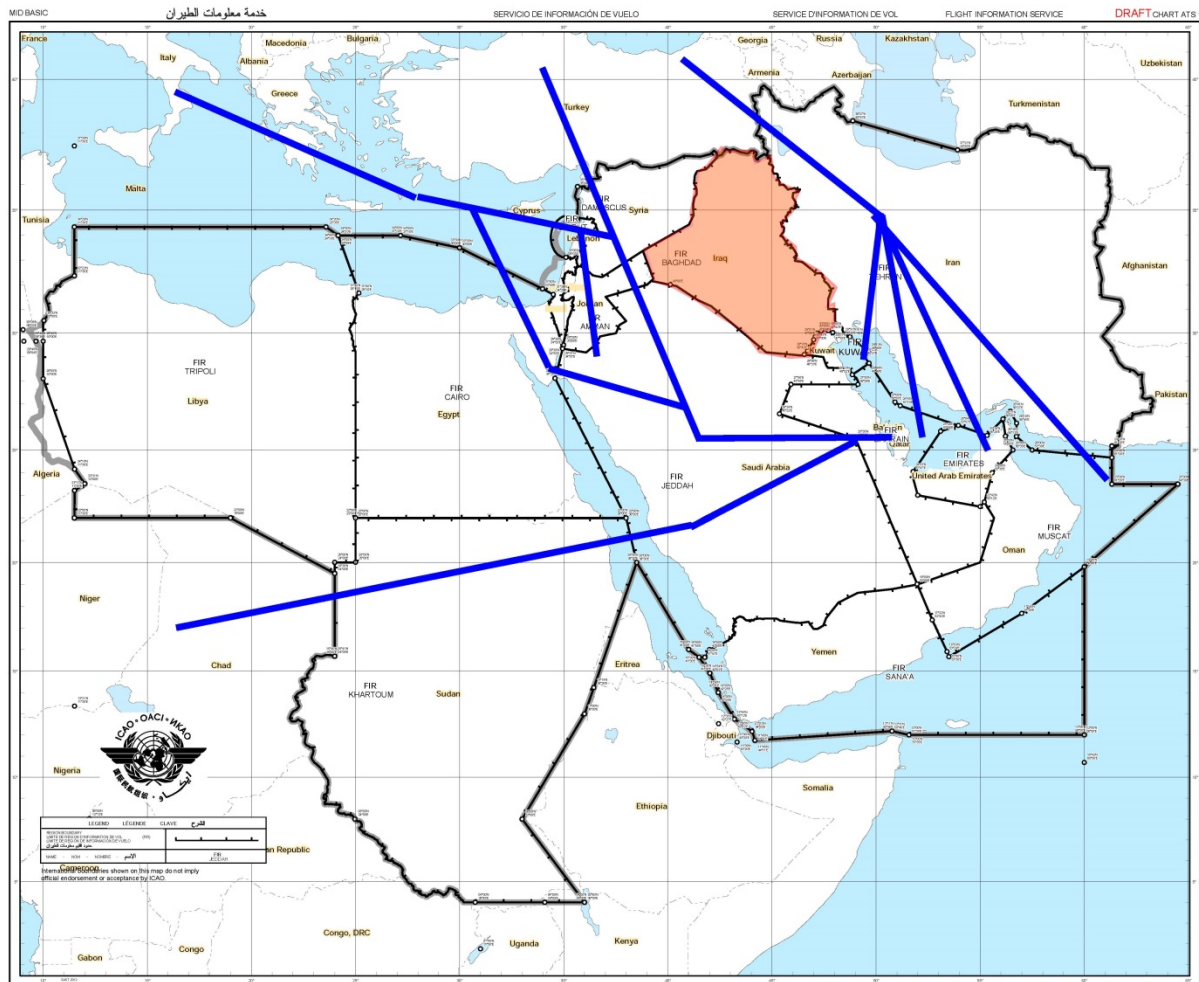


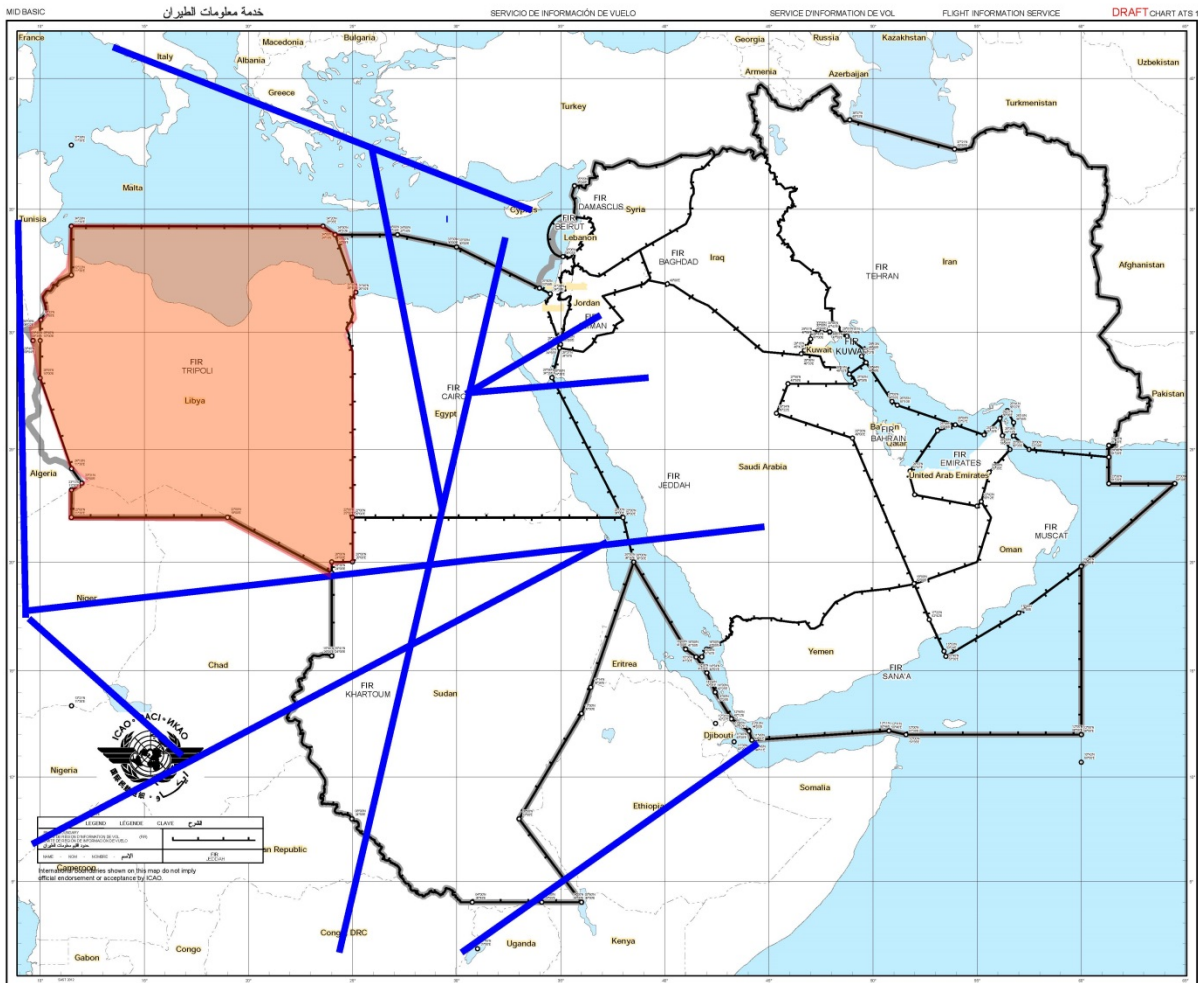
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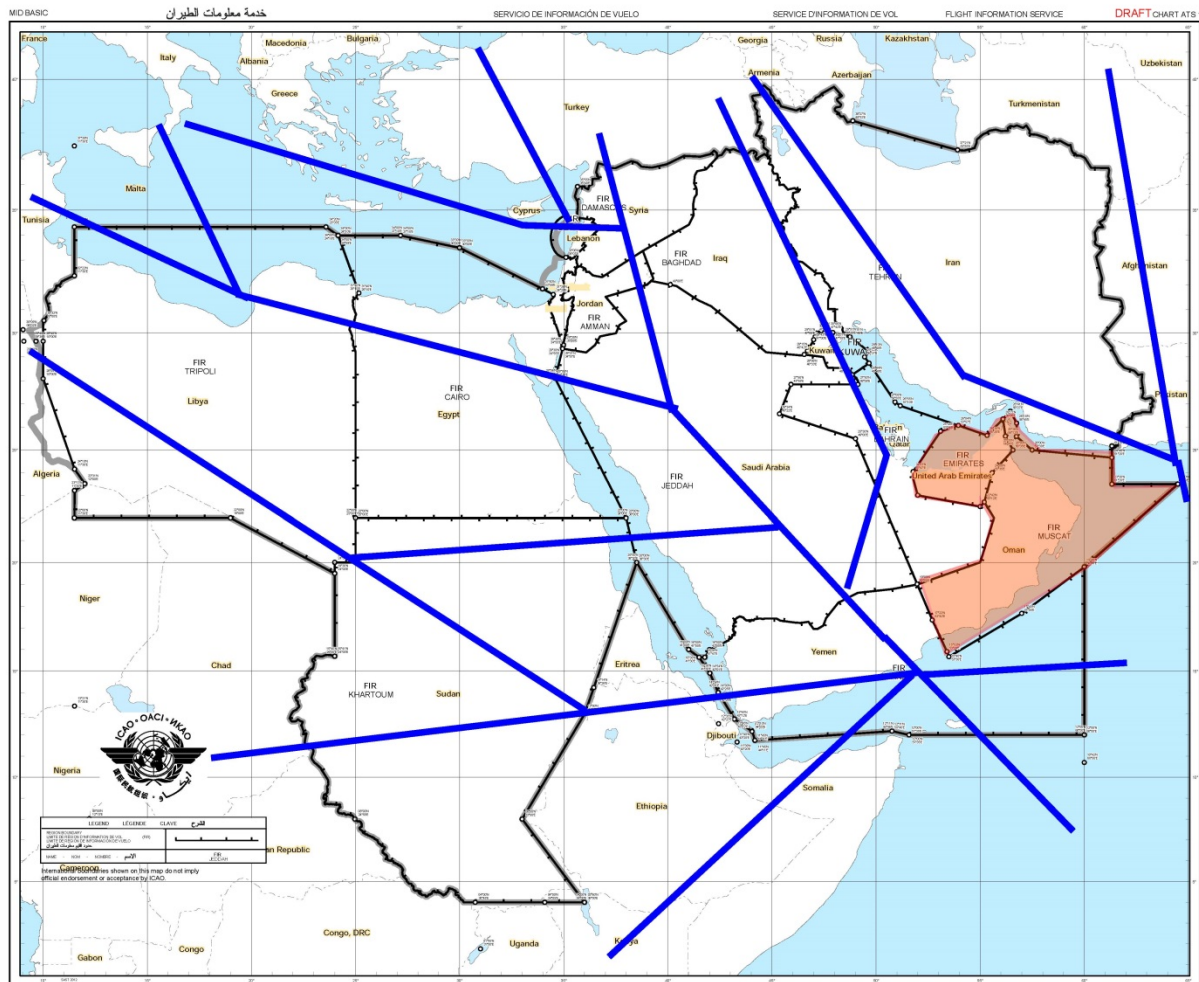
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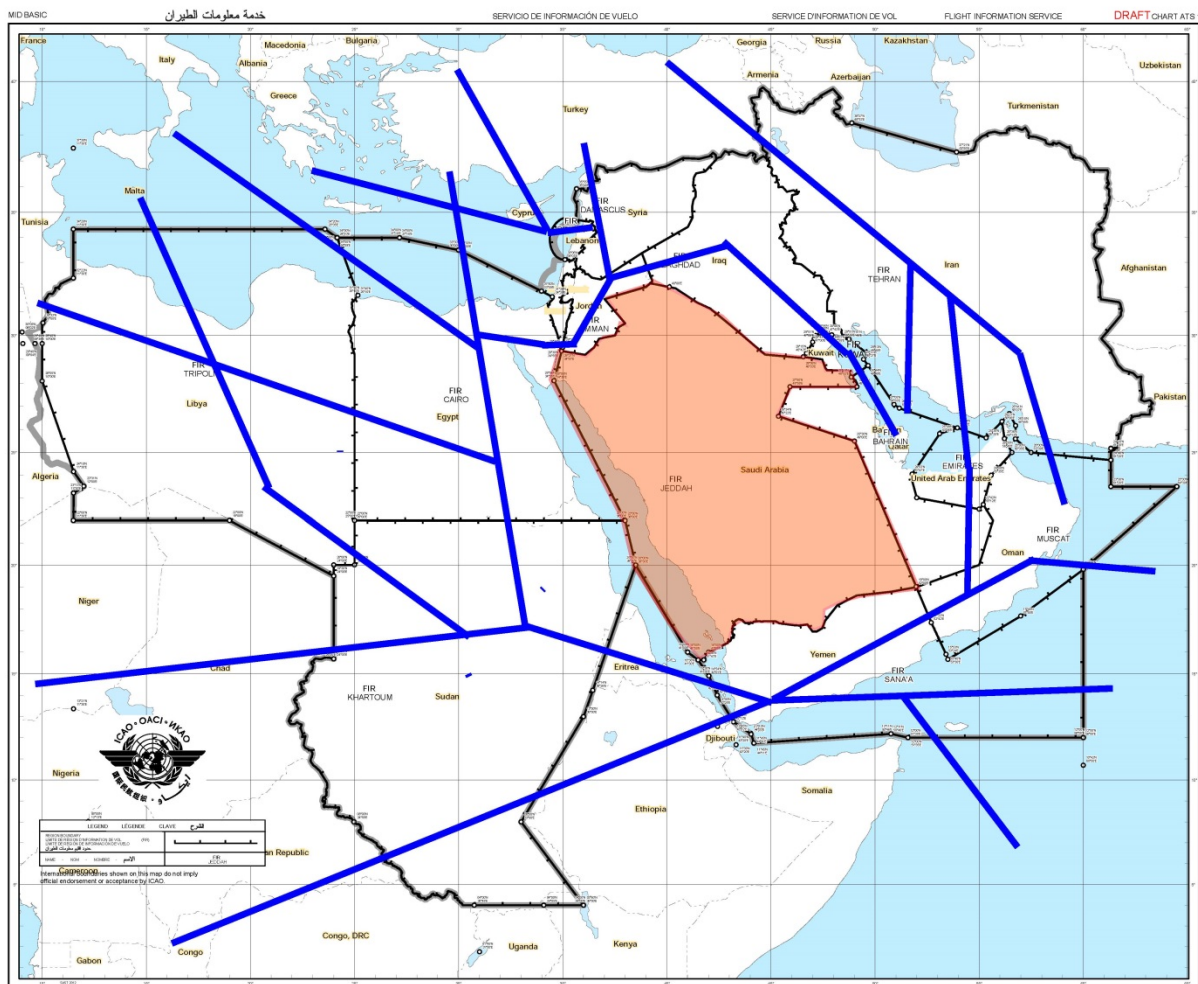




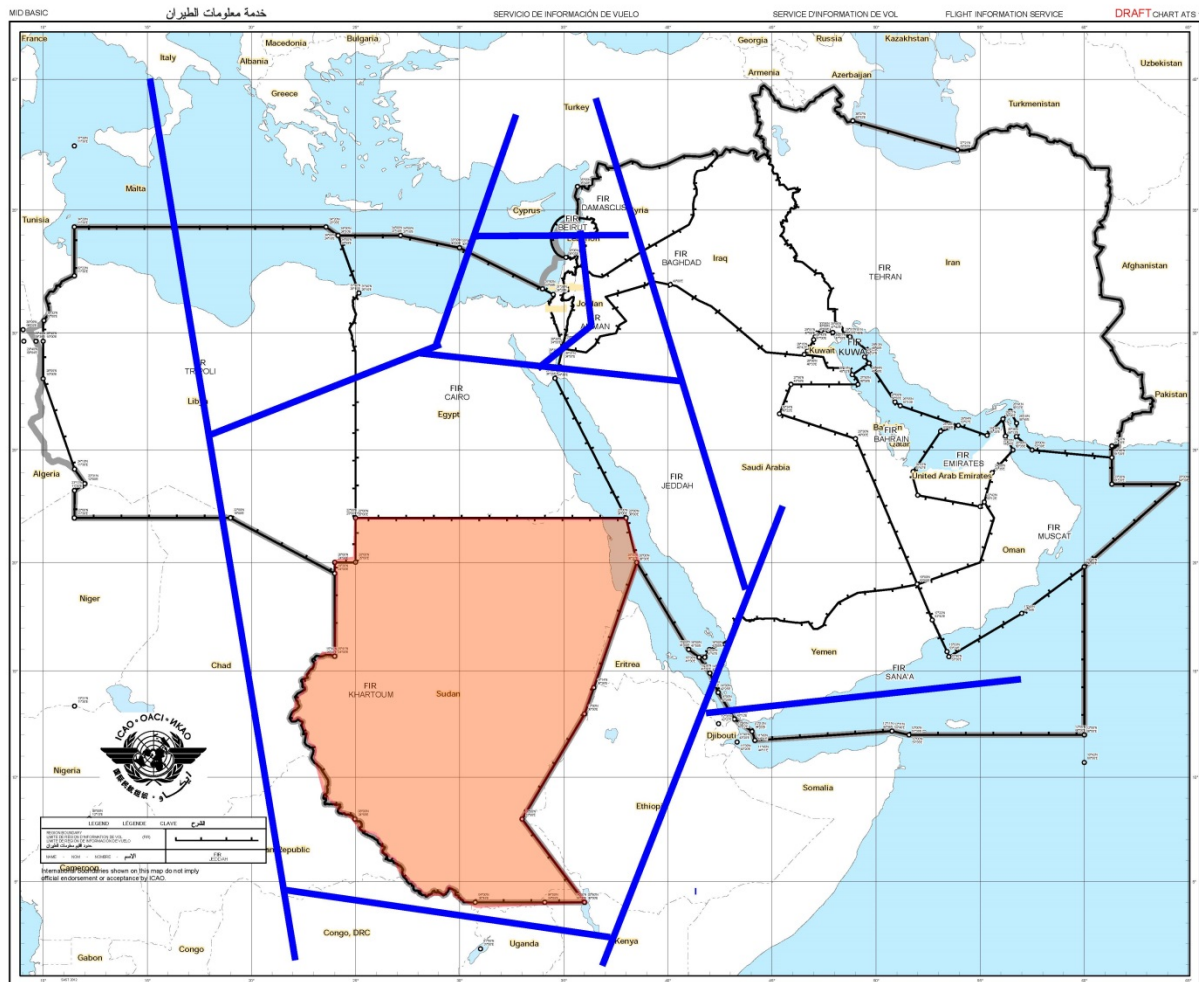








CR 8



CR 9

- END -