International Civil Aviation Organization

MIDANPIRG ATM Sub Group

First Meeting (ATM SG/1)
(Cairo, Egypt, 9 - 12 June 2014)

Agenda Item 4: MID Region ATS Route Network

REVIEW THE MID ATS ROUTE NETWORK

(Presented by the Secretariat)

SUMMARY

The aim of this paper is to review and take appropriate actions to improve the ATS route network in the MID Region.

Action by the meeting is at paragraph 3.

REFERENCES

- MIDANPIRG/14 Report
- MID ANP (Table ATS 1 – ATS Route Network)
- ATS Route Catalogue
- MANDD

1. INTRODUCTION

1.1 The meeting may wish to note that effective interregional coordination and collaboration between all stakeholders is essential in order to achieve seamless air traffic management and more optimum routes through the airspace.

1.2 It is to be noted that the the implementation of Performance Based Navigation (PBN) routes can have significant efficiency benefits on flight operations in the en-route environment. PBN contribute to reduce route spacing, greater application of user preferred routes and increased airspace utilization.

2. DISCUSSION

2.1 The meeting may wish to recall that as a first step to improve the ATS route structure in the MID Region, MIDANPIRG/14 meeting reviewed and endorsed the top ten (10) routes at **Appendix A** to this working paper extracted from the Route Catalogue and identified based on the major traffic flows in the MID Region, the definition of City Pairs, the PBN and Flexible Use of Airspace (FUA) concepts. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/11: IMPLEMENTATION OF THE TOP TEN ATS ROUTES

*That, concerned States be urged to take necessary measures to implement the identified routes at **Appendix 4.3A** to the Report on Agenda Item 4.3 (**Appendix A** to this working paper)*

2.2 Based on the above, the ICAO MID Regional Office issued State Letter Ref.: AN 6/5.8-14/106 dated 16 April 2014 requesting States to take necessary measures to ensure the implementation of the identified ATS Routes/Route Segments related to their Airspace and to provide the ICAO MID Regional Office with an update on the action(s) undertaken not later than **20 May 2014**. Replies were received from Bahrain, Jordan and Qatar indicating their support to the proposed routes pertaining to their FIRs, however, no feedback on successful implementation of any proposed route was reported. Accordingly, the meeting is invited to review and update the top ten ATS route list as deemed necessary.

2.3 The meeting may wish to recall that the MID ATS Route Catalogue at **Appendix B** to this working paper was last reviewed by the six meeting of the ATS Route Network Task Force (ARN TF/6), Cairo, Egypt, 22-24 April 2013.

2.4 It is to be highlighted that the Catalogue was created to include route proposals that are not included in the MID Basic ANP, Table ATS 1-ATS Route Network, requiring further consideration and coordination for their implementation. The process of updating the Catalogue is becoming more and more complicated and cumbersome due to the significant increase of Route proposals. In this regard, the process of maintaining the Catalogue up-to-date should be reviewed/reconsidered and the Catalogue should be a dynamic document/database, reflecting the inputs from all concerned in a timely manner.

2.5 The meeting may wish to recall that the last amendment to the MID ANP, Basic, Table ATS 1 - ATS Routes Network at **Appendix C** to this working paper was approved by the President of the ICAO Council on 3 August 2013.

2.6 The meeting may wish to recall that MIDANPIRG/14 noted with concern that some States were still not complying with the established procedures for the amendment of the ATS route network, including the compliance with the AIRAC procedures and urged them to adhere to the established ICAO procedures for amendments and establishment of ATS routes that form part of the Regional ATS route network.

2.7 The meeting may wish to note that the list of air navigation deficiencies contains some required ATS routes that have not been implemented since many years, as shown at **Appendix D** to this working paper. In this regard, the meeting is invited to review these routes and explore means to solve the pertaining issues or identify alternates routes that would replace these routes and update the list of air navigation deficiencies and Table ATS 1, accordingly.

2.8 In connection with the above, States, Users and ICAO agreed on proposed routes to be implemented in order to improve the traffic flow between concerned States, such as Egypt - Libya, Egypt - Malta, Egypt - Cyprus, Egypt - Jordan, Egypt - Saudi Arbia, Iran - Azerbeijan, Iraq - Kuwait, and Iraq - Saudi Arabia. However, no improvement has been reported to the ICAO MID Regional Office related to the implementation of the proposed routes.

2.9 The meeting may wish to note that MIDANPIRG/14 endorsed the MID Region ATM Contingency Plan at **Appendix E** to this working paper, which includes the MID Region Volcanic Ash Contingency Plan as an attachment to Chapter 5. The plan is availbale on the ICAO MID Regional Office restricted website (under eDocuments).

2.10 MIDANPIRG/14 highlighted that the State(s) responsible for providing air traffic services and related supporting services in particular portions of airspace is (are) 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 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.

2.11 MIDANPIRG/14 encouraged States to periodically review their national contingency plans and coordinate any amendment with neighbouring States and ICAO. Moreover, the meeting agreed that States should ensure the availability of their updated contingency plans at the ICAO MID Regional Office.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review and update the status of implementation of the top ten ATS routes and amend the list as deemed necessary;
b) review and update the MID ATS Route Catalogue at **Appendix A** to this working paper;
c) review and propose amendment to the MID ANP, Table ATS-1-ATS Route Network at **Appendix C**, as deemed necessary;
d) urge Sates to comply with the established procedures for the amendment of the ATS route network by submitting requests to amend the Table ATS 1 prior the publication of the routes in their Aeronautical Information Publications (AIPs);
e) urge States to take necessary measures to implement the agreed proposed routes aiming to improve the traffic flow in the MID Region;
f) review and update he status of contingency agreements and the contingency focal points list in the MID Region contained in the MID Region ATM Contingency Plan at **Appendix E** to this working paper; and
g) urge States to provide the ICAO MID Regional Office with their updated Contingency Plan by **30 July 2014**.

APPENDIX A

MID TOP 10 PROPOSED ATS ROUTES

TPR	ATS Route Catalogue Reference	ATS Route Affected	States Concerned	Status			Remarks
				Reviewed by	Date	Changed	
(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	*(h)*
1	RC-035	UL602	Iraq – Syria	ATM/AIM/SAR SG/13	SEP 2013	Yes	Pending for Syria approval
2	RC-045	New	Bahrain-Qatar- Saudi Arabia-Sudan-UAE	ATM/AIM/SAR SG/13	SEP 2013	Yes	
3	RC-055	L315	Egypt-Saudi Arabia	ATM/AIM/SAR SG/13	SEP 2013	Yes	Implemented with opposite direction
4	RC-056	New	Egypt	ATM/AIM/SAR SG/13	SEP 2013	Yes	Route amendment
5	RC-070	New	Egypt-Libya	ATM/AIM/SAR SG/13	SEP 2013	Yes	
6	RC-082	New UQ 597	Egypt-Jordan-Saudi Arabia	ATM/AIM/SAR SG/13	SEP 2013	Yes	Route amendment
7	RC-083	New UQ 598	Egypt-Libya-Saudi Arabia	ATM/AIM/SAR SG/13	SEP 2013	Yes	
8	Eurocontrol Proposal 1	New	Egypt	ATM/AIM/SAR SG/13	SEP 2013	New	
9	UKMUG-SIDAD	New	Bahrain-Iraq-Kuwait	ATM/AIM/SAR SG/13	Oct 2013	New	RNAV 1 Routes
10	SIDNA-ASLAN	New	Bahrain-Iraq-Kuwait	ATM/AIM/SAR SG/13	Oct 2013	New	RNAV 1 Routes

Table explanation

a) TPR used as reference for the proposed Top 10 routes to be considered for implementation, numbers do not reflect the level of priority.
b) Source of the proposed routes.
c) Affected ATS Routes by the implementation of the new proposed routes.
d) States Concerned with the implementation.
e) The Group, Sub-Group or Task Force that had reviewed and updated the status of implementation of these top 10 routes.
f) Date of last status update.
g) Indicates if the status is changed or Not.
h) Remarks

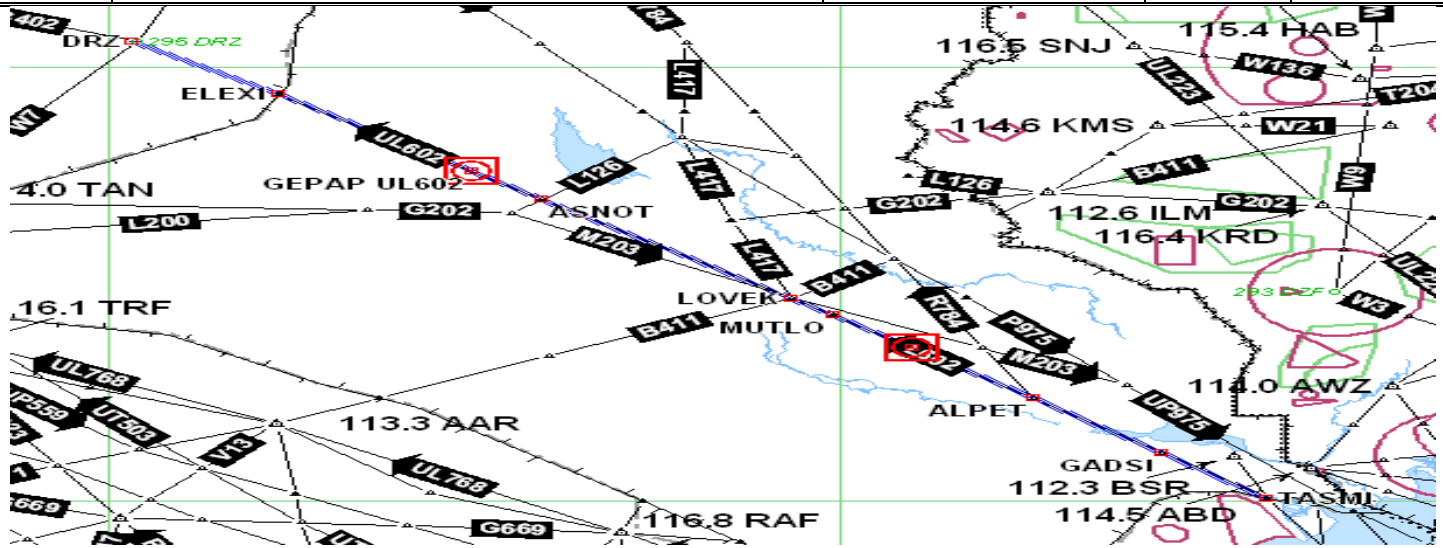
APPENDIX A

A2

MID/RC-035 (TPR 1)	**ATS Route Name:** UL602	**Entry-Exit:** TASMI - ELEXI	**Inter-Rgional Cross Reference if any**		**Users Priority**	URGENT	**Originator of Proposal**	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
GEPAP 334905.80N 0422850.64E **ELEXI 344130N 0410900E**	Iraq Syria		Entire route Westbound	Suspended in the Damascus FIR	Syria requested additional time to examine the communication requirements by concerned FIR's. Once the communication issues are resolved it is expected that the ATS route will be implemented. Iraq has no objection	Conditional on Communication AIRAC date ~~(25 Sept.2008)~~ Pending acceptance by Syria, of status of communication infrastructure
Flight Level Band: FL240-FL460						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-035 - (TPR 1)

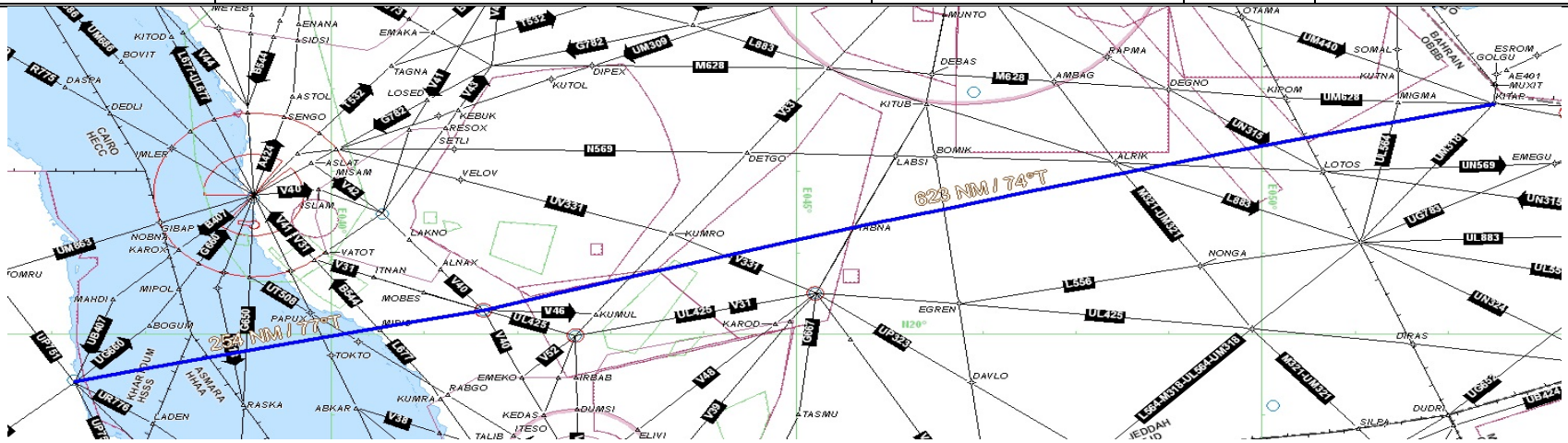
A3

MID/RC-044

MID/RC-045 (TPR 2)	ATS Route Name: New Route	Entry-Exit: PSD-BHA-KITAP ~~BOGUM-ASTOG~~	Inter-Regional Cross Reference if any		Users Priority		Originator of Proposal	IATA
							Date of Proposal	ARN TF/2

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken / Required	Deadline for each Action
Port Sudan (PSD) Al BAHA (BHA) KITAP	Bahrain, Qatar, Saudi Araiba, Sudan, United Arab Emirates				~~Bahrain has no objection~~ ~~Qatar, Saudi Arabia might be accepted as conditional Route~~ Sudan no objection from Port Sudan to SALWA (CDR) UAE Comments required KSA suggest Port Sudan BHA-KITAP (Normal route) will avoid CDR	
Flight Level Band:						
Potential City Pairs: DGAA, DNMM, HSSS, OEJN, SBGR to OBBI, OMAA, OMDB, OTBD (Central and Eastern Arabian Peninsula to Sudan, West Africa, South America)						

Conclusions/Remarks	**Saves 58 miles and 3196 Kg of CO2 to recalculate**		Last updated	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-045 - (TPR 2)

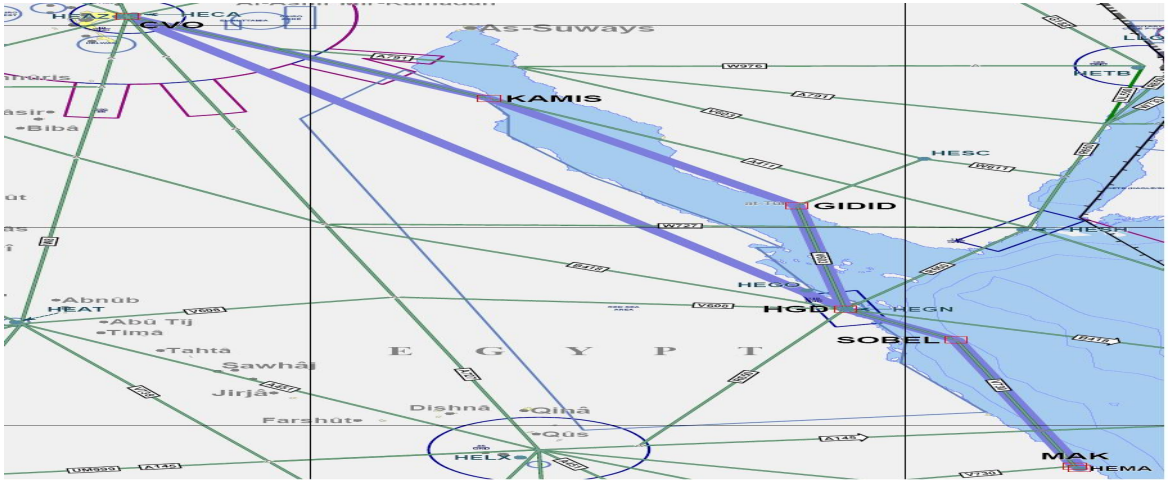
APPENDIX A

A4

MID/RC-055 (TPR 3)	**ATS Route Name:** New Route L315	**Entry-Exit:** HEMA-CVO	**Inter-Regional Cross Reference if any**		**Users Priority**	**Originator of Proposal**	IATA
						Date of Proposal	ARN TF/2

Route Description MAK-CVO	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
CVO HGD GIBAL	Egypt Saudi Arabia				L315 to be discussed with Saudi Arabia for direction of route To be followed up Both States agreed to study the proposal pending final agreement by June 2012 Opposite Direction	
Flight Level Band: Upper						
Potential City Pairs: North-western Red Sea to HECA and Europe						

Conclusions/Remarks	Saves 9 miles		**Last updated**	ATM/AIM/SAR SG/13 SEP 2013



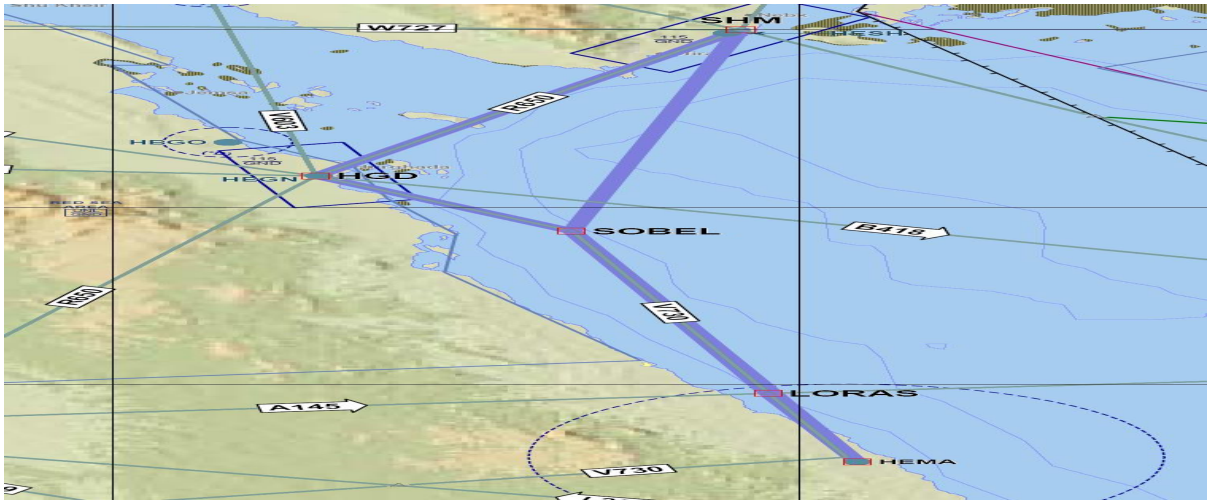
MID/RC-055- (TPR 3)

A5

MID/RC-056 (TPR 4)	**ATS Route Name:** New Route	**Entry-Exit:** HEMA-SHM	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	

Route Description HEMA-SHM	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
	Egypt				IATA to provide further details Tied with L315 await further discussions from Egypt.	
Flight Level Band: Upper						
Potential City Pairs: HESH, Eastern Mediterranean, Europe to Western Red Sea Coast						

Conclusions/Remarks	Saves 17 miles		**Last updated**	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-056- (TPR 4)

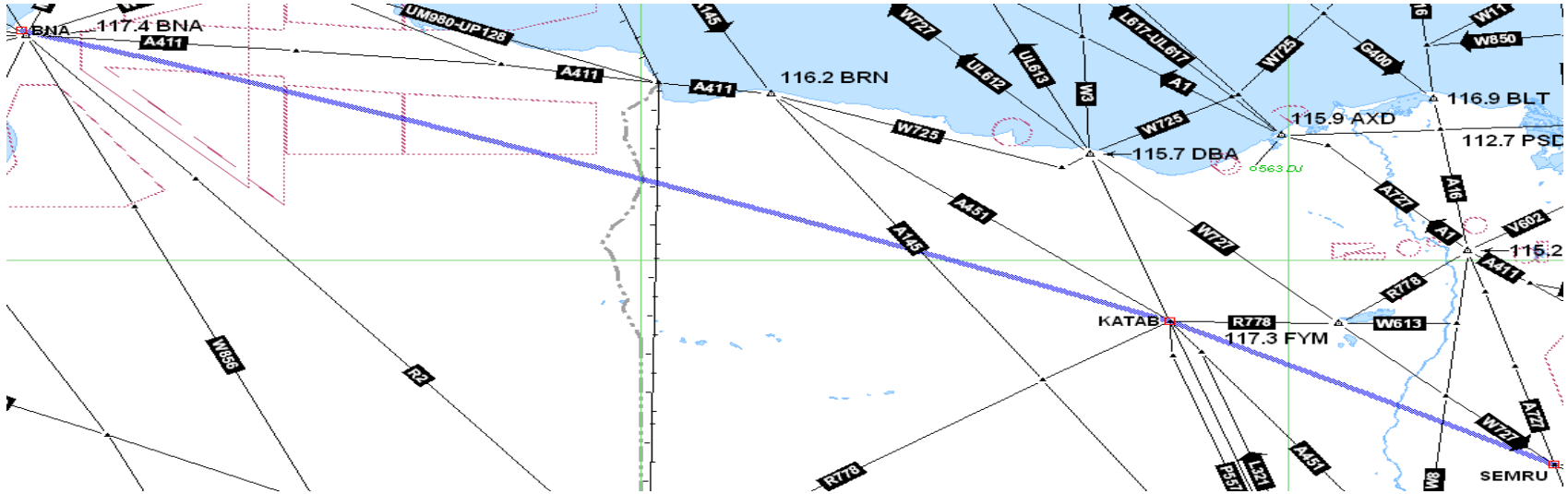
APPENDIX A

A6

MID/RC-070 (TPR 5)	**ATS Route Name:** New Route	**Entry-Exit:** BNA-KATAB-SEMRU	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal** IATA **Date of Proposal** ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
BNA (N32 07.5 E020 15.2) – KATAB (N29 25.0 E029 05.1) – SEMRU (N28 02.0 E032 03.1)			New ATS route.		Differed for the future Implement if possible Priority Routes	
Flight Level Band: FL290 – FL410						
Potential City Pairs: CMN/ALG/TUN/TIP-DOH						

Conclusions/Remarks		**Last updated**	ATM/AIM/SAR SG/13 SEP 2013
This AWY would save considerable track miles BNA – KATAB – SEMRU Libya FIR to Egypt FIR			



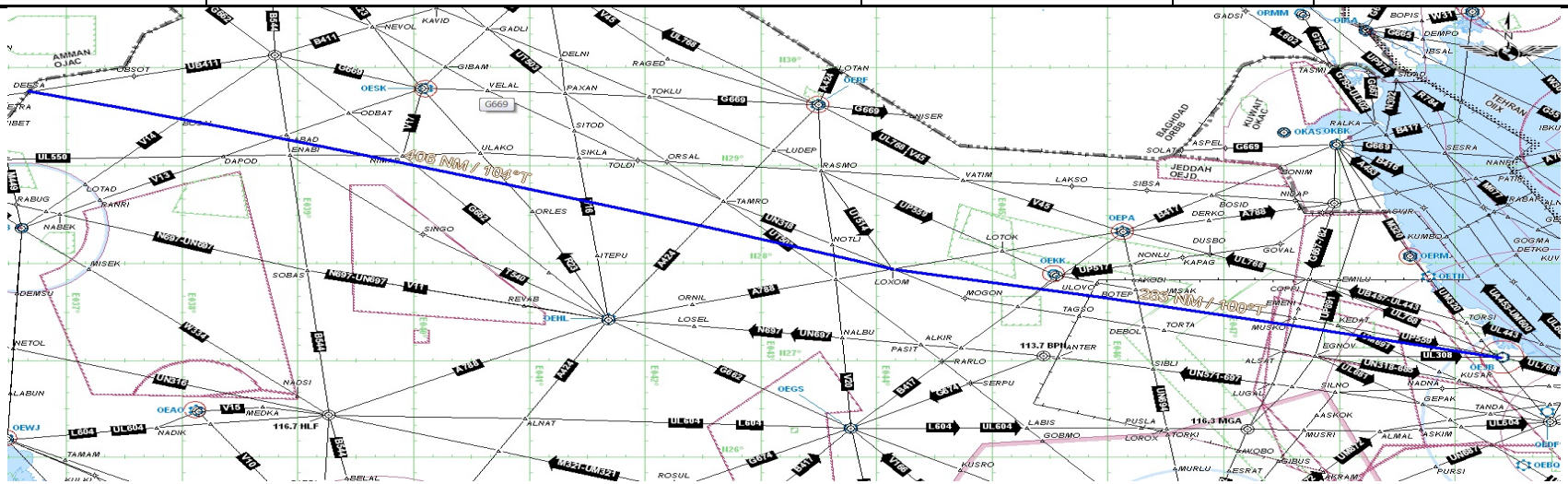
MID/RC-070- (TPR 5)

A7

MID/RC-082 (TPR 6)	**ATS Route Name:** New Route UQ597 Eastbound	**Entry-Exit:** DANAD - METSA – ASH – ULOVO	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
DANAD 28 51 06N 028 06 09E METSA 29 27 07N 034 59 03E ASH ULOVO 27 48 30N 045 54 20E	Egypt Jordan Saudi Arabia			Not in the ANP	connecting to UP559. Implement if possible Priority Routes KSA suggest DEESA –LOXOM-JBL In Egypt to follow the current route network	TBD
Flight Level Band:						
Potential City Pairs: Dakar FIR, Algiers FIR, Tripoli FIR, Cairo FIR, Jeddah FIR						

Conclusions/Remarks	**Proposals agreed to by some State during the iFLEX workshop Dubai**	**Last updated**	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-082-- (TPR 6)

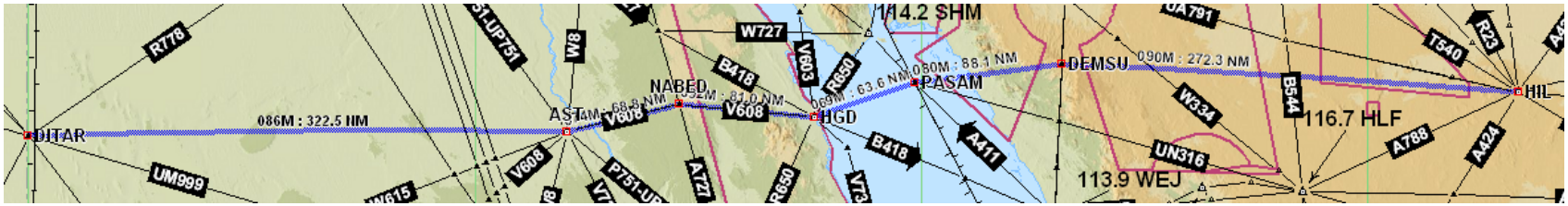
APPENDIX A

A8

MID/RC-083 (TPR 7)	ATS Route Name: New Route UQ598 Westbound	Entry-Exit: DITAR – NABED – PASAM – HIL - ANTER - KUTEM	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
DITAR 26 59 03N 025 00 00E AST NABED 27 18 01 032 17 06E PASAM 27 30 45N 034 55 42E HIL Via A791 KUTEM	Libya Egypt Saudi Arabia					~~Needs to be discussed with Egypt if A145 can be bidirectional East of LXR~~ Implement if possible Priority Routes Important Segment HGD-PASAM	TBD
Flight Level Band:							
Potential City Pairs:							

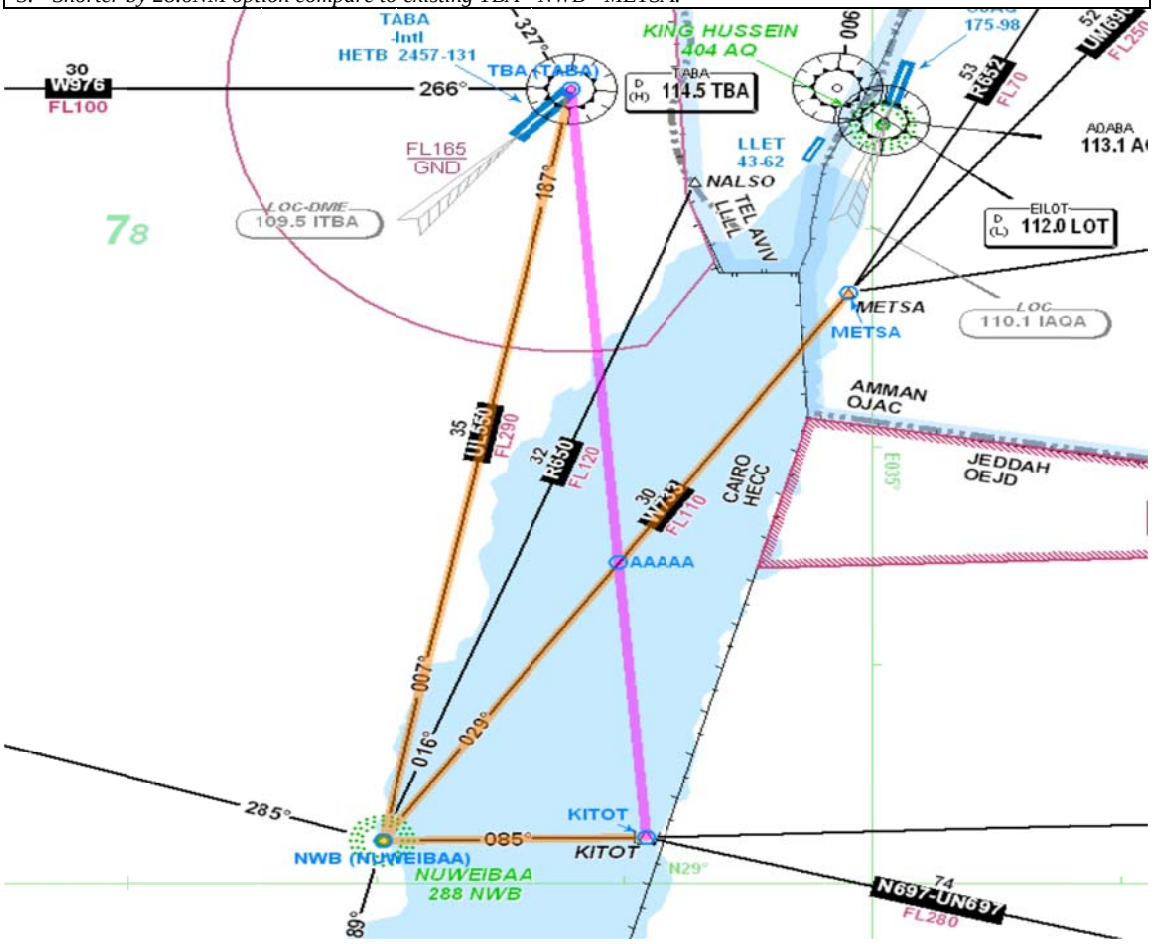
Conclusions/Remarks			Last updated	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-083- (TPR 7)

Eurocontrol proposals

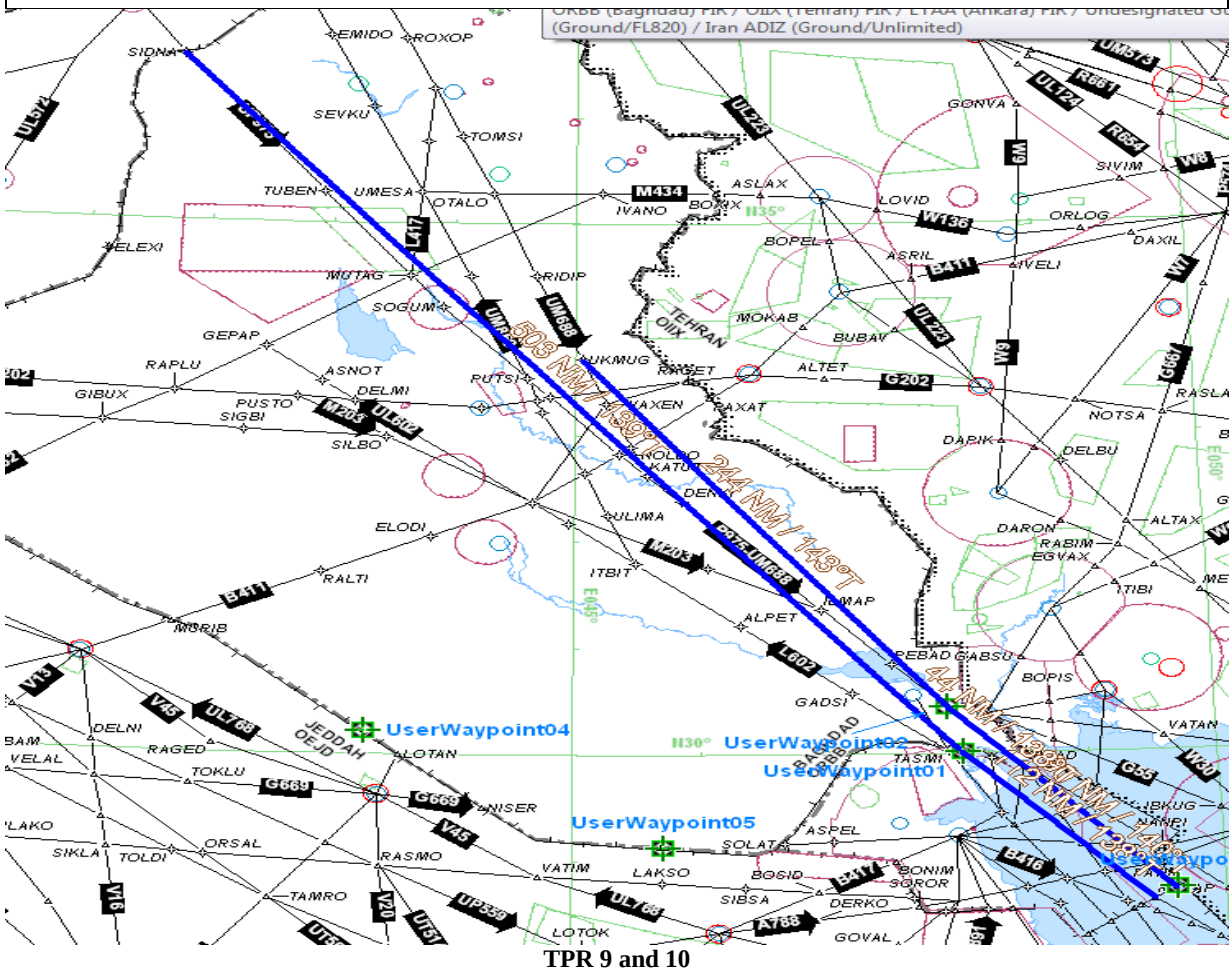
Reference	Objective and Proposal	State(s) concerned
TPR 8	*Objective:* *To further improve ATS route network within Cairo FIR.* To implement bi-directional ATS route **TBA - AAAAA - KITOT**.	EGY **Originator** EUROCONTROL
Notes: *1. AAAAA - crossing point between new TBA - KITOT and existing ATS route W733 allowing connection to/from METSA.* *2. Shorter by 9.2NM option compare to existing TBA - NWB - KITOT.* *3. Shorter by 28.6NM option compare to existing TBA - NWB - METSA.*		



(TPR 8)

Reference	Objective and Proposal	State(s) concerned
TPR 9	*Objective:* *To further improve ATS route network between Baghdad and Kuwait FIRs.* To implement ATS route **UKMUG-SIDAD- New Point East of RABAP then join the ATS Route network within Bahrain.**	Bahrain-Iraq-Kuwait **Originator** ATM/AIM/SAR SG13 Oct 2013
Notes: *1. RNAV 1 Routes, target date of implementation second quarter of 2014.*		

Reference	Objective and Proposal	State(s) concerned
TPR 10	*Objective:* *To further improve ATS route network between Baghdad and Kuwait FIRs.* To implement ATS route **SIDNA-New point West of ASLAN-RABAP**.	Bahrain-Iraq-Kuwait **Originator** ATM/AIM/SAR SG13 Oct 2013
Notes: *2. RNAV 1 Routes, target date of implementation second quarter of 2014.*		



TPR 9 and 10

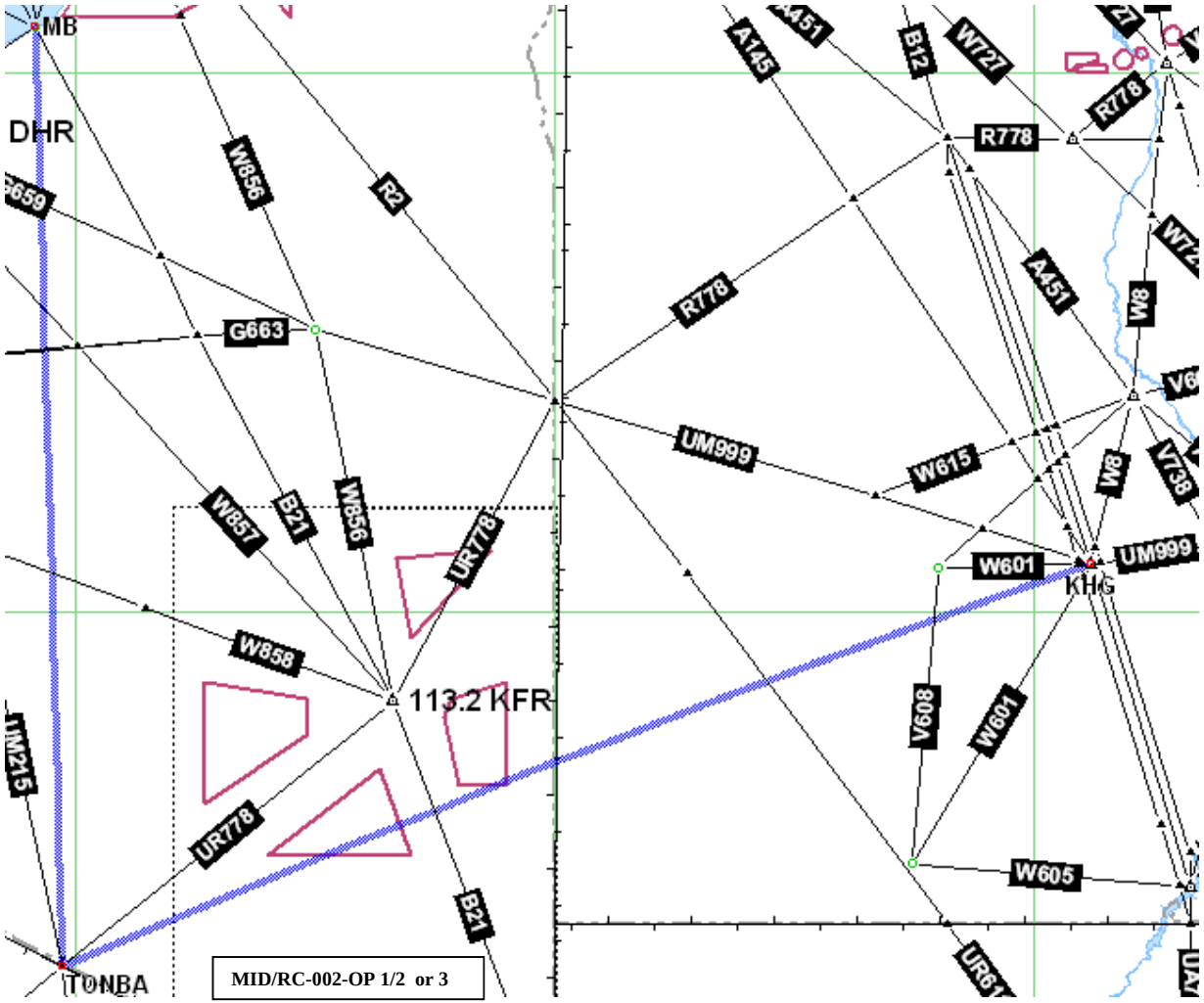
APPENDIX B

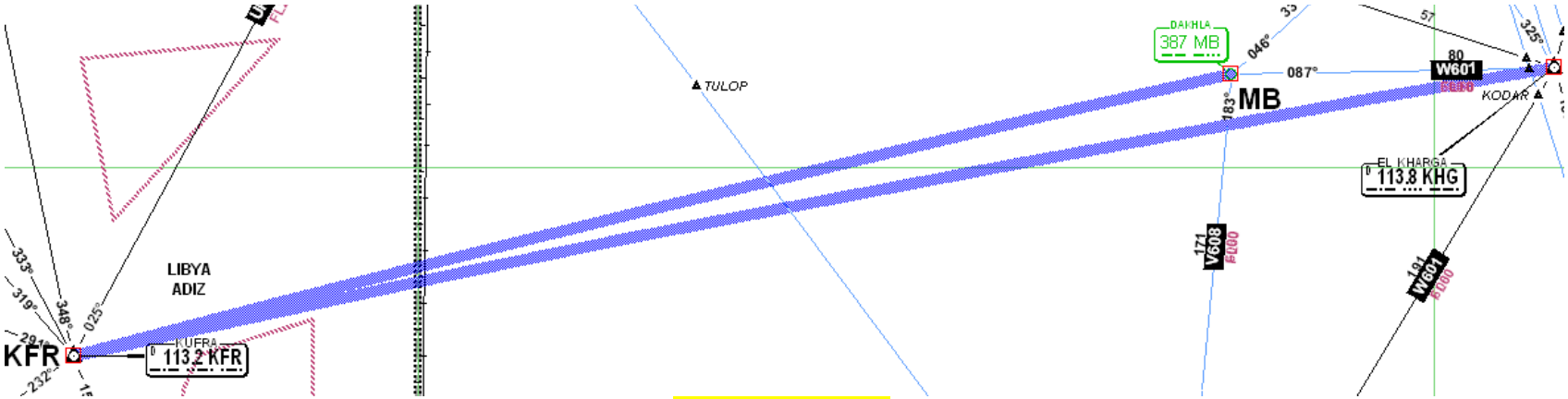
MID ATS ROUTES CATALOGUE

MID/RC-002 ***(Option1,2 ,3 and 4)***	**ATS Route Name:** New AWY Proposed between TONBA-KHG and KFR to MB (Dakhla) Or KHG	**Entry-Exit:** TONBA to KHG (Dakhla) Libya to Egypt FIR	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implemen-tation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
(Option 1) **TONBA (N2135.3 E01951.2)** **KHG (N2526.9 E03035.4)** **(Opt 2)** **TONBA (N21 35.3 E 0-19 51.2)** **MB (N25 25.2 E029 00.1)** **(Opt 3) KFR (N24 09.2 E023 18.5)** **MB (N25 25.2 E029 00.1)** **Or** **KHG (N25 26.9 E030 35.4)**	Lybia Egypt		New ATS route.		- Egypt highlighted that UM999 already exists and is used by 3 to 5 flights a day also that communication is being upgraded with a new station at Dakhla. - To be considered with and similarly to Proposal 2 & 4. - Egypt unable to accept route due to safety issues. - Differed for the future	TBD
Flight Level Band: FL290 – FL410						
Potential City Pairs: West Africa airports-Doha						
Expect 50 eastbound wkly flights, saving 91000Kg of fuel and 282T of CO2 wkly. The number may double if used westbound.						

Conclusions/Remarks			**Last updated**	ARN TF/6 April 2013


MB
DHR
W856
R2
G663
R778
UM999
W615
W857
B21
W856
UR778
W858
113.2 KFR
UM215
UR778
B21
TONBA
MID/RC-002-OP 1/2 or 3
A145
B12
W721
R778
A451
W8
W601
KHG
UM999
V608
W601
W605

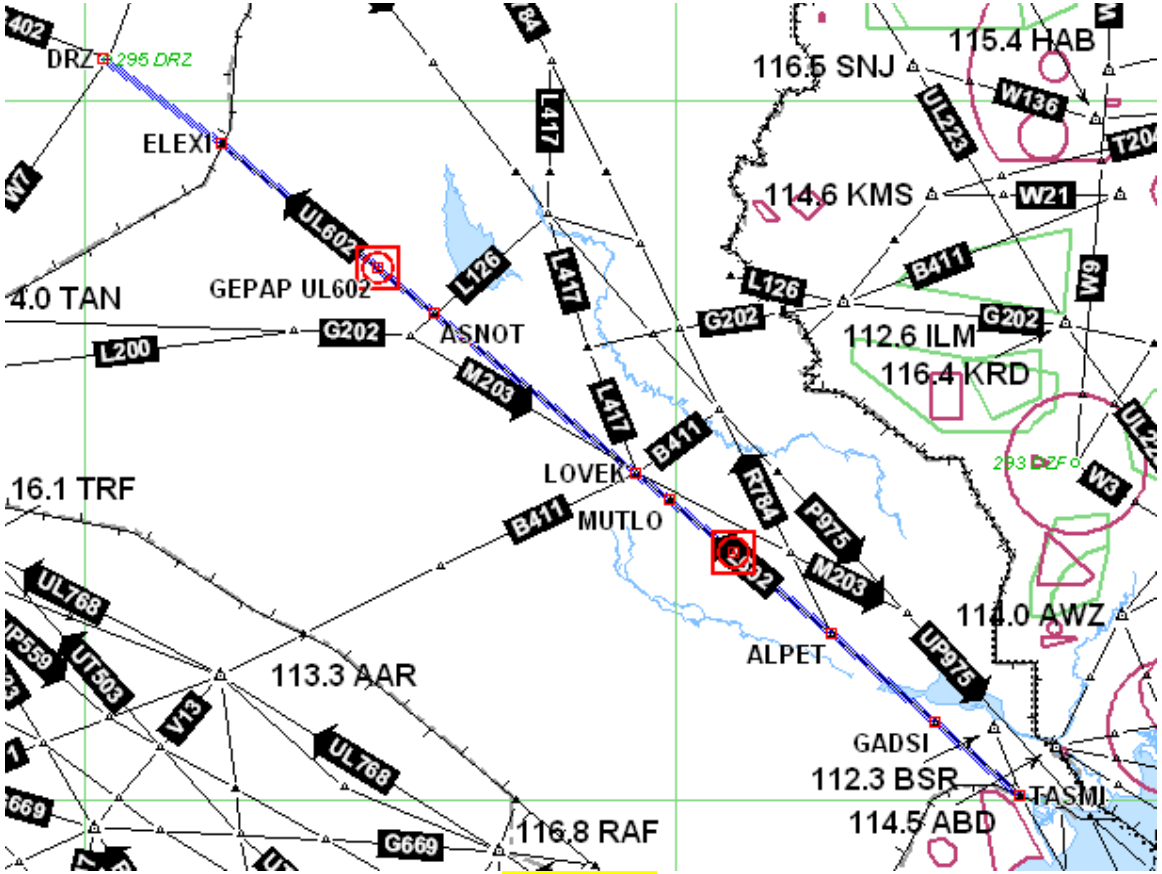


MID RC 002/OPT 3/4

MID/RC-035	**ATS Route Name:** UL602	**Entry-Exit:** TASMI - ELEXI	**Inter-Rgional Cross Reference if any**	**TOP TEN**	**Users Priority**	URGENT	**Originator of Proposal**	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)

Route Description	**States Concerned**	**Expected Implemen-tation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
TASMI 300120N 0475505E **GADSI 303358.08N 0471115.73E** **ALPET 311219N 0461 44E** **ITBIT 314735.20N 0452916.57E** **MUTLO 321018.98N 0445702.83E** **LOVEK 322 08.40N 044400.20E** **DELMI 331918.31N 0431327.59E** **ASNOT 332959.55N 0425716.62E** **GEPAP 334905.80N 0422850.64E** **ELEXI 344130N 0410900E** **DRZ 351724N 0401124E**	Iraq Syria		Entire route Westbound	Suspended in the Damascus FIR	Syria requested additional time to examine the communication requirements by concerned FIR's. Once the communication issues are resolved it is expected that the ATS route will be implemented Iraq is ready to implement the route	Conditional on Communication AIRAC date ~~(25 Sept.2008)~~ Pending acceptance by Syria, of status of communication infrastructure
Flight Level Band: FL240-FL460						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ATM/AIM/SAR SG/13 SEP 2013

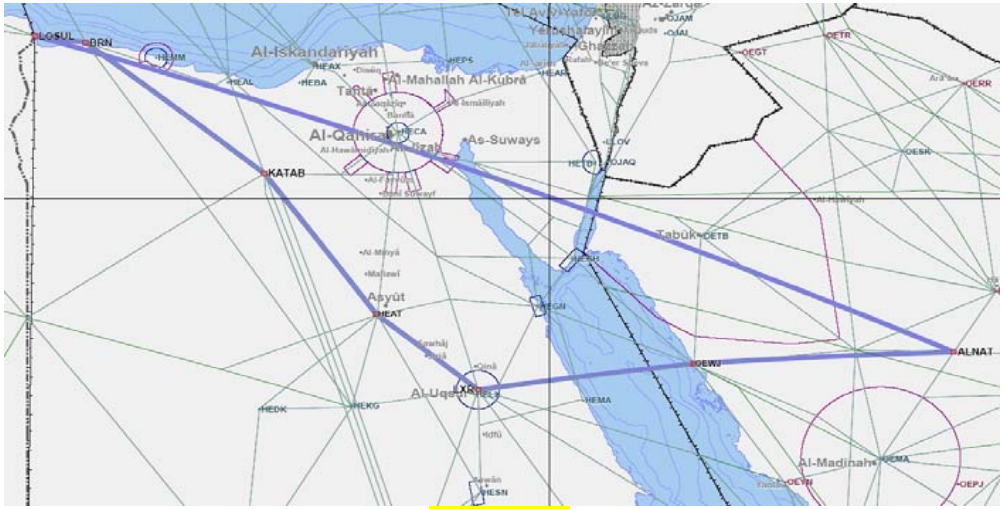

DRZ
295 DRZ
ELEXI
UL602
GEPAP UL602
4.0 TAN
G202
ASNOT
L200
M203
L417
L126
B411
LOVEK
MUTLO
16.1 TRF
R784
P975
UL768
UT503
V13
113.3 AAR
G669
116.8 RAF
ALPET
UP975
GADSI
112.3 BSR
TASMI
114.5 ABD
114.0 AWZ
112.6 ILM
116.4 KRD
114.6 KMS
116.5 SNJ
115.4 HAB
W136
UL223
W21
T204
W9
W3

MID/RC-035

MID/RC-044	**ATS Route Name: New Route**	**Entry-Exit:** LOSUL-ALNAT	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/2

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
	Egypt Saudi Arabia				Military reasons not possible at this time No change Implement if possible Priority Routes	
Flight Level Band:						
Potential City Pairs: DAAG, DTTA, GMMN, HLLT, DTTA to OBBI, OMAA, OMDB, OTBD (Central and Eastern Arabian Peninsula to Maghreb area)						

Conclusions/Remarks	**Saving 104 miles, 5051 Kg Co2 per flight.**		**Last updated**	ARN TF/6 April 2013

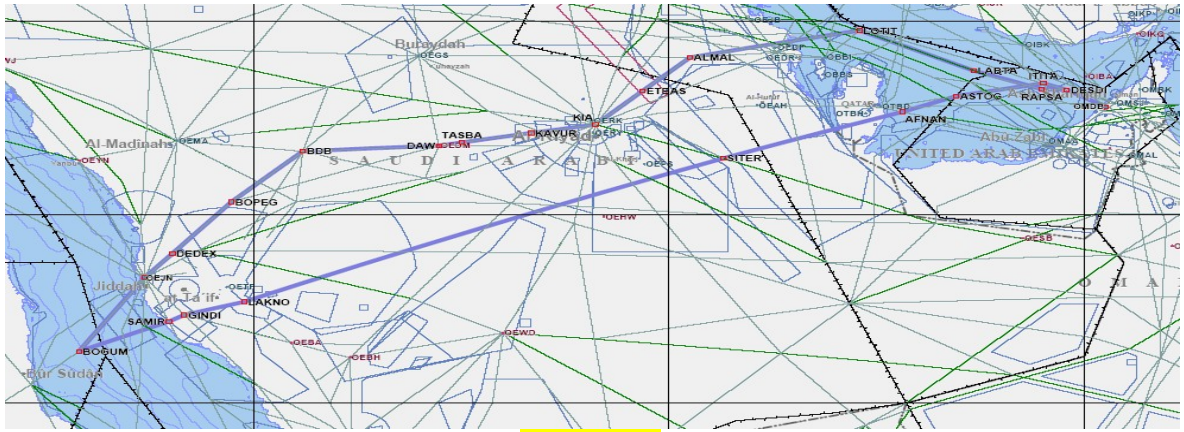


MID/RC-044

MID/RC-045	ATS Route Name: New Route	Entry-Exit: BOGUM-ASTOG	Inter-Regional Cross Reference if any	TOP TEN	Users Priority		Originator of Proposal	IATA
							Date of Proposal	ARN TF/2

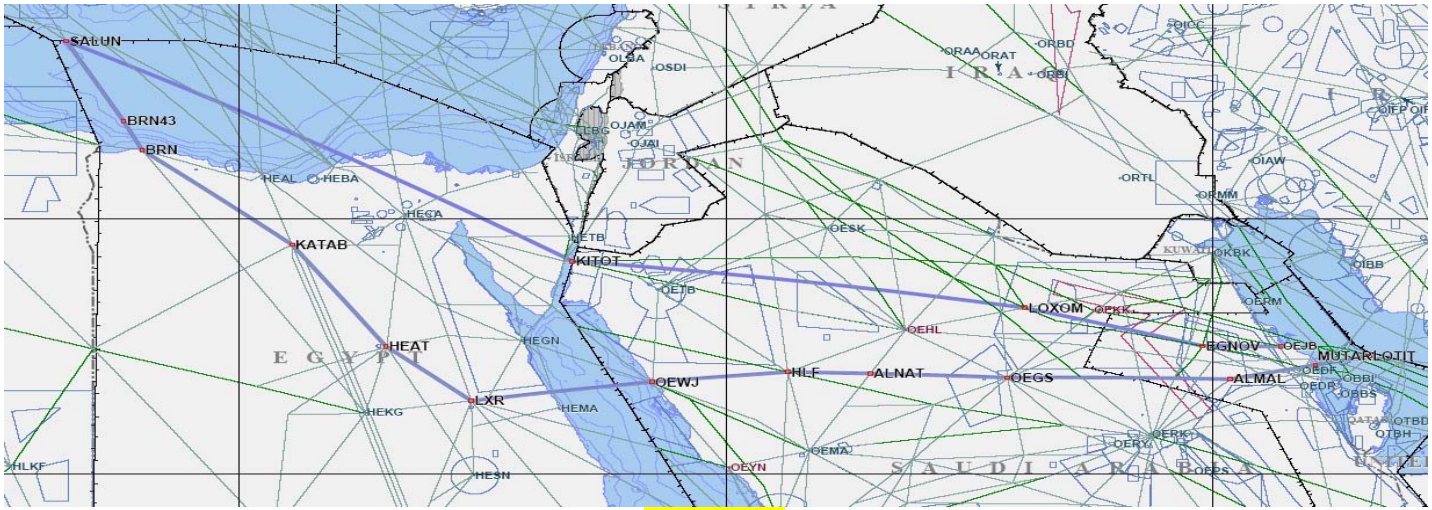
Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken / Required	Deadline for each Action
Port Sudan (PSD) Al BAHA (BHA) KITAP	Bahrain, Qatar, Saudi Araiba, Sudan, United Arab Emirates				Implement if possible Priority Routes Sudan no objection from Port Sudan to SALWA (CDR) UAE Comments required KSA suggest Port Sudan BHA-KITAP (Normal route) will avoid CDR	
Flight Level Band:						
Potential City Pairs: DGAA, DNMM, HSSS, OEJN, SBGR to OBBI, OMAA, OMDB, OTBD (Central and Eastern Arabian Peninsula to Sudan, West Africa, South America)						

Conclusions/Remarks	Saves 58 miles and 3196 Kg of CO2		Last updated	ATM/AIM/SAR SG/13 SEP 2013



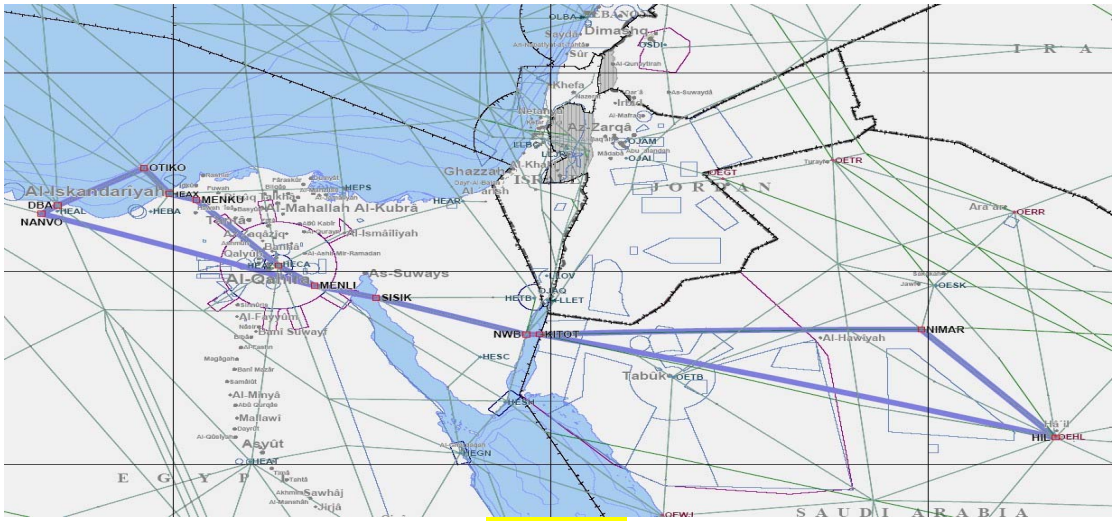
MID/RC-045

MID/RC-046	**ATS Route Name: New Route**	**Entry-Exit:** SALUN-EGNOV	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Bahrain, Egypt, Saudi Arabia					IATA to provide further details Implement if possible Priority Routes		
Flight Level Band:									
Potential City Pairs: DAAG, DTTA, GMMN, HECA, LIRF, LFMN to OBBI, OMAA, OMDB, OTBD (Eastern Arabian Peninsula to Egypt, Maghreb and Mediterranean areas)									
Conclusions/Remarks	**Saves 275 miles and 8267 kg of CO2 per flight**						**Last updated**	ARN TF/6 April 2013	



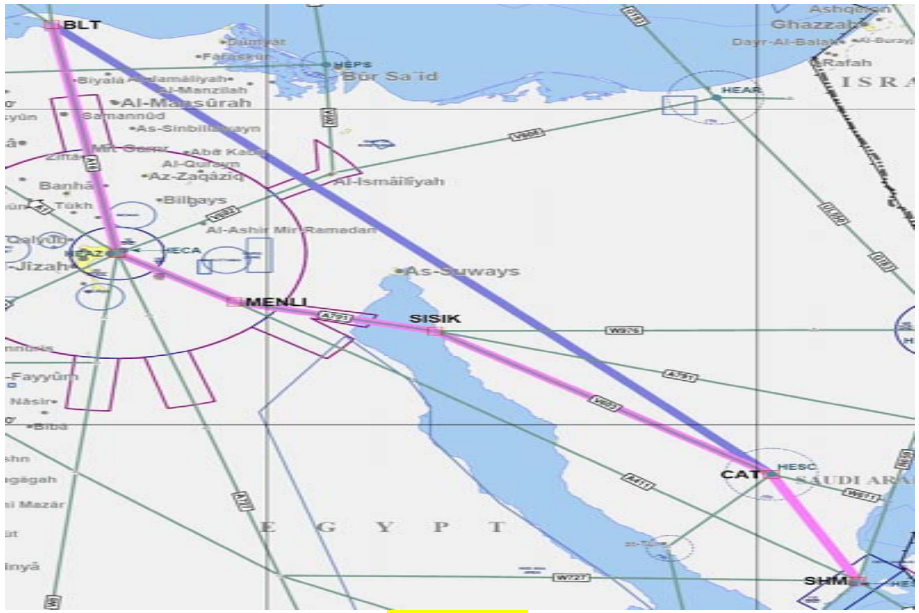
MID/RC-046

MID/RC-047	**ATS Route Name: New Route**	**Entry-Exit:** HIL-NANVO	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Egypt Saudi Arabia					IATA to provide further details Implement if possible Priority Routes		
Flight Level Band:									
Potential City Pairs: DAAG, DTTA, GMMN, HECA, HLLT, to OBBI, OERK, OMAA, OMDB, OTBD (Central and Eastern Arabian Peninsula to Egypt, Libya and Maghreb area)									
Conclusions/Remarks	**Saves 73 miles and 3900 Kg of CO2**						**Last updated**	ARN TF/6 April 2013	



MID/RC-047

MID/RC-053 Ex RC-513	**ATS Route Name:** New Route	**Entry-Exit:** BALTIM-SHM	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description New Route BALTIM to SHM		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Egypt					Possible Night rules by IAC Also to be provided to RMA Penetrates military airspace. No change		
Flight Level Band: Upper									
Potential City Pairs: Arabian Peninsula to Europe									
Conclusions/Remarks	Saves 24 miles / Flt						**Last updated**	ARN TF/6 April 2013	

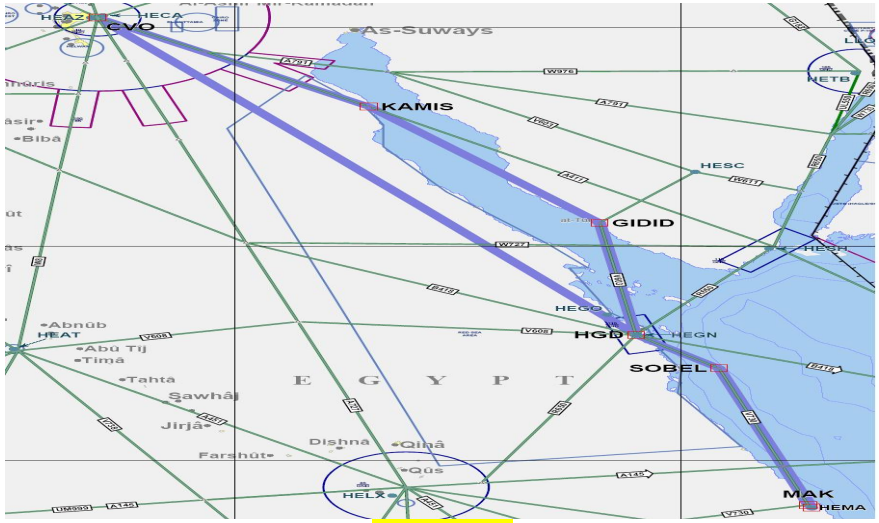


MID/RC-053

MID/RC-055	**ATS Route Name:** New Route L315	**Entry-Exit:** HEMA-CVO	**Inter-Regional Cross Reference if any**	**TOP TEN**	**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	

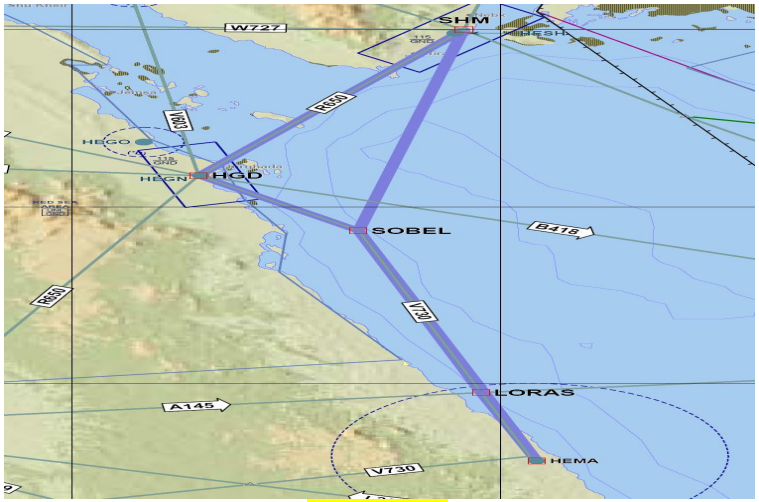
Route Description MAK-CVO	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
CVO HGD GIBAL	Egypt Saudi Arabia				L315 to be discussed with Saudi Arabia for direction of route To be followed up Both States agreed to study the proposal pending final agreement by June 2012 ***Opposite direction***	
Flight Level Band: Upper						
Potential City Pairs: Northwestern Red Sea to HECA and Europe						

Conclusions/Remarks	Saves 9 miles		**Last updated**	ATM/AIM/SAR SG/13 SEP 2013



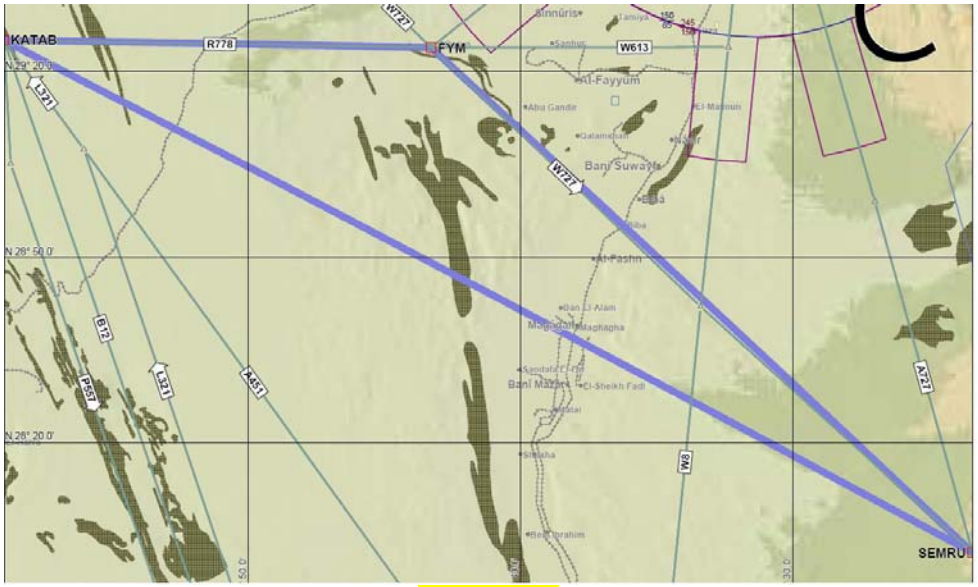
MID/RC-055

MID/RC-056	**ATS Route Name:** New Route	**Entry-Exit:** HEMA-SHM	**Inter-Regional Cross Reference if any**	**TOP TEN**	**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description HEMA-SHM		**States Concerned**	**Expected Implemen-tation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Egypt					IATA to provide further details Tied with L315 await further discussions from Egypt.		
Flight Level Band: Upper									
Potential City Pairs: HESH, Eastern Mediterranean, Europe to Western Red Sea Coast									
Conclusions/Remarks	Saves 17 miles						**Last updated**	ATM/AIM/SAR SG/13 SEP 2013	



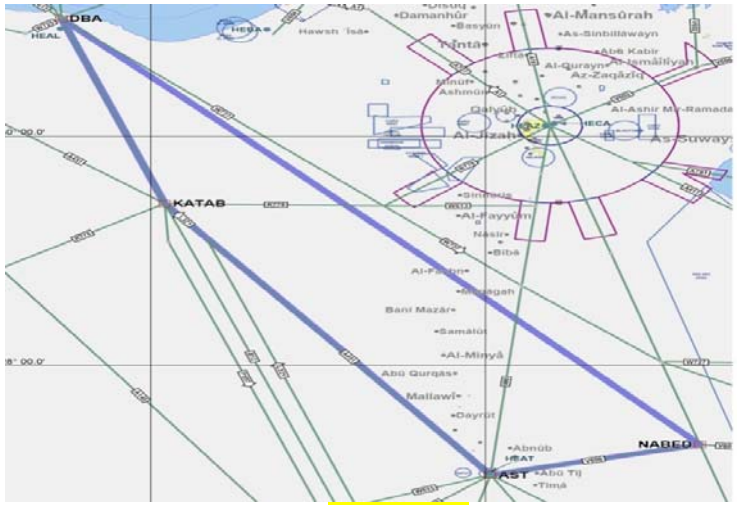
MID/RC-056

MID/RC-057	**ATS Route Name:** New Route	**Entry-Exit:** KHATAB-SEMRU	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description KATAB-SEMRU		**States Concerned**	**Expected Implemen-tation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Egypt					IATA to provide further details Ongoing tourist flights		
Flight Level Band: Upper									
Potential City Pairs: Arabian Peninsula to North Africa									
Conclusions/Remarks	Saves 11 Miles						**Last updated**	ARN TF/6 April 2013	



MID/RC-057

MID/RC-058	**ATS Route Name:** New Route	**Entry-Exit:** NADEB-DBA	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description NABED-DBA		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Egypt					IATA to provide further details Not feasible Implement if possible Priority Routes		
Flight Level Band: Upper									
Potential City Pairs: Arabian Peninsula to Europe									
Conclusions/Remarks	Saves 47 Miles						**Last updated**	ARN TF/6 April 2013	



MID/RC-058

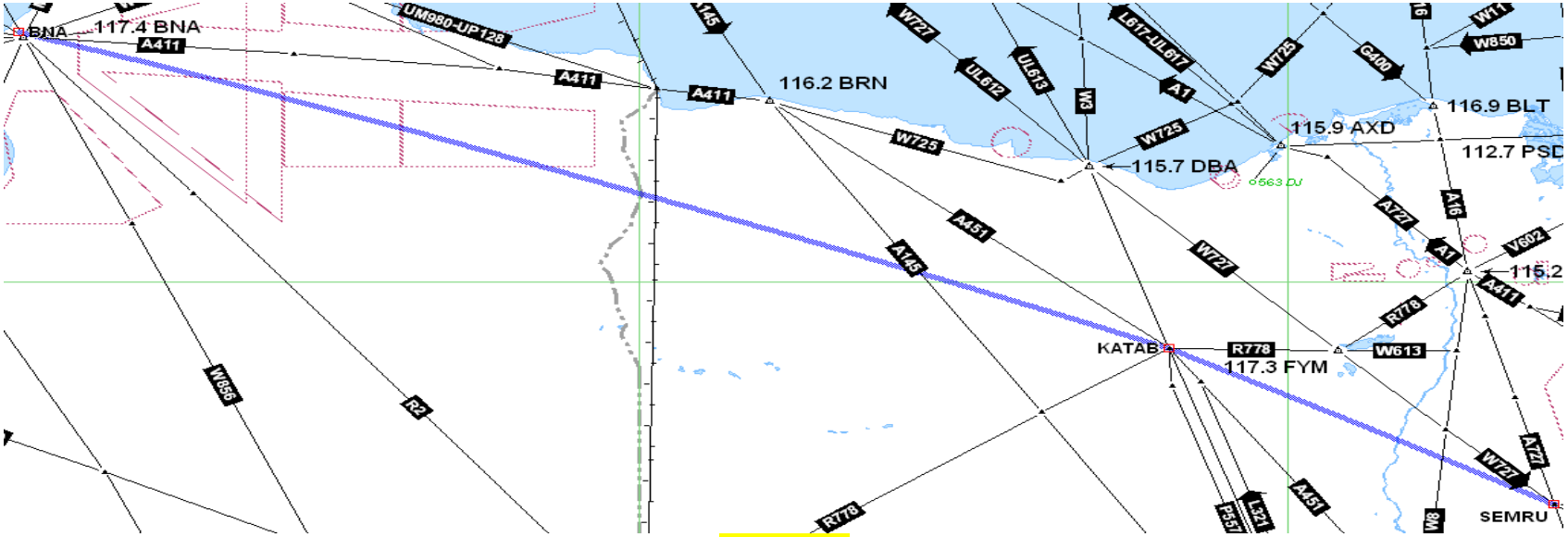
MID/RC-059	**ATS Route Name:** New Route	**Entry-Exit:** PASOS-NWB	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Egypt					IATA to provide further details Implement if possible Priority Routes		
Flight Level Band: Upper									
Potential City Pairs: Arabian Peninsula to Egypt									
Conclusions/Remarks	Saves 7 Miles						**Last updated**	ARN TF/6 April 2013	

MID/RC-059

MID/RC-070	**ATS Route Name:** New Route	**Entry-Exit:** BNA-KATAB-SEMRU	**Inter-Regional Cross Reference if any**	**TOP TEN**	**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/1	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
BNA (N32 07.5 E020 15.2) – KATAB (N29 25.0 E029 05.1) – SEMRU (N28 02.0 E032 03.1)			New ATS route.		Differed for the future	
Flight Level Band: FL290 – FL410						
Potential City Pairs: CMN/ALG/TUN/TIP-DOH						

Conclusions/Remarks	This AWY would save considerable track miles BNA – KATAB – SEMRU Libya FIR to Egypt FIR		**Last updated**	ATM/AIM/SAR SG/13 SEP 2013

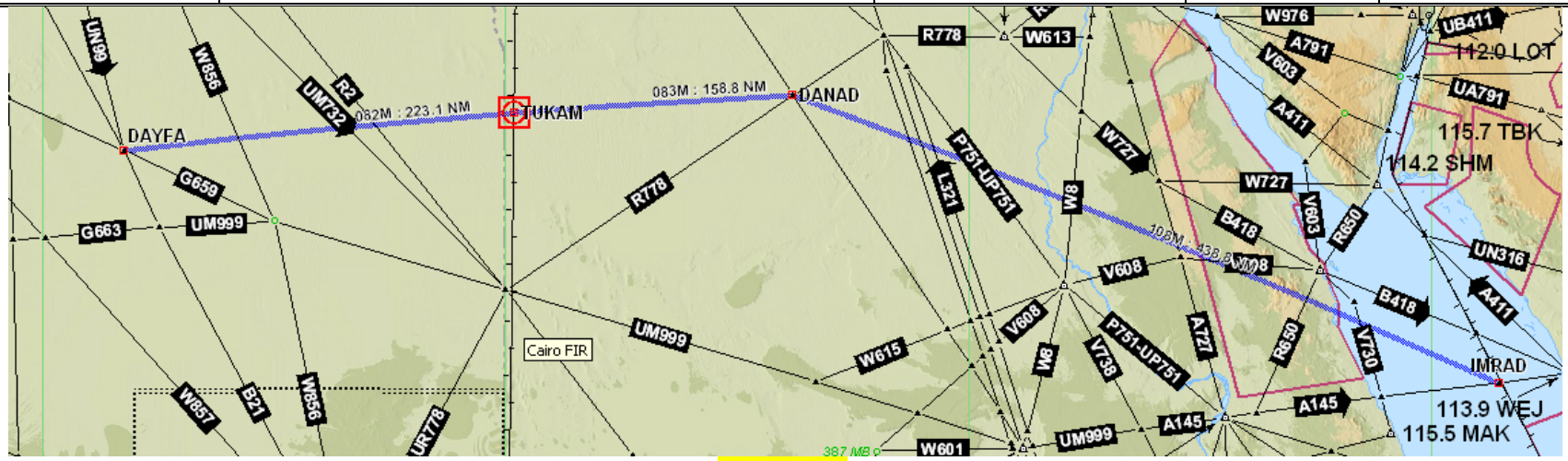


MID/RC-070

MID/RC-081	ATS Route Name: New Route UQ596	Entry-Exit: DAYFA – DANAD – IMRAD then A145 Eastbound Only	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
SEB HORUJ DAYFA DANAD IMRAD ALMAL	Libya Egypt Saudi Arabia			Not in the ANP	- Needs to be discussed with Libya - Needs to be discussed with Egypt - Needs to be discussed with Jeddah FIR if A145 can be bidirectional East of LXR Implement if possible Priority Routes	TBD
Flight Level Band:						
Potential City Pairs: Dakar FIR, Algiers FIR, Tripoli FIR, Cairo FIR, Jeddah FIR						

Conclusions/Remarks	Proposals agreed to by some State during the iFLEX workshop Dubai		Last updated	ARN TF/6 April 2013

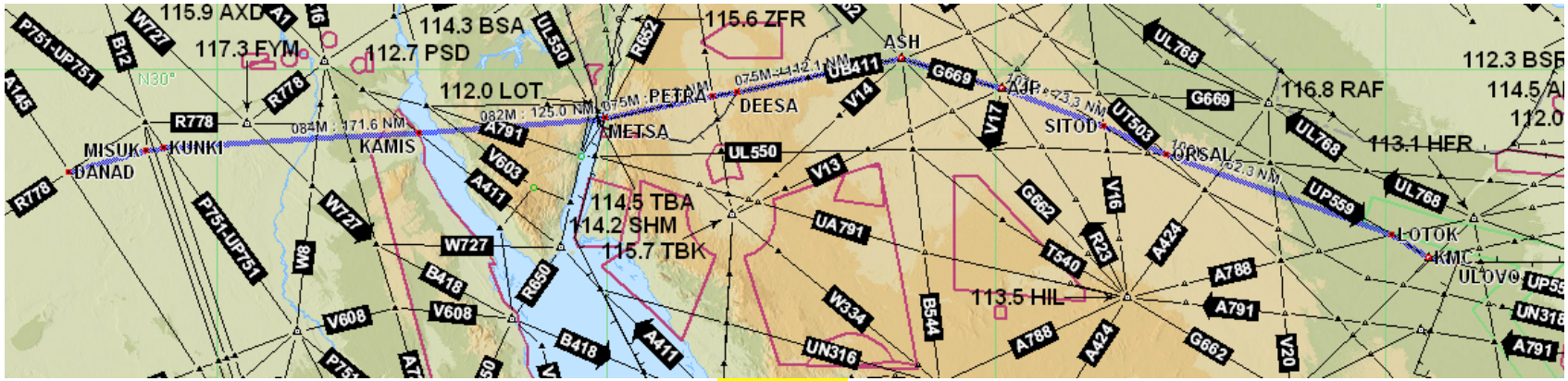


MID/RC-081

MID/RC-082	**ATS Route Name:** New Route UQ597 Eastbound	**Entry-Exit:** DANAD - METSA – ASH – ULOVO	**Inter-Regional Cross Reference if any**	**TOP TEN**	**Users Priority**	High	**Originator of Proposal**	IATA iFLEX Proposal	
							Date of Proposal	17 May 2011	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
DANAD 28 51 06N 028 06 09E METSA 29 27 07N 034 59 03E ASH ULOVO 27 48 30N 045 54 20E	Egypt Jordan Saudi Arabia			Not in the ANP	Connecting to proposed route MID/RC-081 via UP559. KSA suggest DEESA –LOXOM-JBL In Egypt to follow the current route network	TBD
Flight Level Band:						
Potential City Pairs: Dakar FIR, Algiers FIR, Tripoli FIR, Cairo FIR, Jeddah FIR						

Conclusions/Remarks	**Proposals agreed to by some State during the iFLEX workshop Dubai**	**Last updated**	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-082

MID/RC-083	ATS Route Name: New Route UQ598 Westbound	Entry-Exit: DITAR – NABED – PASAM – HIL - ANTER - KUTEM	Inter-Regional Cross Reference if any	TOP TEN	Users Priority	High	Originator of Proposal	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
DITAR 26 59 03N 025 00 00E AST NABED 27 18 01 032 17 06E PASAM 27 30 45N 034 55 42E HIL Via A791 KUTEM	Libya Egypt Saudi Arabia					Important Segment HGD-PASAM	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			Last updated	ATM/AIM/SAR SG/13 SEP 2013

MID/RC-083

<table>
<tr><td rowspan="2">MID/RC-084</td><td colspan="2" rowspan="2">ATS Route Name:
New Route UQ599; Bidirectional</td><td rowspan="2">Entry-Exit:
KFR - KHG</td><td rowspan="2">Inter-Regional Cross Reference if any</td><td rowspan="2"></td><td rowspan="2">Users Priority</td><td rowspan="2">High</td><td>Originator of Proposal</td><td colspan="2">IATA iFLEX Proposal</td></tr>
<tr><td>Date of Proposal</td><td colspan="2">17 May 2011</td></tr>
<tr><td colspan="2">Route Description</td><td>States Concerned</td><td>Expected Implemen-tation date</td><td>Implementation Status</td><td>ANP Status</td><td colspan="2">Action Taken/Required</td><td>Deadline for each Action</td></tr>
<tr><td>KFR
KHG</td><td>Libya
Egypt</td><td></td><td></td><td></td><td></td><td colspan="2">- Needs to be discussed with Libya
- Needs to be discussed with Egypt
Implement if possible
Priority Routes</td><td>TBD</td></tr>
<tr><td colspan="2">Flight Level Band:</td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">Potential City Pairs:</td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td colspan="2"></td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td colspan="2"></td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">Conclusions/Remarks</td><td colspan="3"></td><td colspan="2"></td><td>Last updated</td><td colspan="2">ARN TF/6 April 2013</td></tr>
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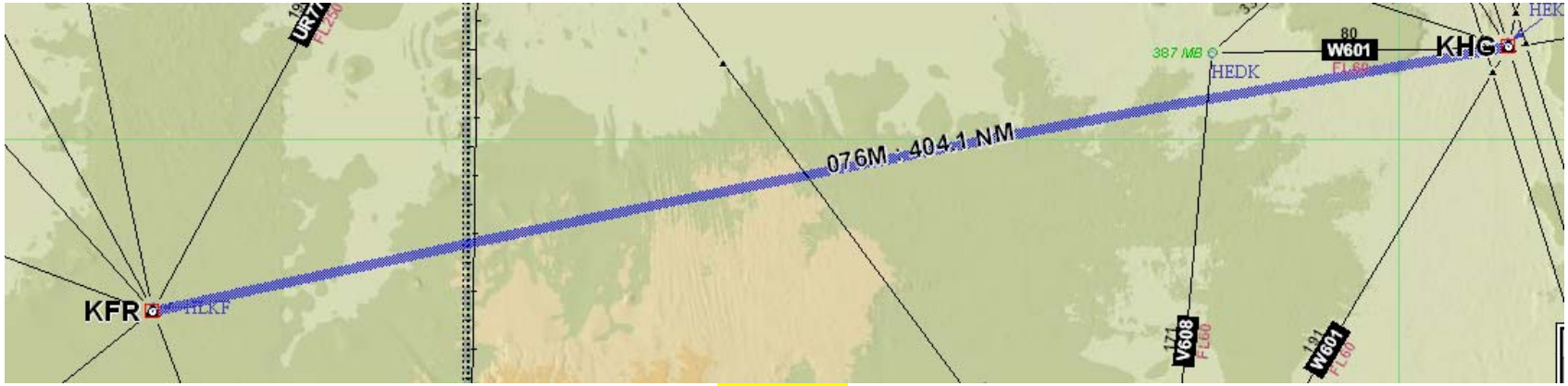
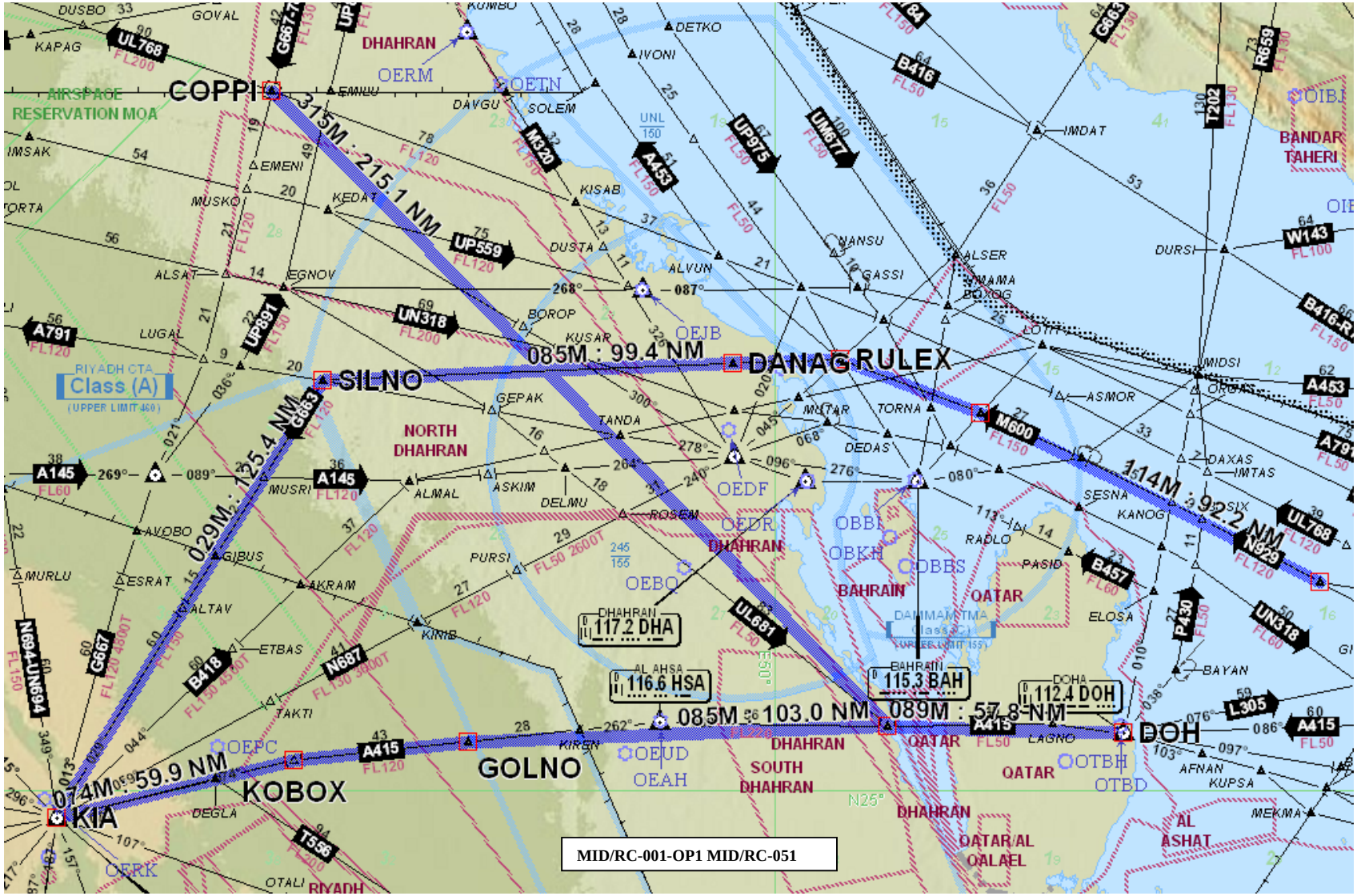


MID/RC-084

MID/RC-001 ***(Option 1)*** **MID/RC-051**	**ATS Route Name:** New AWY between SALWA-COPPI A415	**Entry-Exit:** SALWA-COPPI DOH - KIA	**Inter-Regional Cross Reference if any**		**Users Priority**	~~High~~ URGENT	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
SALWA (N25 15.6 E050.30.8) – COPPI (N27 50.6 E047 44.0) This route is proposed as a one way northbound to cater for departure from Doha intersection point on "A791/G663", maybe "TANDA N26 27.1 E049 18.2" to allow traffic to transit for North African destinations	Qatar Bahrain Saudi Arabia		New ATS route.		- Bahrain has no objection . - Qatar has no objection however will have time restriction of 15:00 to 03:00 UTC subject to concurrence with Saudi Arabia. - Pending Saudi Arabia response Secretariat will make Amendment Proposal. - Re submitted by Bahrain with indication of safety priority need. - Saudi Arabia to investigate a timed route option. Still timed out route Same as RC 001 Whatever is related to A415 should be combined Still on	As soon as practical
Flight Level Band: FL200 – FL410						
Potential City Pairs: DOH to Western Europe/USA DOH to BEY, DAM, AMM DOH to North-Africa OMAA to GMMN, HECA, HSSS, OEJN, OERK						

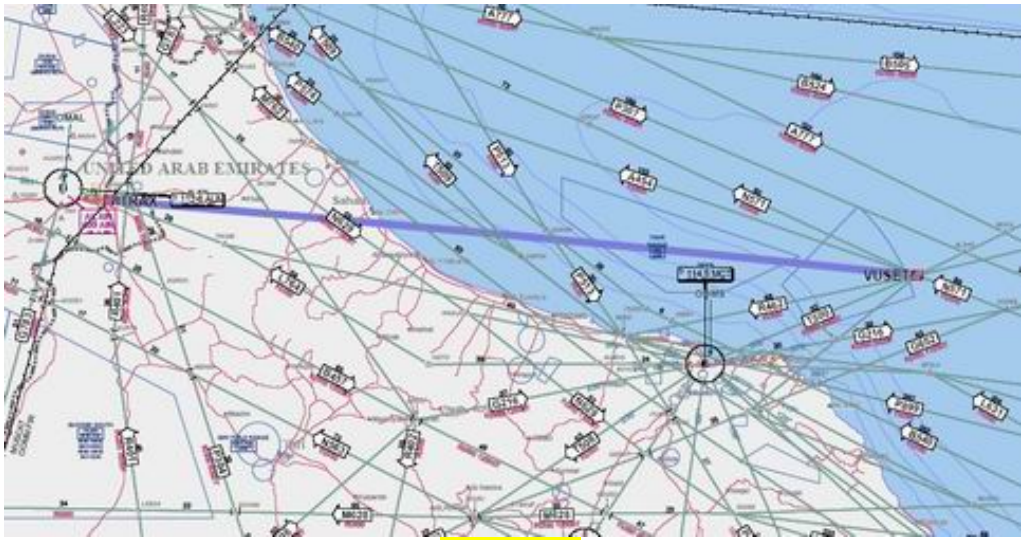
Conclusions/Remarks	**Saving 88 miles, 10 daily flts, 34650 Kg of CO2 Daily**		**Last updated**	ARN TF/6 April 2013


COPPI
SILNO
DANAG
RULEX
GOLNO
KOBOX
DOH
KIA
DHAHRAN
OERM
OETN
OEJB
OEDF
OEDR
OEBQ
OEPC
OEUD
OEAH
OERK
OBBI
OBKH
OBBS
OTBH
OTBD
NORTH DHAHRAN
SOUTH DHAHRAN
BAHRAIN
QATAR
RIYADH CTA
Class (A)
(UPPER LIMIT 460)
AIRSPACE
RESERVATION MOA
315M : 215.1 NM
085M : 99.4 NM
029M : 125.4 NM
074M : 59.9 NM
085M : 103.0 NM
089M : 57.8 NM
114M : 92.2 NM
117.2 DHA
116.6 HSA
115.3 BAH
112.4 DOH
MID/RC-001-OP1 MID/RC-051

MID/RC-003	**ATS Route Name:** New AWY – VUSET to ITRAX	**Entry-Exit:** VUSET – ITRAX Muscat FIR	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
VUSET – "N23 55.7 E059 08.2 ITRAX – N24 12.8 E055 47.8	Oman		New ATS route.	Not in the ANP	Not acceptable due to dense traffic crossings and goes through Danger Areas climbing descending traffic. To be differed indefinitely Differed for the future Similar to RC-013 No change	TBD
Flight Level Band: FL290 – FL410						
Potential City Pairs: SGN, PEK, HKG, PVG, DEL, AMD, KHI, KIX, DAC, KTM - Doha						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013



MID/RC-003

MID/RC-004	**ATS Route Name:** ~~Q707~~ **L681**	**Entry-Exit:** EGNOV – SALWA	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
EGNOV (N27 03.0 E047 47.2) – SALWA (N25 15.6 E050.30.8)	Qatar Bahrain Saudi Arabia		Opening hours to be extended. Suggested from 1430 – 0300UTC Weekends H24 To change current AWY Q707 from one-way to two way between points EGNOV – SALWA North Africa traffic – If Q707 is made a two way AWY, then traffic can route from point "GEPAK (N26 33.0 E048 43.5) on AWY A791/G663		- Bahrain has no objection. - Qatar can extend hours from 15:00 to 03:00 UTC provided Saudi Arabia concurs. Implemented as a timed-out route Keep as is in the route Catalogue	~~31 Oct. 2008~~
Flight Level Band: GND - UNL						
Potential City Pairs: Doha – Western Europe/USA – Doha Doha – BEY, DAM, AMM – Doha Doha – North Africa dest. - Doha						

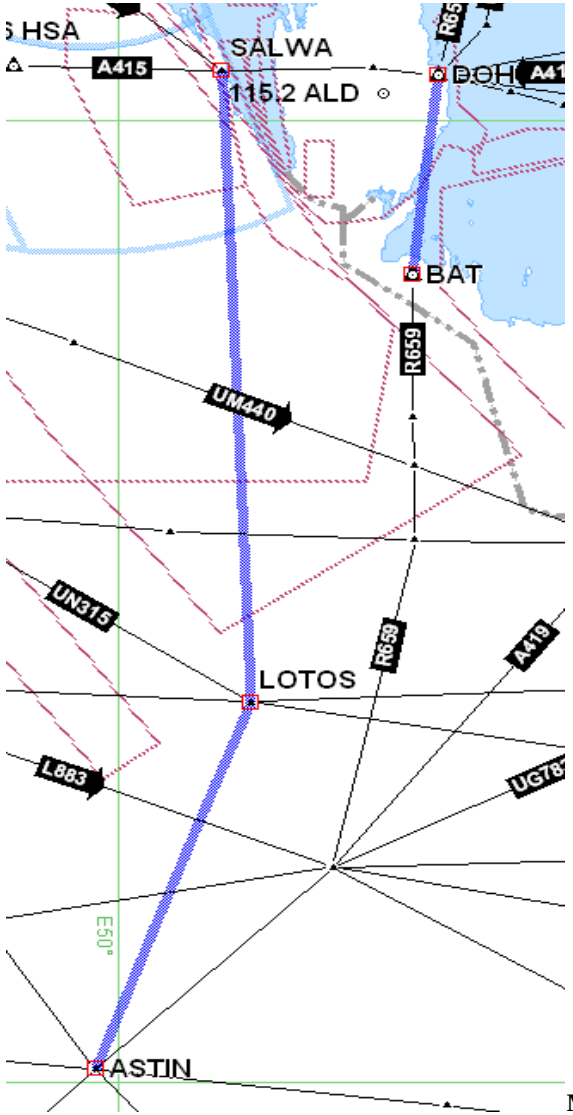
Conclusions/Remarks	Urgent implementation necessary due rapidly building congestion in the Bahrain FIR		**Last updated**	ARN TF/6 April 2013

MID/RC-004

MID/RC-005 **Op 2** **MID/RC-049**	**ATS Route Name:** New AWY between SALWA-LOTUS-ASTIN SALWA KIPOM ASTIN DOH BAT	**Entry-Exit:** SALWA-LOTUS-ASTIN DOH-BAT	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
Proposed new AWY would be two way. Alternatively, IATA would accept Salwa – (intersection point on Y100) – Y100 – LOTUS – New AWY – PURDA (N21 08.1 E051 03.5) – join with A419 SALWA (N25 15.6 E050.30.8) LOTUS (N22 00.0 E050 39.2) ASTIN (N20 04.2 E049 53.3) **Route Description** A direct segment on an airway that was compensated for by a dog leg B415 BUNDU V997 BAT	Bahrain Saudi Arabia Bahrain, Qatar, United Arab Emirates		New ATS route.		- An alternate RNAV1 route was proposed waiting for UAE response. - Provided R659 implemented between DOH and BAT and RC049 - No change - • MID RC-005 / MID RC-049, UAE requested that due military issue to remove this route - Doha will be addressed during the next meeting reference removing this route. Keep as is until Qatar is present for discussions IT Expected implementation September 2011 as a timed out route - Ref RC 005	Immediate ~~Sept. 2008~~ June. 2009
Flight Level Band: FL180 – FL410						
Potential City Pairs: Doha – Eastern/ South Africa - Doha						

Conclusions/Remarks	Replacement proposal (Doha-Bundu-U997-R659). Approved for immediate implementation.		**Last updated**	ARN TF/6 April 2013

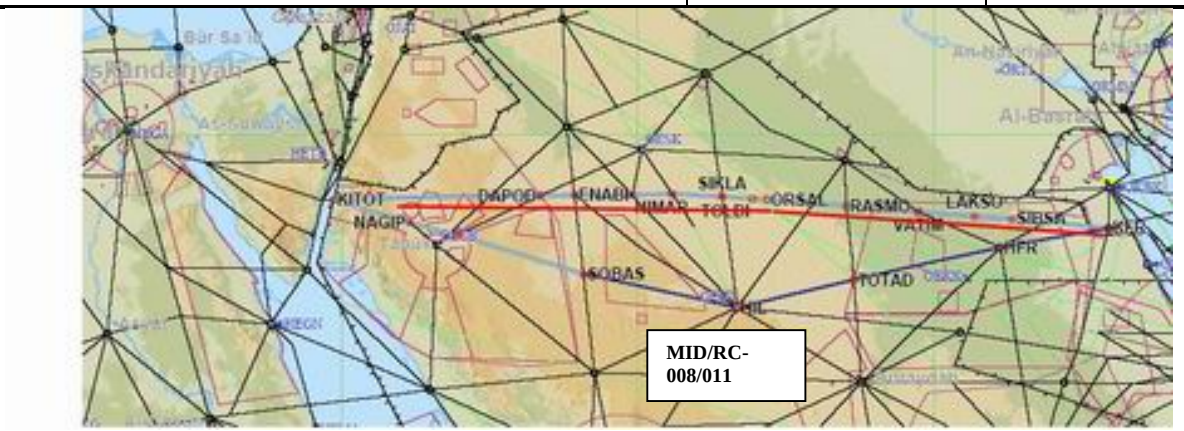


MID/RC-005 and 049

MID/RC-008-011	**ATS Route Name:** New Parallel AWY to UL 550	**Entry-Exit:** Parallel AWY to UL550	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/1	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
New Parallel AWY to UL 550	Egypt Saudi Arabia ~~Iraq~~ Kuwait		New ATS route.		- Egypt will continue to study how to address issue of east bound traffic for reduced traffic (Egypt Air and Kuwait Airways). - The Segment in Jeddah FIR is used bidirectionally already. - Egypt will review the route feasibility on completing of the ACC sectorization process underway - Egypt restudy the route and to provide an update next ARN TF - No change - Can be deleted provided ATS Route A791 is implemented as Bi-directional.	
Flight Level Band: 6000ft TO FL 250						
Potential City Pairs: Cairo-Kuwait						

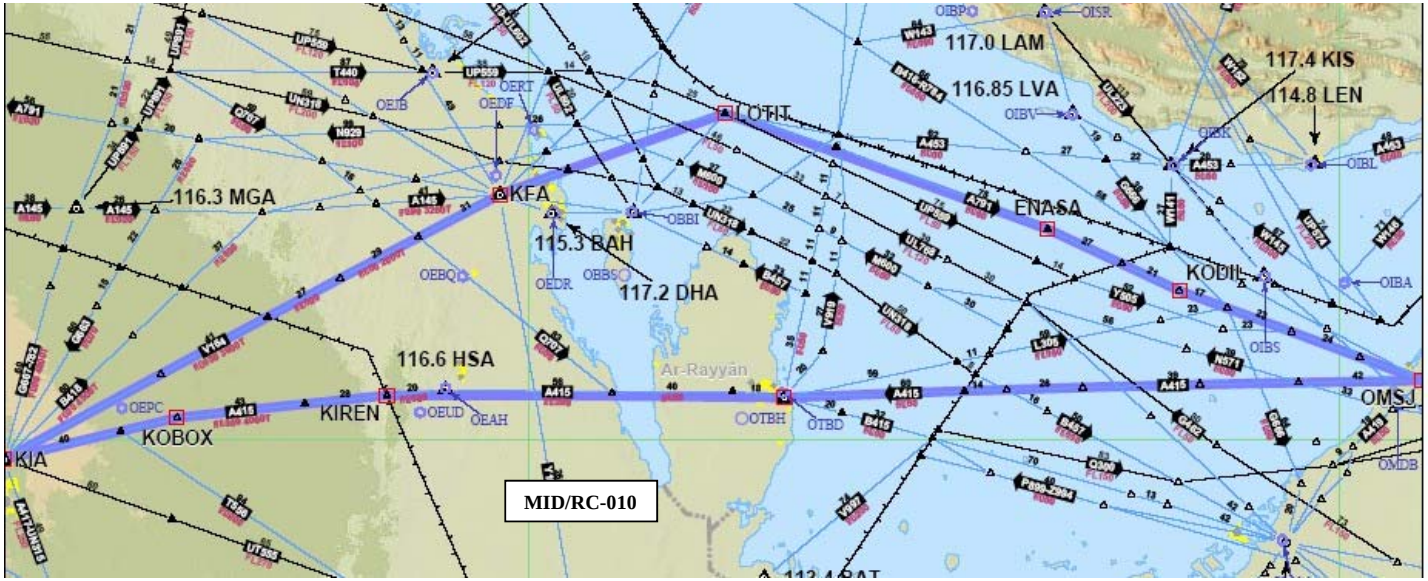
Conclusions/Remarks	Egypt highlighted similar proposal has been studied before and not found acceptable due to military restrictions and uncoordinated flights over the red sea area. This is similar routing as MID/RC-011	**Last updated**	ARN TF/6 April 2013



MID/RC-010	ATS Route Name: ~~V164~~ N687	Entry-Exit:	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA
							Date of Proposal	ARN TF/1

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
~~V164~~ N687 King Khaled (KIA). King Fahd (KFA) change from uni-direction eastbound to bi-direction.	Bahrain Saudi Arabia				- Bahrain has no objection for FL250 and below between KIA and KFA. - Not feasible at the moment - Differed for the future. - Saudi Arabia agrees. - Timed route - No change	
Flight Level Band:						
Potential City Pairs: For traffic from airports in Gulf region to Riyadh and beyond						

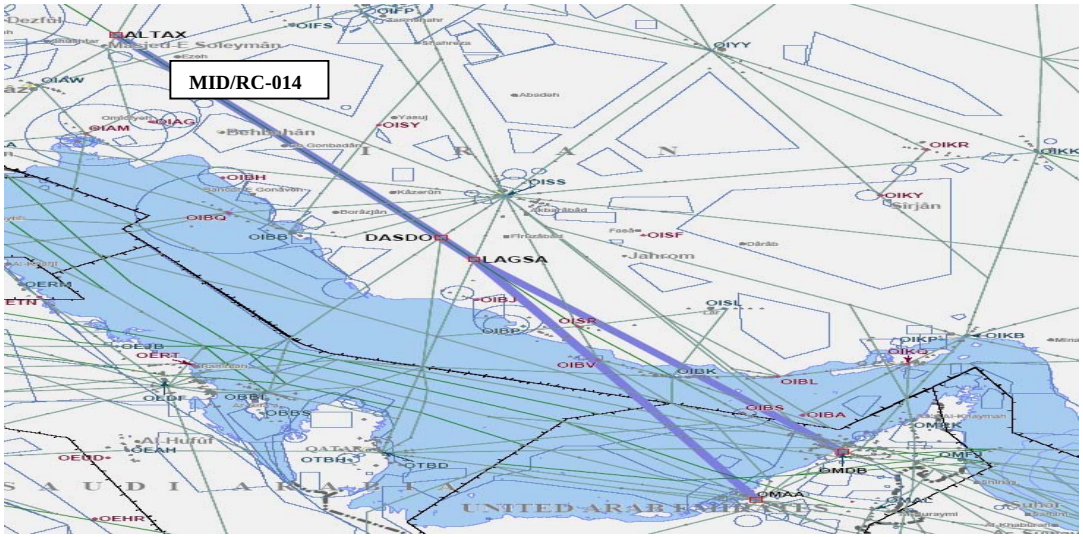
Conclusions/Remarks			Last updated	ARN TF/6 April 2013



MID/RC-014	**ATS Route Name:** New Route	**Entry-Exit:** UAE to Iran and beyond	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
New, bi-directional route segments	Iran UAE				- Under consideration by Iran and UAE. States have no plan to implement. - Differed for the future. - Discussion going on - UAE requested to remove the route due to the complexity that will be created. Iran share UAE in this comment to remove the route	TBD
Flight Level Band: Upper Airspace						
Potential City Pairs: UAE to Iran and beyond (unlimited)						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013

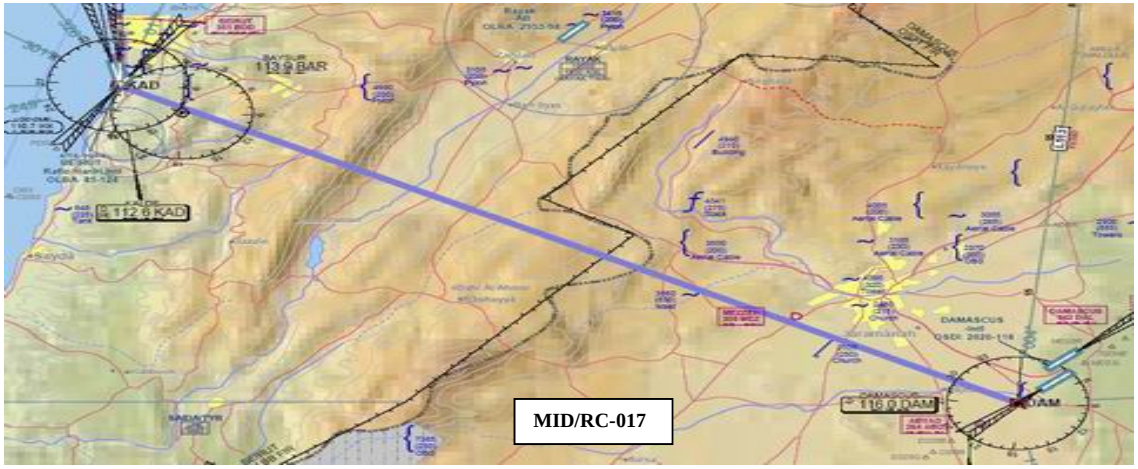


MID/RC-015	**ATS Route Name:** New airways between Sharjah and Tehran	**Entry-Exit:** LOPEG- DEBES	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/1	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken/Required**		**Deadline for each Action**
A new waypoint XXXXX to be created half way between KUMUN and PAPAR i.e. 37 NMs from either point. The old SIDs through LOPEG and DEBES will be re-instated with the difference that alter either point, traffic will proceed to XXXXX instead of PAPAR, distance LOPEG-XXXXX 23 NMs and DEBES-XXXXX 40 NMs							- Already under consideration by Iran and UAE. States have no plan to implement. Differed for the future. UAE have no plan to implement and requested to remove this route		TBD
Flight Level Band:									
Potential City Pairs: Sharjah-Tehran									
Conclusions/Remarks							**Last updated**	ARN TF/6 April 2013	

MID/RC-017	**ATS Route Name:** **New Route**	**Entry-Exit:** Route from Jordan or Syria to BEY via DAM-DAKWE-KAD	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
Route from Jordan or Syria to BEY via DAM-DAKWE-KAD	Syria Beirut		New ATS route.		- Syria will study the request and provide update after internal consultations. - ICAO MID Region to follow-up with SCAA. No updates	TBD
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks			**Last updated**	ARN TF/6 April 2013



MID/RC-018	ATS Route Name: New Route	Entry-Exit: Route from Jordan to CAI via TBA-W976	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA
							Date of Proposal	ARN TF/1

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
Route from Jordan to CAI via DATOK ~~TBA~~ W976	Jordan Egypt		New ATS route.		- ~~Egypt will require more time to study and initiate proposal to Jordan to establish a point 5 to 7 NM South of METSA in order to facilitate direct routing to DATOK.~~ - State and Military issues Pending discussion between Egypt and Jordan Can be deleted provided **DATOK – METSA** be used as an alternative route	TBD
Flight Level Band:						
Potential City Pairs:						

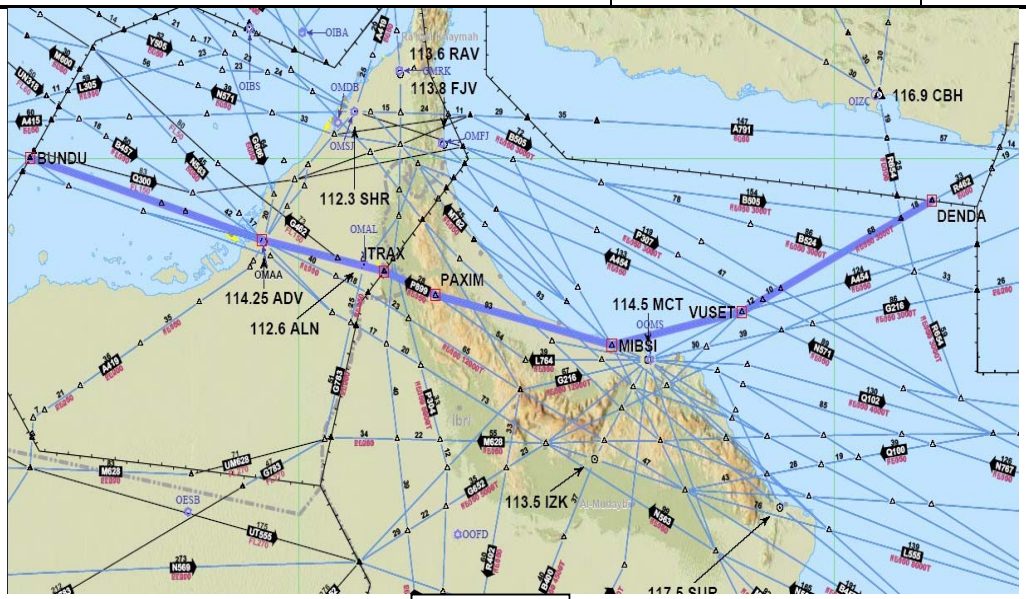
Conclusions/Remarks			Last updated	ARN TF/6 April 2013

MID/RC-018

MID/RC-019	**ATS Route Name:** R462	**Entry-Exit:** DENDA-MIBSI	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

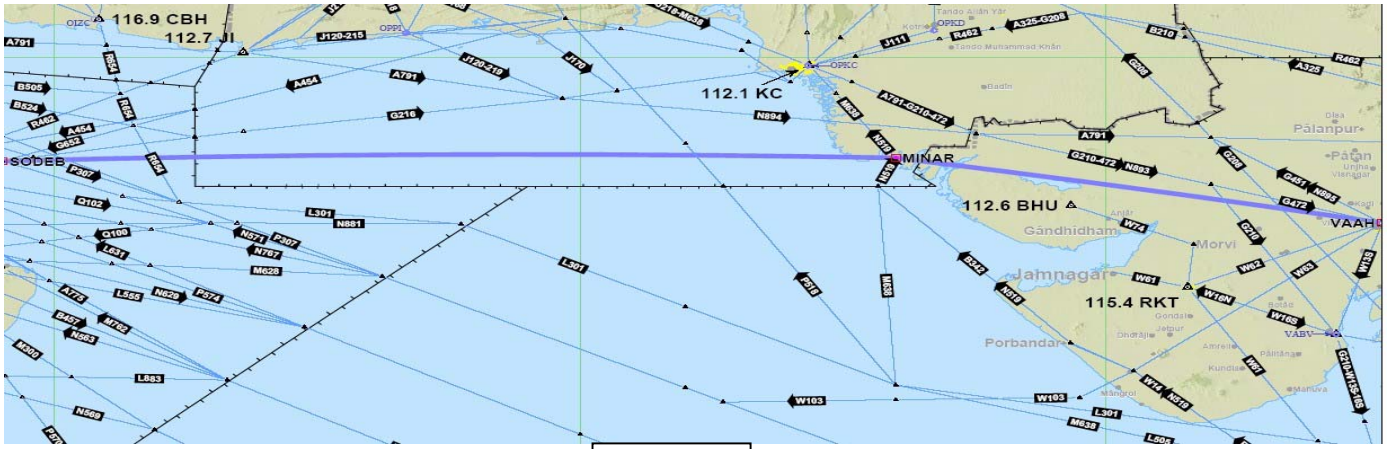
Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
Request permission to use this AWY for traffic with destination DOHA ~~DENBA~~ DENDA R462 MIBSI P899 BUNDU					- UAE has no objection if Oman agrees. - ICAO will send proposal to Oman. Not feasible due to congestion (safety reasons) Differed for the future. UAE has no issues if Oman agrees, but stated that the exit point from UAE FIR to Doha must be through MEKMA	
Flight Level Band: FL290 to FL410						
Potential City Pairs: SGN, PEK, HKG, PVG, DEL, AMD, KHI, KIX, DAC, KTM-Doha						

Conclusions/Remarks	**Proposal to be send to Oman for response**		**Last updated**	ARN TF/6 April 2013



MID/RC-019

MID/RC-020	**ATS Route Name:** Replacement of IATA Proposals (3) and (9).	**Entry-Exit:** TELEM-VAXIM and PRA-TELEM	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/1	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken/Required**		**Deadline for each Action**
SODEB to/from MINAR with 24 hours availability; thence MINAR to Ahmedabad or Pratapgarh (PRA)		Oman Pakistan Mumbai					- SODEB to/from MINAR with 24 hours availability. - MINAR to Ahmedabad or Pratapgarh (PRA). - To be relayed to Oman and APAC Regional Office, Bangkok. - Route was not supported by India . - Differed for the future.		~~Update October 2009.~~ ~~March 2010~~ ~~Route expected implementation date Jun2010~~
Flight Level Band:									
Potential City Pairs:									
Conclusions/Remarks	Proposed by Pakistan to replace IATA Original proposals (3) and (9) which have been removed from this Appendix						**Last updated**	ARN TF/6 April 2013	

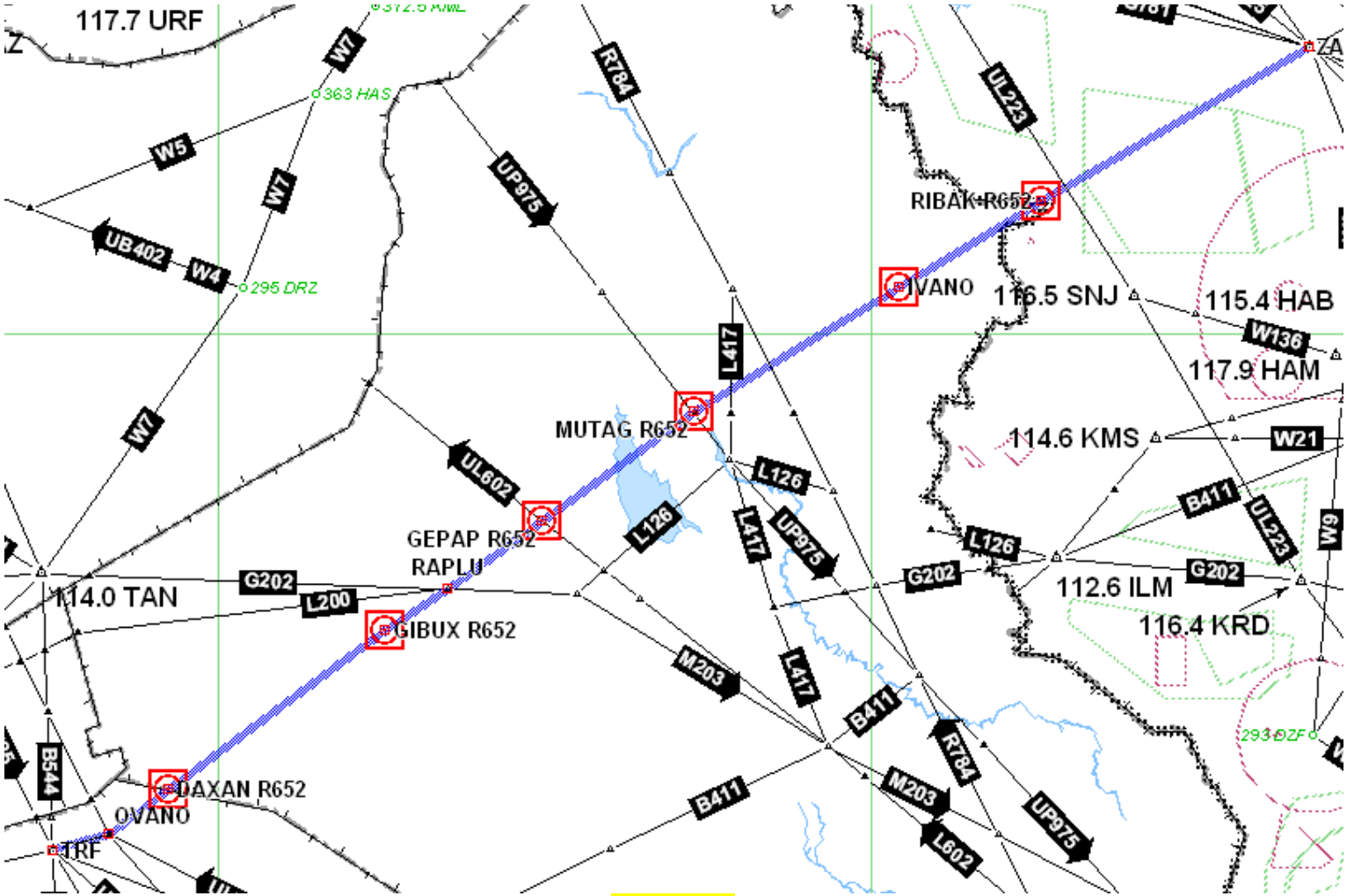


MID/RC-020

MID/RC-025	**ATS Route Name: R652**	**Entry-Exit:** METSA- ZAJ	**Inter-Regional Cross Reference if any**		**Users Priority**	URGENT	**Originator of Proposal**	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
METSA (2927.1N 03459.0E) **QATRANEH (QTR)** **PARAM (3123.3N 3706.7E)** **GURAIT (GRY)** **TURAIF (TRF)** **OVANO (3148.0N 03909.8E)** **DAXAN (320512N 0393719E)** **GIBUX (330715N 0411625E)** **RAPLU (332300N 0414530E)** **GEPAP (334906N 0422 51E)** **MUTAG (343003N 0433834E)** **IVANO (351724N 0451235E)** **RIBAK (354926N 0461808E)** **ZANJAN (ZAJ)**	Saudi Arabia Iraq Iran		1) New Route in the Baghdad (FIR) Connecting with Zanjan (ZAJ). 2) To Coordinate with Saudi Arabia to connect Airway from OVANO to DAXAN if acceptable. 3) Coordinate with Iran to connect RIBAK to ZAJ if acceptable 4) New Route in Baghdad (FIR).	Available in ATS.1 Table. Implemented in Saudi Arabia continuation of Route in Baghdad FIR and Iran	Points highlighted in yellow are new. - Not supported by Jordan and Saudi Arabia - Refer the ATS route to the MID/RMA for further studies and analysis of the passing frequency. - ATS route R652 is in close proximity with ATS route UR785 and FIX (OTILA) that would cause traffic conflict. - Saudi Arabia and Jordan do not approve for the extension of Route in Iraq suggested removal waiting for Iraq feed back - Proposal was presented by Jordan to use R652 as a departure Route from Amman into Iraq, - further discussion would be required between Jordan, Iraq and Saudi Arabia to finalize the proposal	~~TBD~~ March 2010
Flight Level Band: FL200-FL410						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013

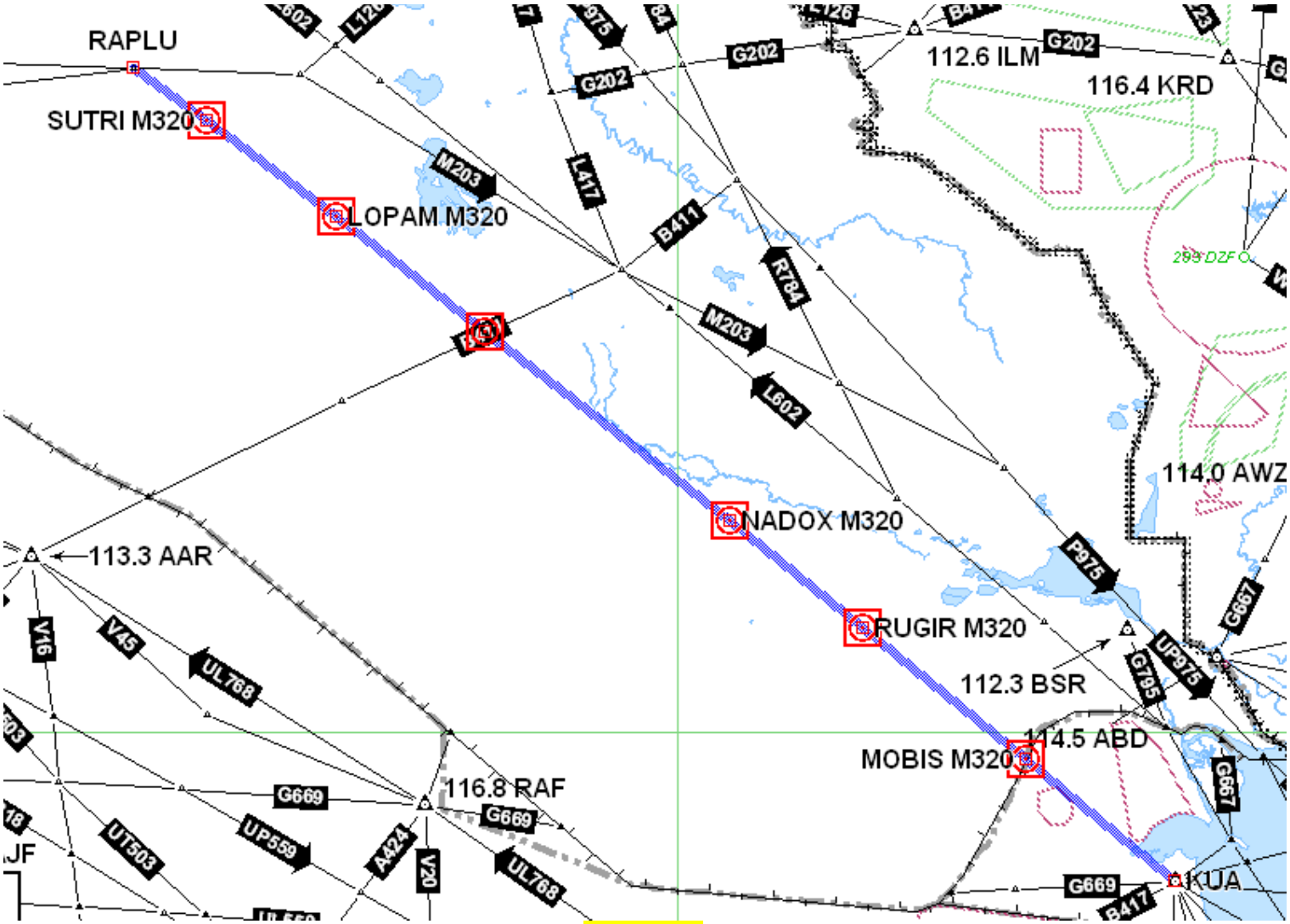

117.7 URF
W7
363 HAS
W5
W7
UB402
W4
295 DRZ
W7
R784
UP975
UL223
RIBAK R652
IVANO
116.5 SNJ
115.4 HAB
W136
117.9 HAM
L417
MUTAG R652
114.6 KMS
W21
UL602
L126
L126
L417
UP975
B411
UL223
W9
GEPAP R652
RAPLU
L126
G202
L200
G202
G202
112.6 ILM
116.4 KRD
114.0 TAN
GIBUX R652
M203
L417
B411
R784
293 DZF
B544
DAXAN R652
OVANO
IRF
B411
M203
UP975
L602

MID/RC-025

MID/RC-027	ATS Route Name: M320	Entry-Exit: KUA-RAPLU	Inter-Regional Cross Reference if any		Users Priority	URGENT	Originator of Proposal	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken / Required	Deadline for each Action
KUA **MOBIS 295109N 0470457E** **RUGIR 303219N 0460618E** **NADOX 310505N 0451851E** **ELODI 320256N 0435126E** **LOPAM 323757N 0425806E** **SUTRI 330701N 0421128E** **RAPLU 332300N 0414530E**	Kuwait Iraq		1. Existing RNAV designator M320 from Kuwait proposed). 2. Points highlighted in yellow are new. 3. Coordination with Kuwait required of continuation of route within their airspace.	Available in ATS.1 Table In Kuwait FIR	1) Not supported by Kuwait at present. 2) Needs further studies. 3) differed for the future	March 2010
Flight Level Band: FL200-FL410						
Potential City Pairs:						

Conclusions/Remarks		Last updated	ARN TF/6 April 2013

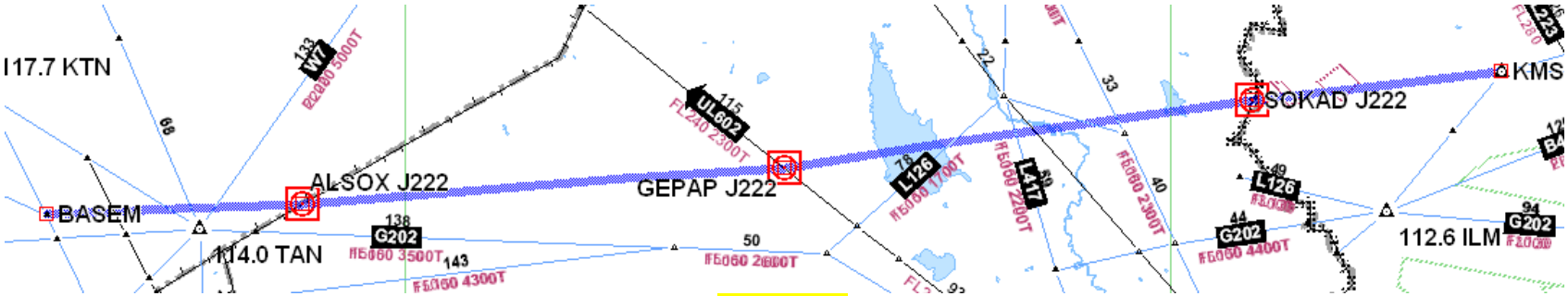

RAPLU
SUTRI M320
LOPAM M320
NADOX M320
RUGIR M320
MOBIS M320
112.6 ILM
116.4 KRD
114.0 AWZ
113.3 AAR
112.3 BSR
114.5 ABD
116.8 RAF
IKUA
G202
M203
L417
B411
R784
L602
P975
G657
G795
UP975
V16
V45
UL768
G669
UT503
UP559
A424
V20
G667
B417

MID/RC-027

MID/RC-028	ATS Route Name: J222	Entry-Exit: BASEM-KMS	Inter-Regional Cross Reference if any		Users Priority	URGENT	Originator of Proposal	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken / Required	Deadline for each Action
BASEM 333318N 0373906E **ALSOX 333700N 0392000N** **GEPAP 334906N 0422851E** **SOKAD 341051N 0453226E** **KMS KERMANSHAH**	Syria Iraq Iran		1. Points highlighted in yellow are new. 2. Coordination with Syria and Iran required for the continuation of route within their airspace. 3. New route in the Baghdad (FIR)	Not available in ATS.1 Table. Implemented in Syria Change of Route Designator Required	Points highlighted in yellow are new. - 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. - Syria to review the proposal and will inform ICAO.	TBD
Flight Level Band: FL200-FL410						
Potential City Pairs:						

Conclusions/Remarks			Last updated	ARN TF/6 April 2013

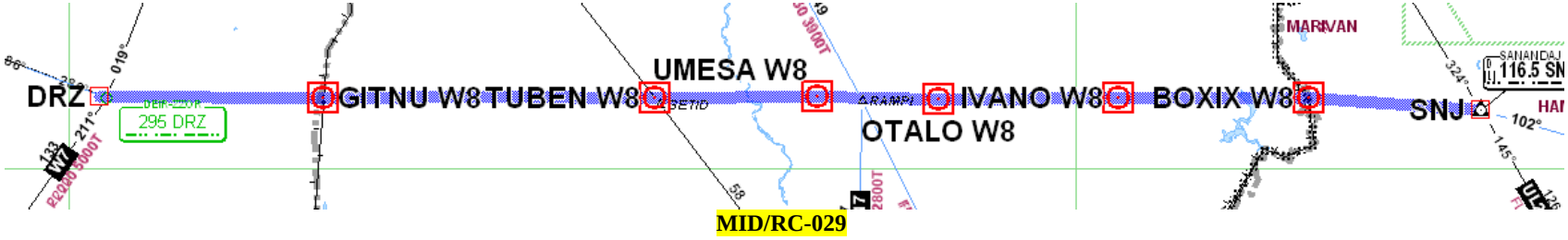


MID/RC-028

MID/RC-029	ATS Route Name: W8	Entry-Exit: GITNU-HAB	Inter-Regional Cross Reference if any		Users Priority	URGENT	Originator of Proposal	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken / Required	Deadline for each Action
DRZ **GITNU 351724N 0411553E** **TUBEN 351724N 0425434E** **UMESA 351741N 0434307E** **OTALO 351700N 0441900E** **IVANO 351724N 0451235E** **BOXIX 351724N 0460921E** **SNJ**	Syria Iraq Iran		1. Change route designator to regional RNAV route designator (**L, M, N or P requested**). 2. Points highlighted in yellow are new. 3. Coordination with Syria and Iran required for the continuation of route within their airspace. 4. New route in the Baghdad (FIR)		Points highlighted in yellow are new. - Syria requested additional time to examine the proposal for the establishment of the ATS route.	TBD
Flight Level Band: FL200-FL410						
Potential City Pairs:						

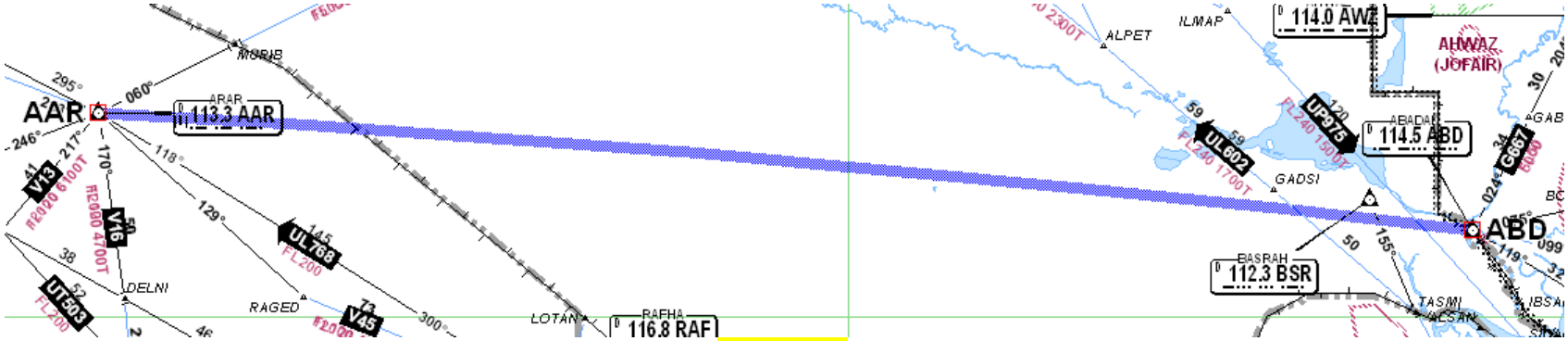
Conclusions/Remarks		Last updated	ARN TF/6 April 2013



MID/RC-032	**ATS Route Name: G665**	**Entry-Exit:** ABD/AAR	**Inter-Regional Cross Reference if any**		**Users Priority**	URGENT	**Originator of Proposal**	Iran
							Date of Proposal	RDGE/11 (Oct 2009)

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
ABADAN (ABD) **ARAR (AAR)**	Iran Iraq Saudi Arabia	No implementation date yet.	1) Iraq to establish new boundary point at Jeddah & Baghdad FIR boundary. 2) Iran and Iraq agreed that all east/west routes would be implemented after implementation of RVSM and military approval. 3) Coordination Between Iraq and Saudi Arabia Required.	Available in ATS.1 Table Panjgur-Abadan New Route in Baghdad FIR..	Points highlighted in yellow are new. MID RMA advised the meeting that the proposals submitted by Iraq require assessment by RMA to ensure the passing frequencies are within the specified limits. An estimate of expected traffic volume would be required to conduct the assessment of passing frequencies.	TBD
Flight Level Band: FL240-FL460						
Potential City Pairs:						

Conclusions/Remarks	To further improve the ATS network within Gulf Area.	**Last updated**	ARN TF/6 April 2013

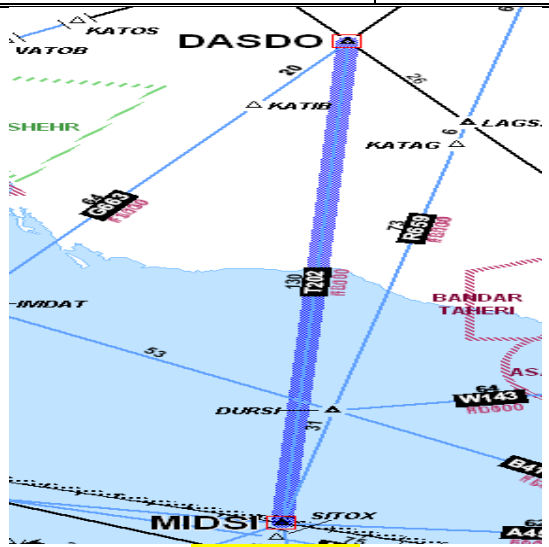


MID/RC-032

MID/RC-037	**ATS Route Name:** New Route	**Entry-Exit:** MIDSI - DASDO	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	Iran	
							Date of Proposal	15 March 2010	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
MIDSI 264142N 0515442E **DASDO 285118N 0500347E**	Bahrain Iran		MIDSI - DASDO	Not in the ANP. Iran is requesting an RNAV Route Designator for the route to be included in the ANP	Another proposal put in by Bahrain and submitted to Iran Discussion complete Bahrain and Iran to Request Route designators and a proposal for amendment to be circulated once data is received by ICAO	Published by Iran as T202
Flight Level Band: FL 130 - UNL						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013

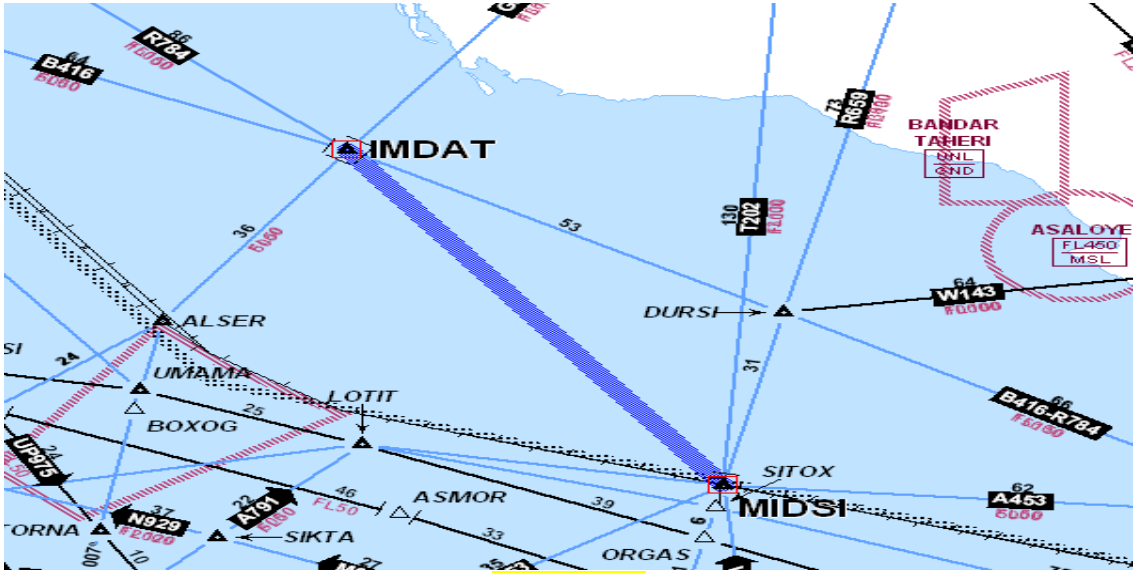


MID/RC - 037

MID/RC-038	**ATS Route Name:** New Route	**Entry-Exit:** IMDAT - MIDSI	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	Iran
							Date of Proposal	15 March 2010

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
IMDAT 274100N 0511100E **MIDSI 264142N 0515442E**	Bahrain Iran		IMDAT - MIDSI Not implemented	Not in the ANP. Iran is requesting an RNAV Route Designator for the route to be included in the ANP	Discussion complete Bahrain and Iran to Request Route designators and a proposal for amendment to be circulated once data is received by ICAO	(TBD)
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013



MID/RC - 038

MID/RC-042 ATS Table 1 G667	**ATS Route Name:** G667	**Entry-Exit:** Abadan-ALSAN-KUA	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	
							Date of Proposal	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
PUTMA 3748.0N 05157.6E **NOSHAHR (NSR)** **TEHRAN (TRN)** **SAVEH (SAV)** **MIS** **AHWAZ (AWZ)** **ABADAN** **ALSAN 295707N 0481456E** **FALKA** **KUWAIT (KUA)** **WAFRA (KFR)** **MAGALA (MGA)** **KING KHALID (KIA)** **WADI AL DAWASIR (WDR)** **NEJRAN (NEJ)** **SANA'A (SAA)** **PARIM 123142.7N 0432712E** **(DJIBOUTI) DTI**	Iran Iraq Kuwait		Abadan – Kuwait Closed	Available in ATS.1 Table	- Not supported by Kuwait at present. - Kuwait requested additional time to examine the proposal. Iraq requested that Airway be suspended until adequate radar coverrage exists and RVSM has been implemented in the Baghdad (FIR). No change.	~~TBD~~ March 2010
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013

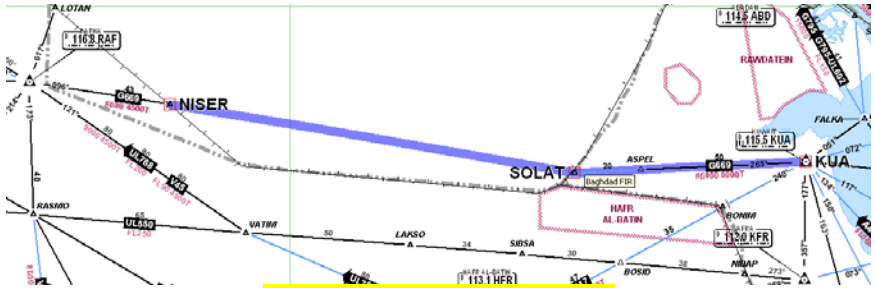
MID/RC-042 ATS Table 1 G667

MID/RC-043 ATS Table 1 G669	**ATS Route Name: G669**	**Entry-Exit:** NISER-SOLAT	**Inter-Regional Cross Reference if any**		**Users Priority**	URGENT	**Originator of Proposal**	
							Date of Proposal	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken / Required**	**Deadline for each Action**
AL SHIGAR (ASH) **AL JOU (AJF)** **RAFHA (RAF)** **NISER 2930.5N 04418.4E** **SOLAT 290942N 0463810E** ***Note 3 (OK)** **KUWAIT (KUA)** **SESRA 290803N 0485453E** **NANPI 290457N 0493157E** **BUSHEHR (BUZ)** **VATOB 2851.4N 05116.6E** **SHIRAZ (SYZ**	Kuwait Iraq Saudi Arabia		Segment Rafha – SOLAT - Kuwait not implemented	Available in ATS.1 Table	Kuwait requested additional time to examine the proposal for the establishment of ATS route G669. Saudi Arabia has no objection to open the Route G669) as proposed by Iraq as the segment in Jeddah FIR is already implemented. No change	~~TBD~~ March 2010
Flight Level Band: FL240-FL460						
Potential City Pairs:						

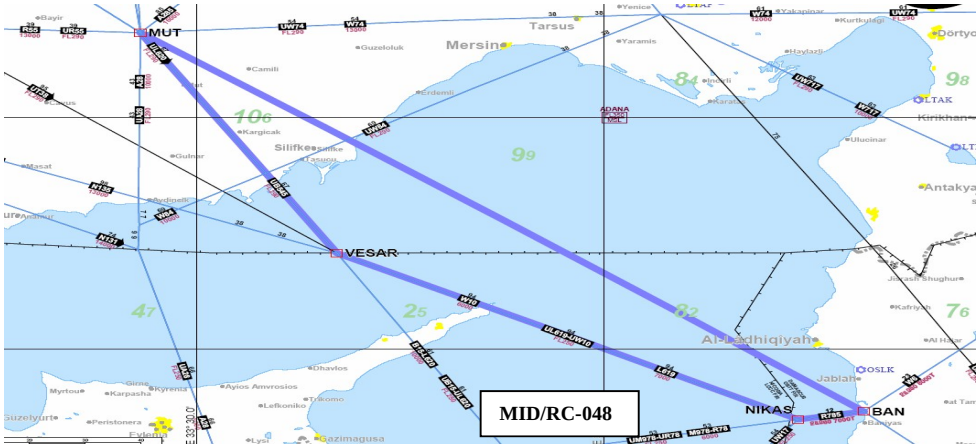
Conclusions/Remarks	To further improve the ATS network within Gulf Area.		**Last updated**	ARN TF/6 April 2013

1

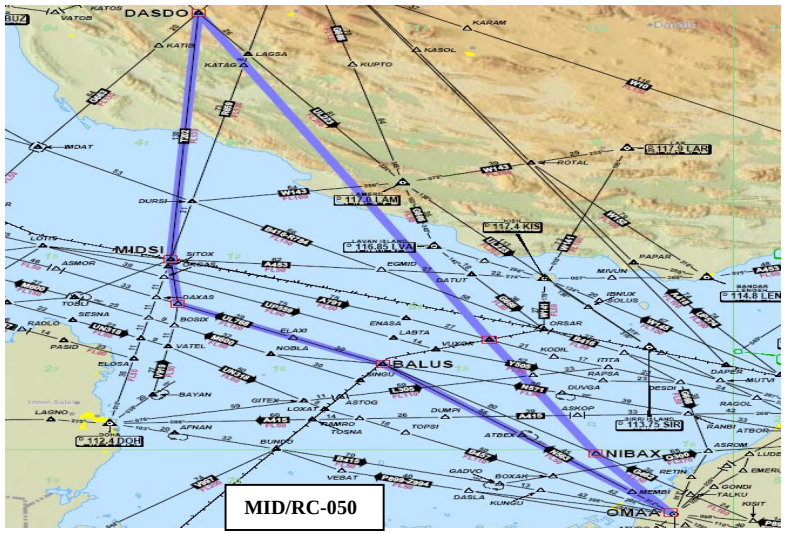


MID/RC- 043 ATS Table 1 G669

MID/RC-048	**ATS Route Name:** New Route	**Entry-Exit:** MUT in Turkey to BAN in Syria	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description		**States Concerned**	**Expected Implemen-tation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Cyprus, Syria, Turkey					IATA to provide further details Not From IATA but fro Europe		
Flight Level Band:									
Potential City Pairs: OBBI, OERK, OMAA, OMDB, OSDI, OTBD to LBSF, LGAV, LROP, LTAC, LTBA (Arabian Peninsula and Syria to Greece, Turkey, Black Sea area)									
Conclusions/Remarks	**Saves 10NM per flight**						**Last updated**	ARN TF/6 April 2013	

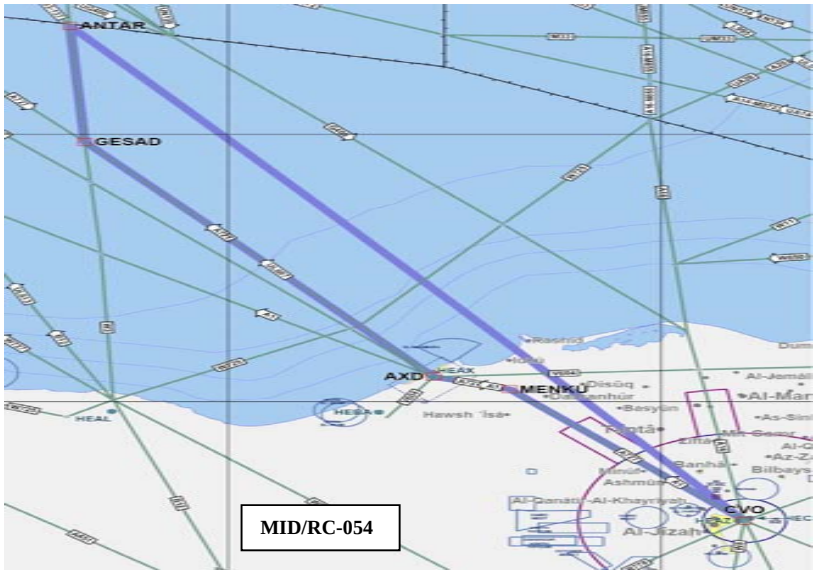


MID/RC-050	**ATS Route Name:** New Route	**Entry-Exit:** ADV / DASDO	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description A northbound airway that will avoid a dog leg via DARAX or MIDSI.		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Bahrain Iran UAE					IATA to provide further details UAE stated clearly that there is no plan or intentions to implement this route		
Flight Level Band: Upper									
Potential City Pairs: OMAA to Iran, Europe & North America									
Conclusions/Remarks	Saving 39 miles, 20 flts/day, 48 Tons of CO2 daily						**Last updated**	ARN TF/6 April 2013	

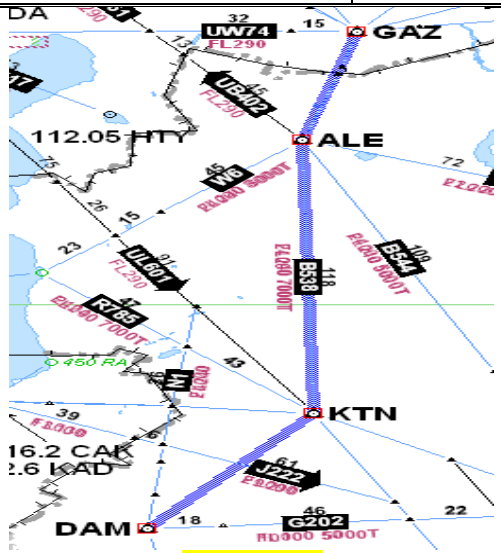


MID/RC-050

MID/RC-054	**ATS Route Name:** New Route	**Entry-Exit:** CVO-ANTAR	**Inter-Regional Cross Reference if any**		**Users Priority**		**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description Cairo TO ANTAR		**States Concerned**	**Expected Implemen-tation date**	**Implementation Status**	**ANP Status**		**Action Taken / Required**		**Deadline for each Action**
		Egypt					Not much Traffic on this route Military issues Differed for the future No change		
Flight Level Band: Upper									
Potential City Pairs: HECA and Arabian Peninsula to Europe									
Conclusions/Remarks	Saves 13 minutes						**Last updated**	ARN TF/6 April 2013	



MID/RC-062 ***(ex B538)***	**ATS Route Name:** New Route	**Entry-Exit:** GAZIANTEP DAMASCUS	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	MIDANPIRG/10	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken/Required**		**Deadline for each Action**
(GAZIANTEP) ALEPPO KARIATAIN DAMASCUS		Syria		GAZIANTEP – ALEPPO Established as (B544) ALEPPO – KARIATAIN Established as (B538) KARIATAIN – DAMASCUS not established			No updates		
Flight Level Band:									
Potential City Pairs:									
Conclusions/Remarks	Segment GAZIANTEP-ALEPPO implemented (B544)						**Last updated**	ARN TF/6 April 2013	

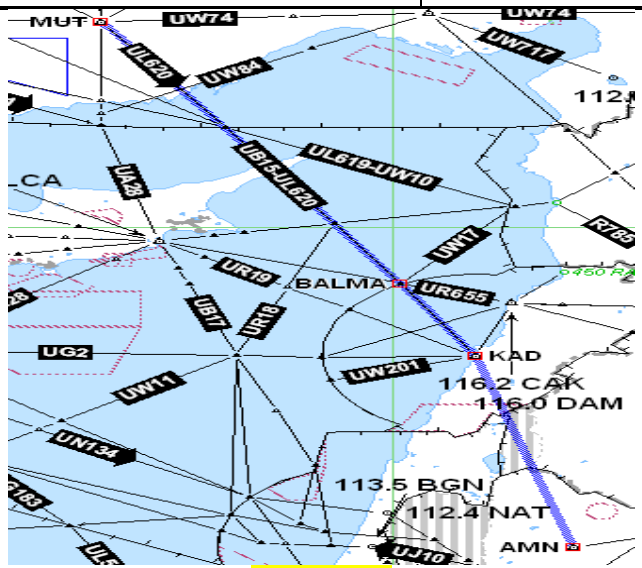


MID/RC-062

MID/RC-063 *(ex B545)*	**ATS Route Name:** New Route	**Entry-Exit:** BALMA-AMMAN	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	MIDANPIRG/10	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
(MUT) BALMA 3428.9N 035 3.0E KHALDEH AMMAN	Amman Beirut Ankara		MUT – BALMA – KAHLDE Implemented as **(UB15/UL620)** KHALDE – AMMAN not implemented		No update	
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013

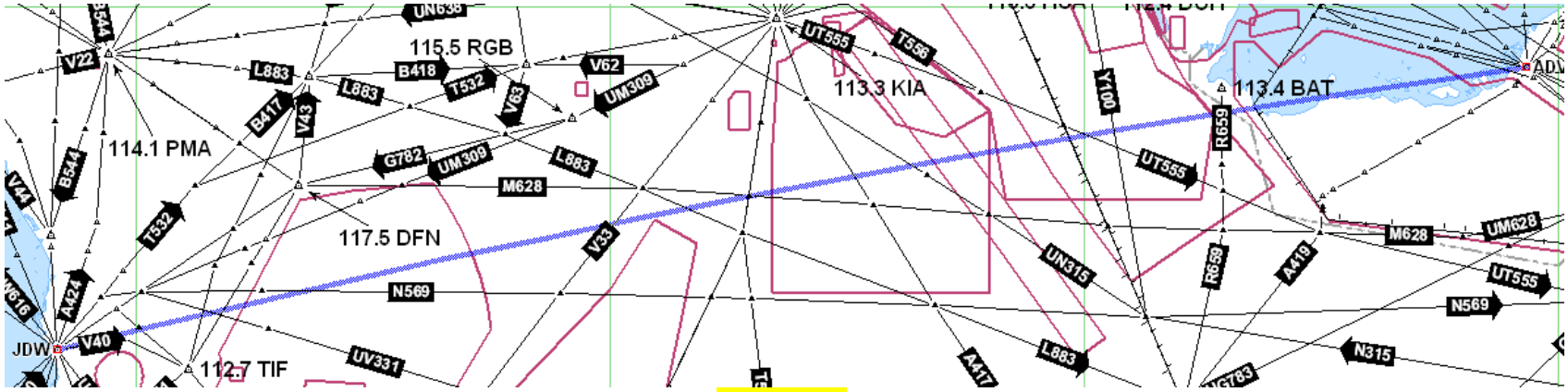


MID/RC-063

MID/RC-064 *(ex G660)*	ATS Route Name: New Route	Entry-Exit: JDW-ADV	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA
							Date of Proposal	MIDANPIRG/10

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
KING ABDULAZIZ ABU DHABI * Note3 (OE, OM)	Saudi Arabia Bahrain UAE				No change to status	
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks	Military restrictions		Last updated	ARN TF/6 April 2013

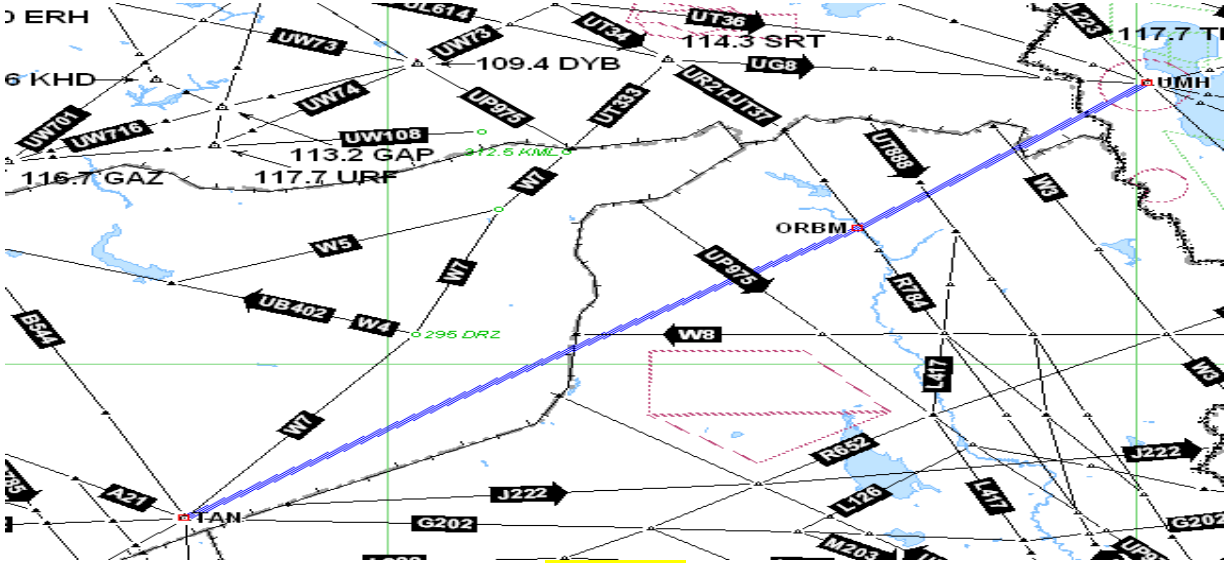


MID/RC-064

MID/RC-067 *(ex G671)*	ATS Route Name:	Entry-Exit: TANF-UMH	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA
							Date of Proposal	MIDANPIRG/10

Route Description		States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
TANF **MOSUL** **UMH**		Syria Iraq Iran				No update	
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			Last updated	ARN TF/6 April 2013

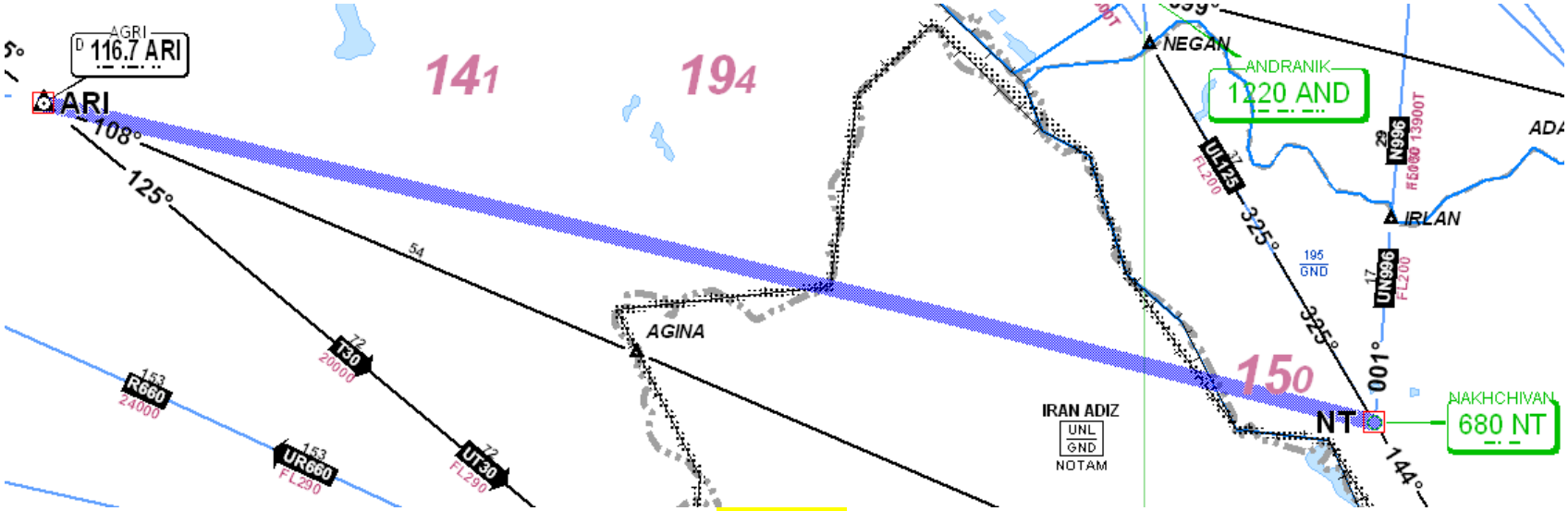


MID/RC-067

MID/RC-069	ATS Route Name: New Route	Entry-Exit: ARI (Agri) NT (Nakhchivan)	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	Turkey (2002)
							Date of Proposal	MIDANPIRG/10

Route Description	States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
ARI (Agri) AAAAA (TUR/IRN BDRY) BBBBB (IRN/AZE BDRY) NT (Nakhchivan)	Turkia Iran Yerevan (AZE)				No update	
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks			Last updated	ARN TF/6 April 2013V



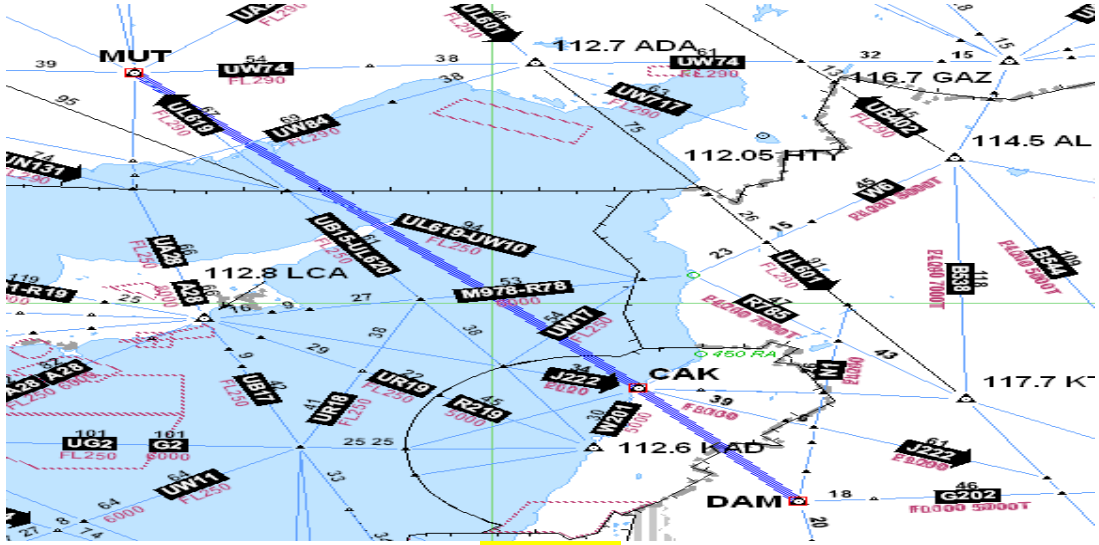
MID/RC-069

MID/RC-071	**ATS Route Name:** New route	**Entry-Exit:** DELMA-A145	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
From DELMA in the CAI FIR a route to point DDDDD on B544 18NMs south of UA791 (SOBAS) and crosses: CAI-JED FIR Boundary at AAAAA, 33 NMs south of KITOT V54 at BBBBB, 13 NMs south of TBK, W334 at CCCCC, 31 NMs south-east of TBK from DDDDD to FFFFF on A424 18 NMs south of UA791(HIL) and crosses: A788 at EEEEE 31 NMs south-west of HIL from FFFFFto MGA on A145 ad crosses: G662 at GGGGG, 47 NMs south-east of HIL V20 at HHHHH, 24 NMs south of NALBU B417 at IIIII, 20 NMs south-west of RARLO W333 at JJJJJ, 10 NMs south-west of SERPU UT503 at KKKKK, 9 NMs south-east of SERPU, and W23 at LLLLL, 36 NMs south of SIBLI from MGA, the route continues normally on A145.	Egypt Saudi Arabia				- Egypt and Saudi Arabia will consider the proposal for future. Parallel to A791/A145 No updates	
Flight Level Band: Upper Airspace						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013

MID/RC-073 *(ex B410)*	**ATS Route Name:** New route	**Entry-Exit:** MUT – DAMASCUS	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/1	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken/Required**		**Deadline for each Action**
MUT **CHEKA (CAK)** *** Note 3 (OS)** **DAMASCUS (DAM)**		Turkey Syria		Not implemented			No change		
Flight Level Band: Upper Airspace									
Potential City Pairs:									
Conclusions/Remarks							**Last updated**	ARN TF/6 April 2013	

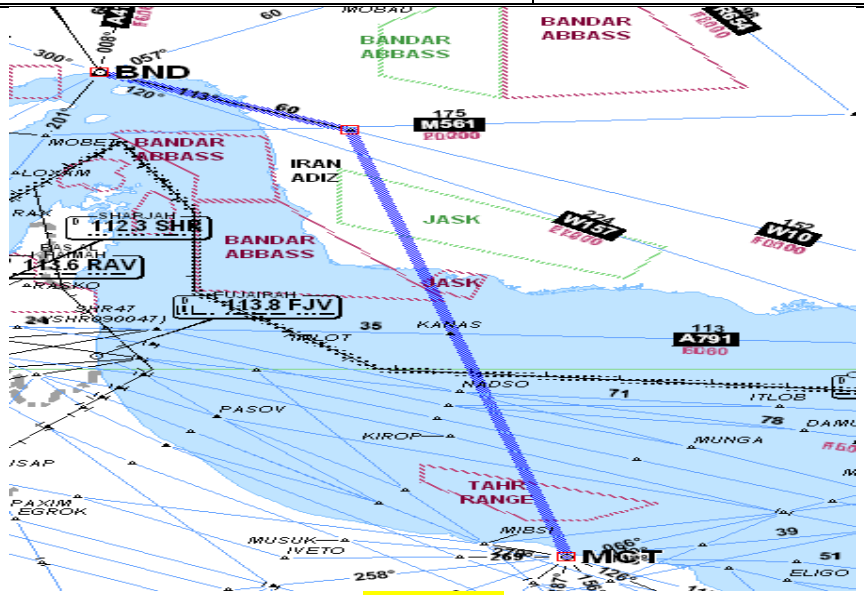


MID/RC-073

MID/RC-074 ***(ex R658)***	**ATS Route Name:** New route	**Entry-Exit:** MUSCAT - BANDAR ABBAS	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	ARN TF/1

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
~~**SEEB**~~ **Muscat (MCT)** **MELMI 2647.0N 05723.0E** **BANDAR ABBAS (BND)**	Iran Oman		Not implemented.		Differed for the future	
Flight Level Band: Upper Airspace						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013



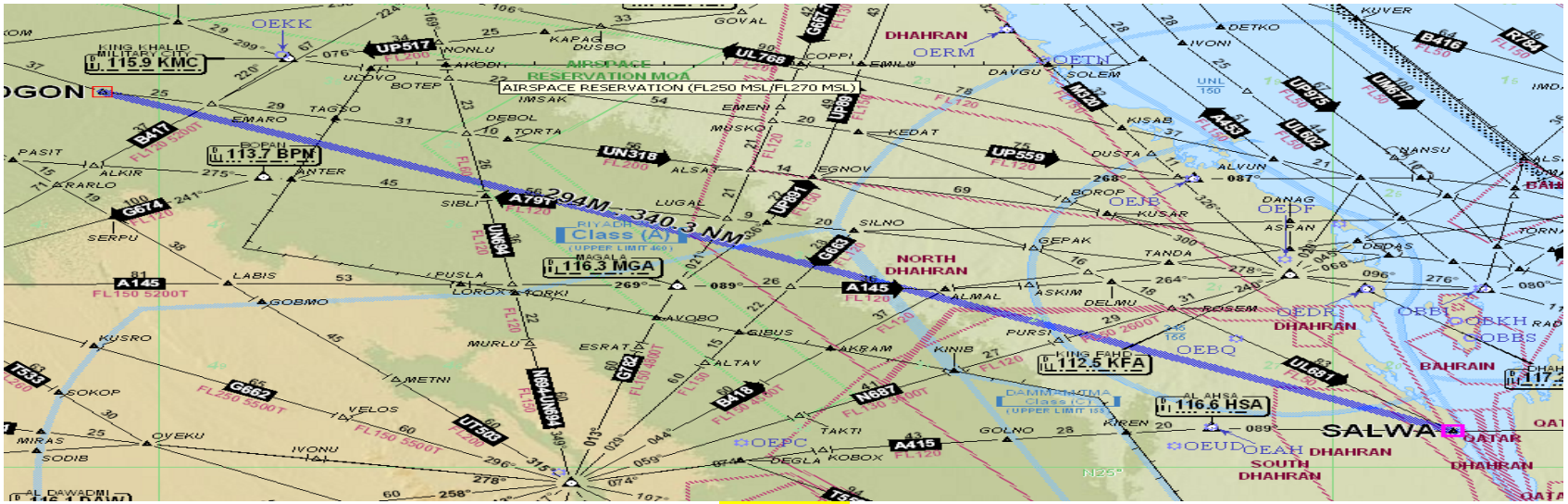
MID/RC-074

MID/RC-077	**ATS Route Name:** New route	**Entry-Exit:** BINKO - RASNO - LOSUL	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA	
							Date of Proposal	ARN TF/2	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken/Required**		**Deadline for each Action**
BINKO **RASNO** **LOSUL**		Egypt Lybia Malta		Not implemented.			Egypt has no objection to establish the route as Uni-directional No change		
Flight Level Band: Upper Airspace									
Potential City Pairs:									
Conclusions/Remarks							**Last updated**	ARN TF/6 April 2013	

MID/RC-079	**ATS Route Name:** New Route	**Entry-Exit:** SALWA - MOGON	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	Qatar Airways
							Date of Proposal	17-May-2011

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
SALWA 2515.6N 05030.8E MOGON 2738.8N 04445.9E	Bahrain Saudi Arabia				- To cater for arrival traffic from the West - which would also allow A145 traffic to use this proposed segment SALWA-EGNOV??	
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks	**Saves 11NM**		**Last updated**	ARN TF/6 April 2013



MID/RC-079

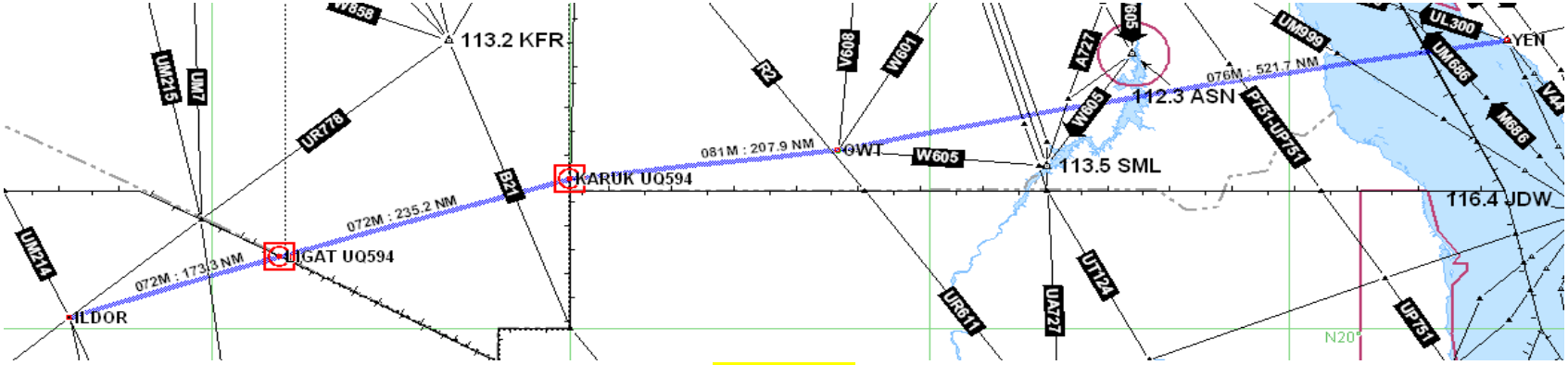
MID/RC-080	**ATS Route Name:** New Route	**Entry-Exit:** BUSRA - KTN	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	ICAO EUR/NAT	
							Date of Proposal	17 May 2011	
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**		**Action Taken/Required**		**Deadline for each Action**
BUSRA 322000N 0363700E KARIATAIN (KTN)		Syria			Not in ANP		State letter to be sent to Syria for input. Awaiting final approval for implementation		
Flight Level Band:									
Potential City Pairs: HEGN - UUDD									
Conclusions/Remarks	**Shortens the distance by 85NM.**						**Last updated**	ARN TF/6 April 2013	

MID/RC-080

MID/RC-086	**ATS Route Name:** New Route UQ594; Bidirectional	**Entry-Exit:** ROB – OWT - YEN	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
ILDOR 20 09 37N 018 01 19E KARUK 221002.11N 0250000E OWT YEN	Libya Egypt Saudi Arabia					-Needs to be discussed with Libya; -Needs to be discussed with Egypt; -FIR crossing in Khartoum depending on flow? -FIR crossing at TONBA to support Westbound infrastructure t	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013

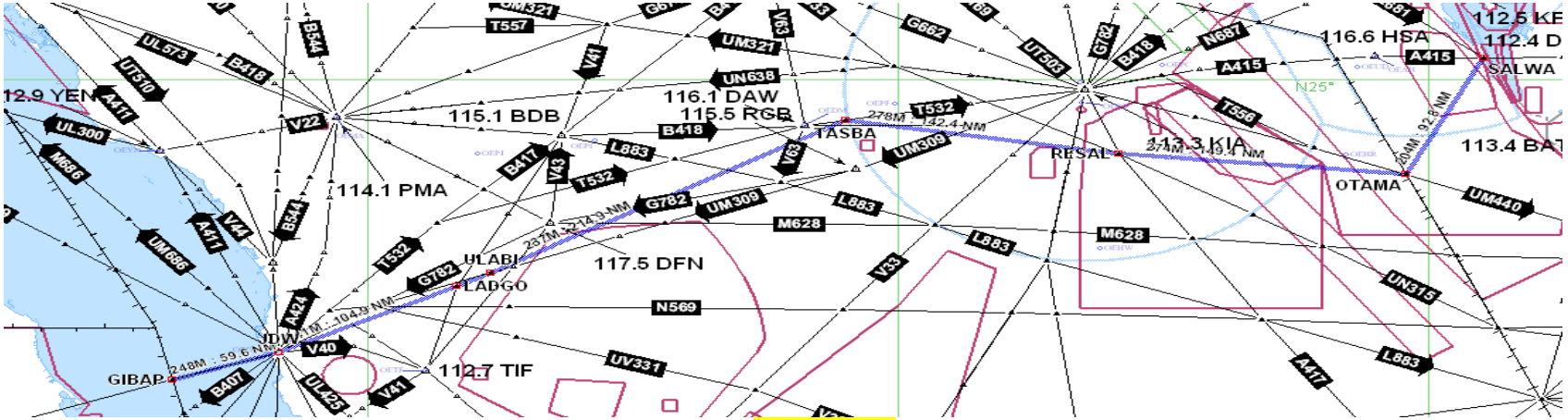


MID/RC - 086

MID/RC-089	ATS Route Name: New Route UQ591; Eastbound	Entry-Exit: SALWA – OTAMA – TASBA – ULABI - GIPAB	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
SALWA 251538N 0503048E OTAMA 2351 47N 0494707E RESAL 240649N 0470427E TASBA 24 30 59N 044 30 28E ULABI 224022N 0410922E JDW GIBAP 353659N 0543055E	Bahrain Saudi Arabia					- Timed Route To check with B145	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			Last updated	ARN TF/6 April 2013

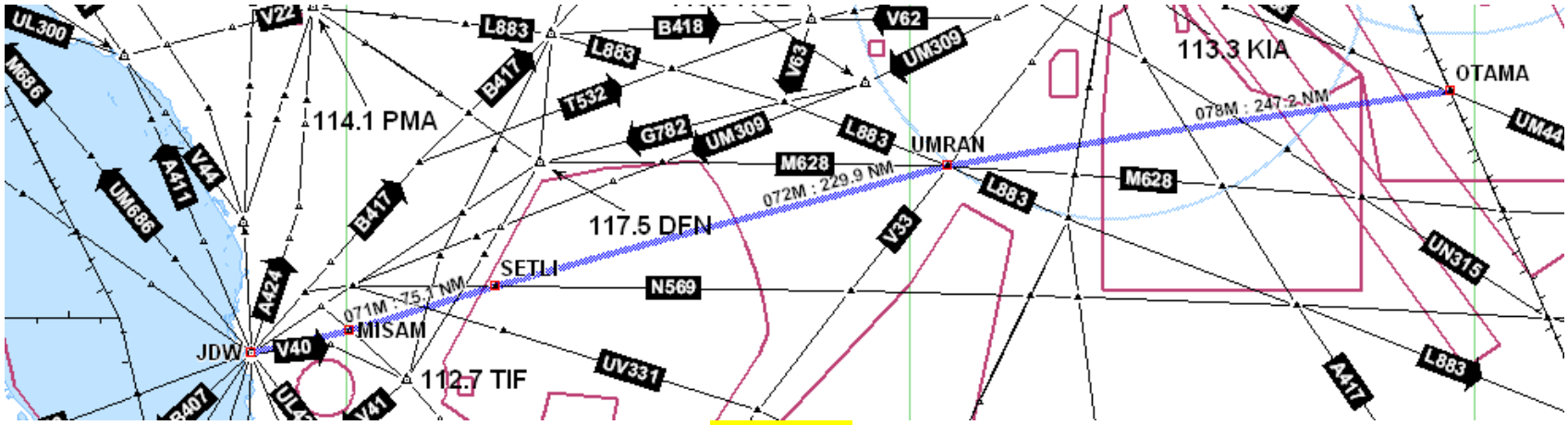


MID/RC - 089

MID/RC-090	**ATS Route Name:** New Route UQ588; Eastbound	**Entry-Exit:** JDW - UMRAN OTAMA	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
JDW MISAM 215415N 0400153E SETLI 221608N 0411924E UMRAN 0411924N 0452023E OTAMA 2351 47N 0494707E	Saudi Arabia					- Timed Route	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			**Last updated**	ARN TF/6 April 2013



MID/RC - 090

MID/RC-091	ATS Route Name: New Route UQ587; Bidirectional	Entry-Exit: OTAMA – KARIN	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
OTAMA 2351 47N 0494707E KARIN 2422.7N 05201.6E	Saudi Arabia Bahrain					- Note Point KARIN is duplicate 5LNC	TBD
Flight Level Band:							
Potential City Pairs:							

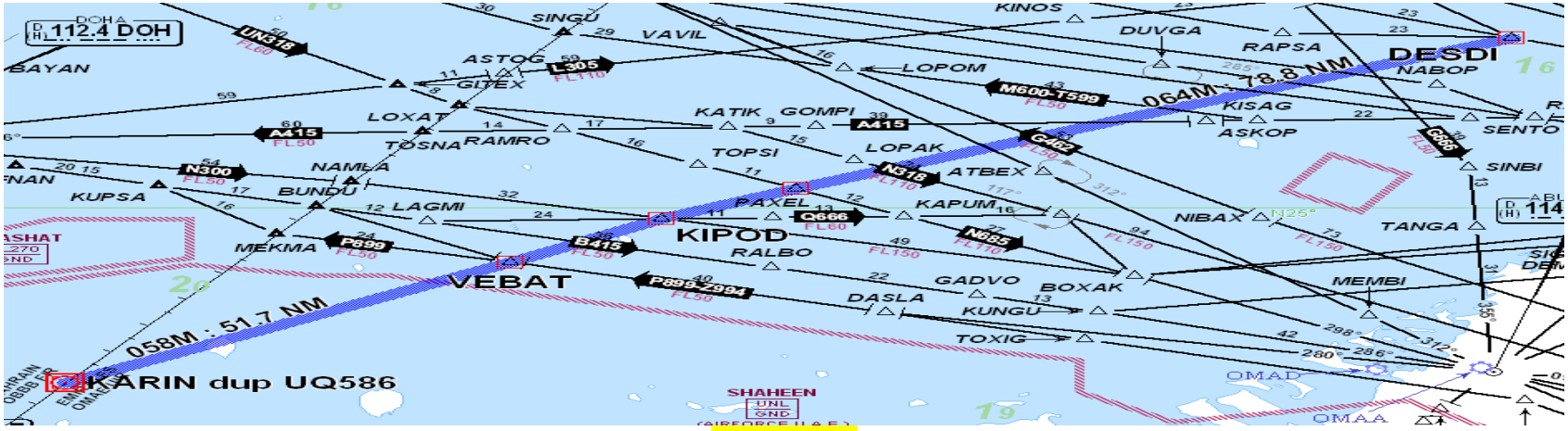
Conclusions/Remarks			Last updated	ARN TF/6 April 2013

MID/RC - 091

MID/RC-092	ATS Route Name: New Route UQ586; Eastbound	Entry-Exit: KARIN - DESDI	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
KARIN 2422.7N 05201.6E VEBAT 244830N 0525100E KIPOD 245744N 0530756E NAGRA 250407N 0532246E DESDI 253603N 0544230E	Bahrain UAE					- Note Point KARIN is duplicate 5LNC	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			Last updated	ARN TF/6 April 2013

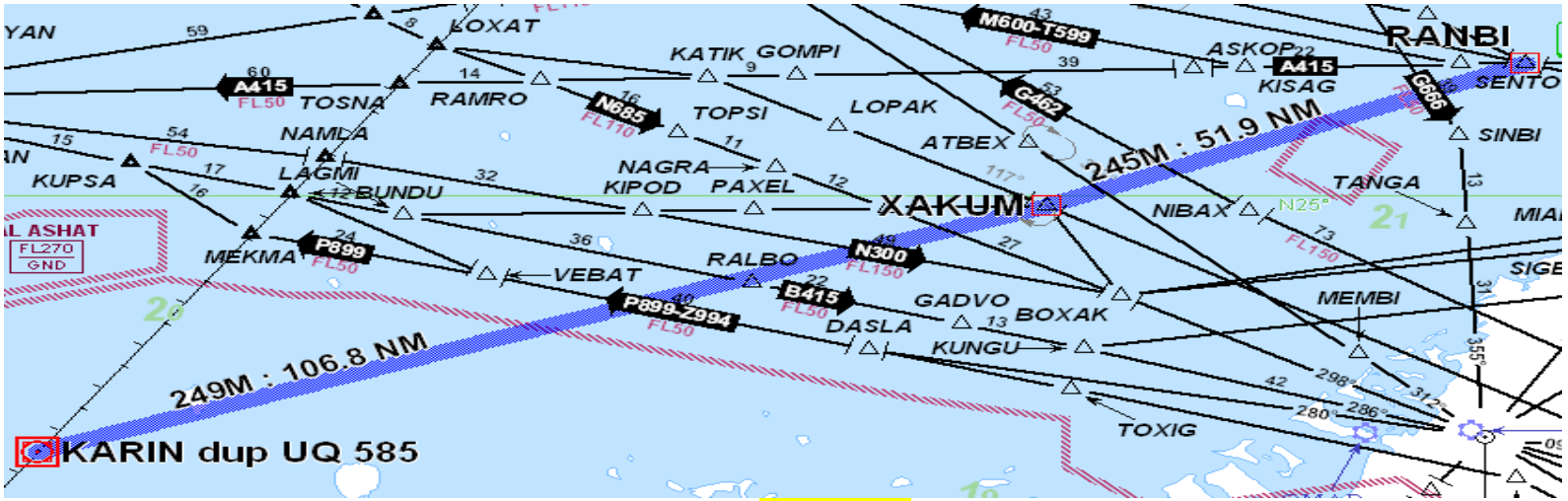


MID/RC – 092

MID/RC-093	ATS Route Name: New Route UQ585; Westbound	Entry-Exit: RANBI - KARIN	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		States Concerned	Expected Implementation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
RANBI 251908N 0544500E XAKUM 245833N 0535222E KARIN 2422.7N 05201.6E	Bahrain UAE					- Note Point KARIN is duplicate 5LNC	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			Last updated	ARN TF/6 April 2013

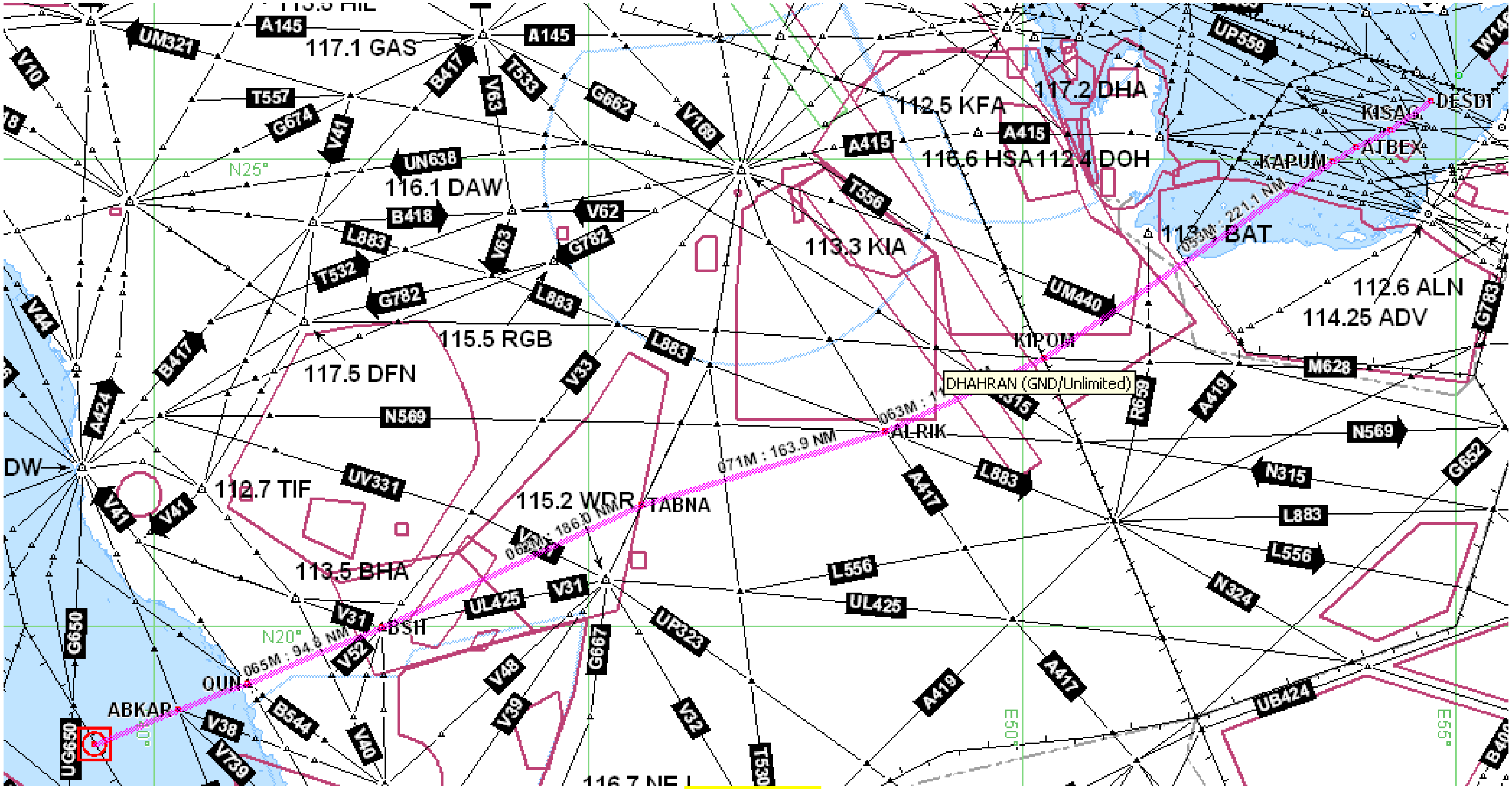


MID/RC - 093

MID/RC-094	**ATS Route Name:** New Route proposed Eastbound	**Entry-Exit:** TOKAR - DESDI	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
TOKAR 180624N 0374812E OTEMA 184200N 0391900E ABKAR 190511N 0401612E QUN BSH TABNA 211842.3N 0453652.6E ALRIK 220631N 0482535E KIPOM 225316N 0501518E KAPUM 245815N 0533450E KISAG 251834N 0541408E DESDI 253603N 0544230E	Saudi Arabia Bahrain UAE					- This route was initially agreed to as Eastbound - it was deleted afterwards; and - is to be discussed separately	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks		**Last updated**	ARN TF/6 April 2013


117.1 GAS
A145
UM321
T557
G674
B417
V63
T533
G662
V169
112.5 KFA
117.2 DHA
A415
116.6 HSA
112.4 DOH
KISAG
DESDI
ATBEX
KAPUM
116.1 DAW
UN638
B418
V62
L883
T532
G782
113.3 KIA
T556
113 BAT
221.1 NM
112.6 ALN
114.25 ADV
UM440
KIPOM
115.5 RGB
117.5 DFN
N569
DHAHRAN (GND/Unlimited)
063M
ALRIK
071M : 163.9 NM
M628
DW
112.7 TIF
UV331
115.2 WDR
TABNA
186.0 NM
113.5 BHA
V31
BSH
UL425
L556
N315
G652
N324
A417
A419
UP323
G667
V32
V48
V39
V40
B544
V38
V739
QUN
065M : 94.5 NM
ABKAR
G650
UG650
UB424
N20°
N25°
E50°
E55°
116.7 NEJ
T530

MID/RC-095	**ATS Route Name:** New Route UT419; Bidirectional	**Entry-Exit:** GEREK – HDT – A419	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA iFLEX Proposal
							Date of Proposal	17 May 2011

Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
GEREK 140318N 0410000 E SOKEK 142932.45N 0421211.63E HDH	Yemen					- Needs to be coordinated with Yemen	TBD
Flight Level Band:							
Potential City Pairs:							

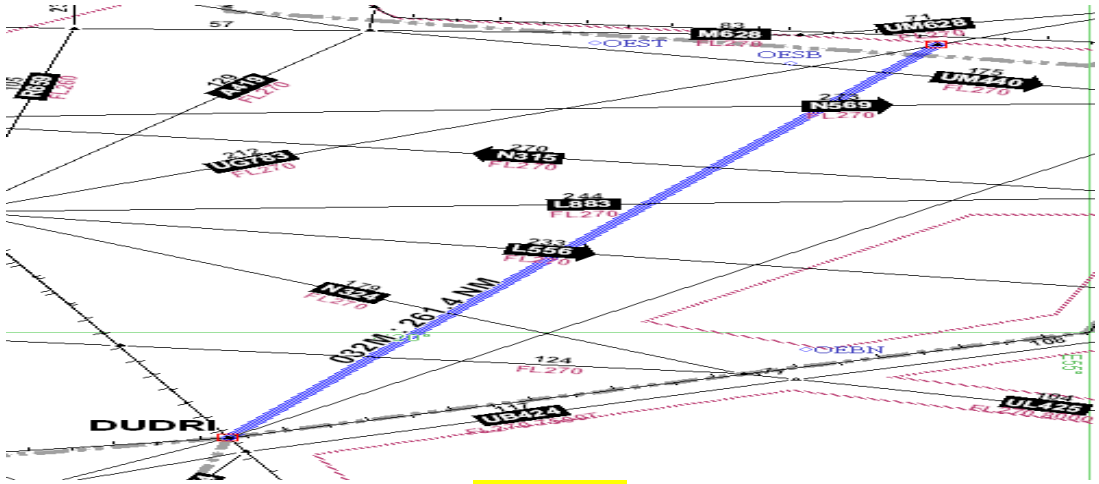
Conclusions/Remarks			**Last updated**	ARN TF/6 April 2013

MID/RC - 095

MID/RC-096	**ATS Route Name:** New Route UQ578; Bidirectional	**Entry-Exit:** DUDRI - TANSU	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA iFLEX Proposal	
							Date of Proposal	17 May 2011	

Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
DUDRI 190000N 0520000E TANSU 224136N 0542828E	Bahrain UAE					-Level Restriction FL300/320	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			**Last updated**	ARN TF/6 April 2013



MID/RC - 096

MID/RC-098	**ATS Route Name:** New Route CVO-W8-AST-W3-KHG-W601-OWT-R2-ATMUL-ASKOL	**Entry-Exit:** CVO - ASKOL	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	

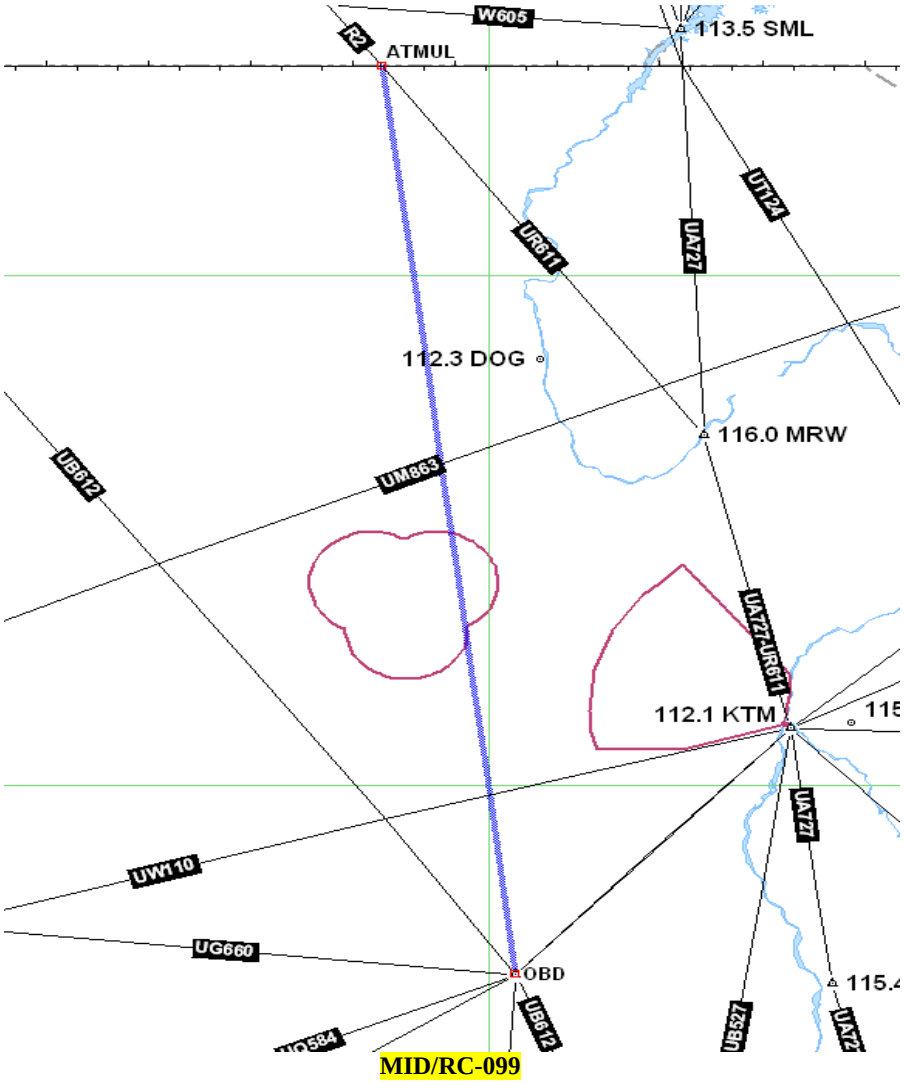
Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
CVO **AST** **KHG** **OWT** **ATMUL** **ASKOL**	Egypt Sudan					Egypt agreed in principal to the re-designation of domestic ATS route W8 and W601 to an RNAV route designator and will confirm agreement after consultation with management Further coordination for the segments falling in Khartoum FIR would be required with ICAO Nairobi Office No change	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			**Last updated**	ARN TF/6 April 2013

MID/RC-099	**ATS Route Name:** New Route ATMUL-OBD	**Entry-Exit:** ATMUL-OBD	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	IATA
							Date of Proposal	

Route Description		**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
ATMUL **OBD**	Egypt Sudan					ATS Route Segment from point ATMUL to OBD in the Khartoum FIR Further coordination for the segments falling in Khartoum FIR would be required with ICAO Nairobi Office No Change	TBD
Flight Level Band:							
Potential City Pairs:							

Conclusions/Remarks			**Last updated**	ARN TF/6 April 2013


W605
R2
ATMUL
113.5 SML
UT24
UA727
UR611
112.3 DOG
116.0 MRW
UB612
UM863
UA727/UR611
112.1 KTM
UA727
UW110
UG660
OBD
UB612
UB527
MID/RC-099

MID/RC-…..	**ATS Route Name:**	**Entry-Exit:**	**Inter-Regional Cross Reference if any**		**Users Priority**	High	**Originator of Proposal**	
							Date of Proposal	

Route Description	**States Concerned**	**Expected Implementation date**	**Implementation Status**	**ANP Status**	**Action Taken/Required**	**Deadline for each Action**
Flight Level Band:						
Potential City Pairs:						

Conclusions/Remarks		**Last updated**	

- END -

MID Basic ATM Section

ATS Table 1

LOWER AIRSPACE

Designator	Significant Points
1	2
A1	METRU 340000N 0250900E SOKAL 323601N 0273706E KATEX 320701N 0282436E BOPED 312939N 0292655E ALEXANDRIA (NOZ) 311113N 0295701E MENKU 310531N 0301806E CAIRO (CVO) 300532N 0312318E
A16	RASDA 330600N 0305700E MELDO 320201N 03104406E BALTIM (BLT) 313144N 0311035E DEGDI 311429N 0311035E CAIRO (CVO) 300532N 0312318E
A408	(ADDIS ABABA) GWZ SALEH 140000N 0420000E ORNIS 1416.2N04236.9E HODEIDAH 1446.4N 04259.2E
A411	BNINA (BNA) 3207.28N 0201513E NASER 3151.2N 2355.3E LOSUL 314100N 250800E SIDI BARANI (BRN) 313532N 260020E
A412	TANF ZELAF 325656N 0371121E DAXEN 324444N 0374105E ASLON 321211N 0365111E NADEK 322728N 0371429E KUPRI 320825N 0364530E LUDAN 320256N 0363713E QAA 314423N 0360926E
A416	TABRIZ (TBZ) ARDABIL (ARB) RASHT (RST) RAMSAR (RSR) NOSHAHR (NSR) DASHTE NAZ (DNZ) SABZEVAR (SBZ) MASHHAD (MSD) SOKAM 331316N 0603754E

UPPER AIRSPACE

Designator	Significant Points
1	2
UA1	METRU 340000N 0250900E SOKAL 323601N 0273706E KATEX 320701N 0282436E BOPED 312939N 0292655E ALEXANDRIA (NOZ) 311113N 0295701E MENKU 310531N 0301806E CAIRO (CVO) 300532N 0312318E
UA16	RASDA 330600N 0305700E MELDO 320201N 03104406E BALTIM (BLT) 313144N 0311035E DEGDI 311429N 0311035E CAIRO (CVO) 300532N 0312318E
UA408	(ADDIS ABABA) GWZ SALEH 140000N 0420000E ORNIS 1416.2N04236.9E HODEIDAH 1446.4N 04259.2E
UA411	BNINA (BNA) 320728N 0201513E NASER 3151.2N 2355.3E LOSUL 314100N 250800E SIDI BARANI (BRN) 313532N 260020E
UA412	TANF ZELAF 325656N 0371121E DAXEN 324444N 0374105E ASLON 321211N 0365111E NADEK 322728N 0371429E KUPRI 320825N 0364530E LUDAN 320256N 0363713E QAA 314423N 0360926E
UA416	TABRIZ (TBZ) ARDABIL (ARB) RASHT (RST) RAMSAR (RSR) NOSHAHR (NSR) DASHTE NAZ (DNZ) SABZEVAR (SBZ) MASHHAD (MSD) SOKAM 331316N 0603754E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
A418	KUMUN 254000N 0551515E PAPAR 2640N 05427E * Note 7 Segment KUMUN-PAPAR (OI and OM) SHIRAZ (SYZ)
A422	UROMIYEH (UMH) SETNA 3756.3N 04555.4E TABRIZ PARSABAD (PAD) PARSU 3937.8N 04804.8E KARAD 4014.3N 04929.5E (BAKU)
A424	LOVEK 322208N 04440 01E LOTAN 2959.7N 04338.8E RAFHA HAIL MADINAH (PMA) ASTOL 2255.0N 03935.2E KING ABDULAZIZ (JDW)
A453	PIRAN 2934.1N 06128.1E ZAHEDAN (ZDN) BANDAR ABBAS (BND) GHESHM (KHM) BANDAR LENGEH (LEN) KISH MIDSI 2641.7N05152.5E TOBLI 262134N0512301E OTATA 261843N0510052E BAHRAIN * Note 7 (OB, OI) PEBOS 262722N0503043E RULEX 264529N0501745E ALVUN 271028N0494455E SOLEM 275229N0491136E KUMBO 281705N0495526E AWADI 2834.5N 04843.9E DEBTI 2844.1N 04829.4E KUA 2913.1N 04759.1E
A454	(KC) 2454.6N 06710.6E BEGIM 2443.0N 06700.0E * Note 7 (OO, OP) MELOM 2505.0N 06632.0E PUNEL 2520.0N 06523.0E

UPPER AIRSPACE

Designator	Significant Points
1	2
UA418	KUMUN 254000N 0551515E PAPAR 2640N 05427E * Note 7 Segment KUMUN-PAPAR (OI and OM) SHIRAZ (SYZ)
UA422	UROMIYEH (UMH) SETNA 3756.3N 04555.4E TABRIZ PARSABAD (PAD) PARSU 3937.8N 04804.8E KARAD 4014.3N 04929.5E (BAKU)
UA424	LOVEK 322208N 04440 01E LOTAN 2959.7N 04338.8E RAFHA HAIL MADINAH (PMA) ASTOL 2255.0N 03935.2E KING ABDULAZIZ (JDW)
UA453	PIRAN 2934.1N 06128.1E ZAHEDAN (ZDN) BANDAR ABBAS (BND) GHESHM (KHM) BANDAR LENGEH (LEN) KISH MIDSI 2641.7N05152.5E TOBLI 262134N0512301E OTATA 261843N0510052E BAHRAIN * Note 7 (OB, OI) PEBOS 262722N0503043E RULEX 264529N0501745E ALVUN 271028N0494455E SOLEM 275229N0491136E KUMBO 281705N0495526E AWADI 2834.5N 04843.9E DEBTI 2844.1N 04829.4E KUA 2913.1N 04759.1E
UA454	(KC) 2454.6N 06710.6E BEGIM 2443.0N 06700.0E * Note 7 (OO, OP) MELOM 2505.0N 06632.0E PUNEL 2520.0N 06523.0E

LOWER AIRSPACE

Designator	Significant Points
1	2
	PARET 2527.2N 06451.5E TAPDO 242400N 0612000E VUSET 235540N 0590812E PASOV 243841N 0565037E
A727	(PAXIS 3357.1N 02720.0E OTIKO 3134.3N 02936.6E ALEXANDRIA (NOZ) MENKU 3105.5N 03018.1E CAIRO (CVO) LUXOR (LXR) ABU SIMBLE (SML) NUBAR 220000N 03118.1E MEROWE (MRW) KHARTOUM (KTM) KENANA (KNA) LODWAR (LOV) NAKURU (NAK) NAIROBI (NV) KILIMANJARO (KV)
A777	TONVO 250500N 0563200E BUBAS 245938N 05700 03E * Note 7 (OO) NADSO 244957N 0574926E MUNGA 242516N 0584533E MIXOL 240618N 0592739E VAXIM 231900N 0611100E
A788	HALAIFAH HAIL HAFR AL BATIN (HFR) *Note 7 WAFRA 2837. 3N 04757. 5E PATIR 285606N 0492923E KHARK (KHG) SHIRAZ
B12	TANSA 340000N 0264900E SOKAL 323601N 0273706E EL DABA (DBA) 310041N 0282801E KATAB 292501N 0290506E BOPOS 264318N 0300722E

UPPER AIRSPACE

Designator	Significant Points
1	2
	PARET 2527.2N 06451.5E TAPDO 242400N 0612000E VUSET 235540N 0590812E PASOV 243841N 0565037E
UA727	(PAXIS 3357.1N 02720.0E OTIKO 3134.3N 02936.6E ALEXANDRIA (NOZ) MENKU 3105.5N 03018.1E CAIRO (CVO) LUXOR (LXR) ABU SIMBLE (SML) NUBAR 220000N 03118.1E MEROWE (MRW) KHARTOUM (KTM) KENANA (KNA) LODWAR (LOV) NAKURU (NAK) NAIROBI (NV) KILIMANJARO (KV)
UA775	REXOD 211230N 0613830E TUMET 222307N 0595702E IMDEK 224647N 0592217E OBTIN 230216N 0585920E KUSRA 231726N 0585102E
UA788	HALAIFAH HAIL HAFR AL BATIN (HFR) *Note 7 WAFRA 2837. 3N 04757. 5E PATIR 285606N 0492923E KHARK (KHG) SHIRAZ
UB12	TANSA 340000N 0264900E SOKAL 323601N 0273706E EL DABA (DBA) 310041N 0282801E KATAB 292501N 0290506E BOPOS 264318N 0300722E

LOWER AIRSPACE

Designator	Significant Points
1	2
	DEPNO 262438N 0301413E EL KHARGA (KHG) 252654N 0303527E ABU SIMBEL (SML) 222118N 0313719E
B121	RUDESHUR (RUS) RASHT (RST) MAGRI 385408N 0462300E
B400	MUSCAT (MCT) ITURA 232351N 0580720E IZKI (IZK) HAIMA (HAI) ASTUN 180832N0551040E DAXAM 171612N 0544715E MUTVA 165325N 0543201E IMKAD 155245N 0535147E NODMA 152603N 0533358E RIGAM 143932N 0530414E RAPDO 132317N 0521532E VEDET 120134N 0512410E (MOGADISHU)
B404	HARGA (HARGEISA) DEMGO 120258N 0483040E PURKA 131208N 0503042E GESIX 134440N 0512823E RIGAM 143932N 0530414E
B407	KING ABDULAZIZ (JDW) KAROX 205717N 0381547E MAHDI 2026.0N 03739.3E (PORT SUDAN) PSD
B411	ROVAR 292438N0345711E AL SHIGAR (ASH) ARAR (AAR) MURIB 311337N 0415136E LOVEK 3222.1N 04440.0E NOLDO 3249.5N 04521.5E PAXAT 332056N 0460519E ILAM (ILM) KERMANSHAH(KMS) SAVEH (SAV)

UPPER AIRSPACE

Designator	Significant Points
1	2
	DEPNO 262438N 0301413E EL KHARGA (KHG) 252654N 0303527E ABU SIMBEL (SML) 222118N 0313719E
UB121	RUDESHUR (RUS) RASHT (RST) MAGRI 385408N 0462300E
UB400	MUSCAT (MCT) ITURA 232351N 0580720E IZKI (IZK) HAIMA (HAI) ASTUN 180832N0551040E DAXAM 171612N 0544715E MUTVA 165325N 0543201E IMKAD 155245N 0535147E NODMA 152603N 0533358E RIGAM 143932N 0530414E RAPDO 132317N 0521532E VEDET 120134N 0512410E (MOGADISHU)
UB403	MANDERA BOMIX 121002N 0502757E ODBEN 123747N 0505648E KAVAN 133250N 0515431E RIGAM 143932N 0530414E
UB404	HARGA (HARGEISA) DEMGO 120258N 0483040E PURKA 131208N 0503042E GESIX 134440N 0512823E RIGAM 143932N 0530414E
UB407	KING ABDULAZIZ (JDW) KAROX 205717N 0381547E MAHDI 2026.0N 03739.3E (PORT SUDAN) PSD
UB411	ROVAR 292438N0345711E AL SHIGAR (ASH) ARAR (AAR) MURIB 311337N 0415136E LOVEK 3222.1N 04440.0E NOLDO 3249.5N 04521.5E PAXAT 332056N 0460519E ILAM (ILM) KERMANSHAH(KMS) SAVEH (SAV)

LOWER AIRSPACE

Designator	Significant Points
1	2
	[TEHRAN] (TRN)
	* Note 1
	DEHNAMAK (DHN)
	SABZEVAR (SBZ)
	MASHHAD (MSD)
B412	HALAIFA (HLF)
	RABIGH (RBG)
	[KING ABDULAZIZ] (JDW
B413	LADEN 1853.7N 03805.1E
	DANAK 1608.0N 04129.0E
	HODEIDAH
	TAIZ
	ADEN
	ZIZAN 1151.6N 04539.2E
	AVIMO 0332.9N 05052.6E
B415	DOHA (DOH)
	*Note 8 (DOH-BUNDU)
	AFNAN 2508.9N 05155.9E
	BUNDU 2500.4N 05229.4E
	*Note 7 (BUNDU-ADV)
	GADVO 2441.4N 05343.0E
	KUNGU 2437.9N 05356.4E
	ABU DHABI
	ADV 2425.1N 05440.4E
B416	KUWAIT (KUA)
	AMBIK 283222N 0492025E
	*Note 8 (AMBIK-KUVER)
	TESSO 282852N0492723E
	GEVAL 283625N0492722E
	GOGMA 281421N 0495612E
	KUVER 280924N0500600E
	IMDAT 2741.0N 05111.0E
	ORSAR 2604.5N 05357.5E
	PEBAT 2551.9N 05423.9E
	DESDI 2536.0N 05442.5E
B417	MAHSHAHR (MAH)
	TULAX 2938 53N 04903 01E
	DESLU 2928.0N 04901.8E
	ALVIX 2919.3N04824.2E
	KUWAIT (KUA)
	*See Note 3
	HAFR AL BATIN (HFR)
	KMC
	GASSIM (GAS)

UPPER AIRSPACE

Designator	Significant Points
1	2
	[TEHRAN] (TRN)
	* Note 1
	DEHNAMAK (DHN)
	SABZEVAR (SBZ)
	MASHHAD (MSD)
UB412	HALAIFA (HLF)
	RABIGH (RBG)
	[KING ABDULAZIZ] (JDW
UB413	LADEN 1853.7N 03805.1E
	DANAK 1608.0N 04129.0E
	HODEIDAH
	TAIZ
	ADEN
	ZIZAN 1151.6N 04539.2E
	AVIMO 0332.9N 05052.6E
UB415	DOHA (DOH)
	*Note 8 (DOH-BUNDU)
	AFNAN 2508.9N 05155.9E
	BUNDU 2500.4N 05229.4E
	*Note 7 (BUNDU-ADV)
	GADVO 2441.4N 05343.0E
	KUNGU 2437.9N 05356.4E
	ABU DHABI
	ADV 2425.1N 05440.4E
UB416	KUWAIT (KUA)
	AMBIK 283222N 0492025E
	*Note 8 (AMBIK-KUVER)
	TESSO 282852N0492723E
	GEVAL 283625N0492722E
	GOGMA 281421N 0495612E
	KUVER 280924N0500600E
	IMDAT 2741.0N 05111.0E
	ORSAR 2604.5N 05357.5E
	PEBAT 2551.9N 05423.9E
	DESDI 2536.0N 05442.5E
UB417	MAHSHAHR (MAH)
	TULAX 2938 53N 04903 01E
	DESLU 2928.0N 04901.8E
	ALVIX 2919.3N04824.2E
	KUWAIT (KUA)
	*See Note 3
	HAFR AL BATIN (HFR)
	KMC
	GASSIM (GAS)

LOWER AIRSPACE

Designator	Significant Points
1	2
	BIR-DARB (BDB) TAGNA 231652N 0403851E KING ABDULAZIZ (JDW)
B419	(DHA) 261538N 0500824E * Note 8 (DHA-RAMSI) KING FAHD (KFA) * Note 7 (KFA-RAMSI) ASTOM 265552N 0500408E RAMSI 270249N 0500714E
B424	ITOLI 152825N 0450927E SABEL 185200N 05203.7E OTISA 201000N 0554556E GISKA 213503N 0574014E
B441	MASHHAD (MSD) OTRUZ 363108N 0610956E MARAD 3637.6N 06127.8E
B451	DEHNAMAK (DHN) BOJNORD (BRD) DOLOS 375006N 0580200E (ASHGABAT) (ASB
B457	BAHRAIN (BAH) * Note7 ELOSA 2548.8N 05142.6E
B505	LALDO 251806N 0563600E * Note 7/8 (OO) NADSO 244957N 0574926E ITLOB 244325N 0590701E EGTAL 2434 58N 06037 24E APELO 2434.9N 0612000E PASNI (PI) 2517.3N 06320.9E
B524	NADSO 244957N 0574926E * Note 7 DAMUM 243236N 0591307E VEKAN 241235N 0604454E ALPOR 2404 42N 06120E
B526	(ASMARA) ASM HODEIDAH (HDH) MUKALLA (RIN) RIGAM 143932N 0530414E

UPPER AIRSPACE

Designator	Significant Points
1	2
	BIR-DARB (BDB) TAGNA 231652N 0403851E KING ABDULAZIZ (JDW)
UB419	(DHA) 261538N 0500824E * Note 8 (DHA-RAMSI) KING FAHD (KFA) * Note 7 (KFA-RAMSI) ASTOM 265552N 0500408E RAMSI 270249N 0500714E
UB424	ITOLI 152825N 0450927E SABEL 185200N 05203.7E OTISA 201000N 0554556E GISKA 213503N 0574014E
UB441	MASHHAD (MSD) OTRUZ 363108N 0610956E MARAD 3637.6N 06127.8E
UB451	DEHNAMAK (DHN) BOJNORD (BRD) DOLOS 375006N 0580200E (ASHGABAT) (ASB
UB457	BAHRAIN (BAH) * Note7 ELOSA 2548.8N 05142.6E
UB526	(ASMARA) ASM HODEIDAH (HDH) MUKALLA (RIN) RIGAM 143932N 0530414E

LOWER AIRSPACE

Designator	Significant Points
1	2
B535	(DJIBOUTI) DTI ADEN (KRA) MUKALLA (RIN) KAPET 1633 22N 0530614E SALALAH (SLL) ASTUN 180832N0551040E
B538	ALEPPO KARIATAIN
B540	GERAR 240600N 0573616 PASOV 243841N 0565037E KUPMA 245148N 0562648E BUBIN 245742N 0560642E
B544	(GAZIANTEP) GAZ ALEPPO (ALE) TANF (TAN) NAMBO 331826N0383939E SODAR 315532N0384317E TURAIF (TRF) AL SHIGAR (ASH) HALAIFA (HLF) MADINAH (PMA) RABIGH (RBG) KING ABDULAZIZ (JDW) QUNFIDAH (QUN) ABHA (ABH) NOBSU KRA
B549	THAMUD 171700N 0495500E ITELI 171310N 0502605E GOGRI 170752N 0510857E TONRO 165850N 0522235E PUTRA 165432N 0525631E LADAR 165324N 0534655E MUTVA 165325N 0543201E KIVEL 165306N 0553633E
G183	(KAROL 3252.0N 03229.0E) PASOS EL ARISH (ARH) TABA (TBA)
G202	(VELOX 3349.0N 03405.0E) SILKO 3347.9N 03435.0E KHALDEH (KAD) * Note 4 (OS)

UPPER AIRSPACE

Designator	Significant Points
1	2
UB535	(DJIBOUTI) DTI ADEN (KRA) MUKALLA (RIN) KAPET 1633 22N 0530614E SALALAH (SLL) ASTUN 180832N0551040E
UB538	ALEPPO KARIATAIN
UB544	(GAZIANTEP) GAZ ALEPPO (ALE) TANF (TAN) NAMBO 331826N0383939E SODAR 315532N0384317E TURAIF (TRF) AL SHIGAR (ASH) HALAIFA (HLF) MADINAH (PMA) RABIGH (RBG) KING ABDULAZIZ (JDW) QUNFIDAH (QUN) ABHA (ABH) NOBSU KRA
UB549	THAMUD 171700N 0495500E ITELI 171310N 0502605E GOGRI 170752N 0510857E TONRO 165850N 0522235E PUTRA 165432N 0525631E LADAR 165324N 0534655E MUTVA 165325N 0543201E KIVEL 165306N 0553633E
UG202	(VELOX 3349.0N 03405.0E) SILKO 3347.9N 03435.0E KHALDEH (KAD) * Note 4 (OS)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator 1	Significant Points 2	Designator 1	Significant Points 2
	DAKWE 3338.9N 03555.0E DAMASCUS (DAM) TANF (TAN) MODIK 3328.1N 03901.0E RAPLU 3323.0N 04145.5E PUSTO 3321.0N 04245.0E DELMI 331918.31N 0431327.59E LAGLO 331538N 0441457E ITOVA 331950.91N 0444128.97E RAGET 3330.8N 04553.8E ILAM (ILM) KHORAM ABAD (KRD) ESFAHAN (ISN) NODLA BIRJAND (BJD) (KAMAR 3239.0N 06044.0E)		DAKWE 3338.9N 03555.0E DAMASCUS (DAM) TANF (TAN) MODIK 3328.1N 03901.0E RAPLU 3323.0N 04145.5E PUSTO 3321.0N 04245.0E DELMI 331918.31N 0431327.59E LAGLO 331538N 0441457E ITOVA 331950.91N 0444128.97E RAGET 3330.8N 04553.8E ILAM (ILM) KHORAM ABAD (KRD) ESFAHAN (ISN) NODLA BIRJAND (BJD) (KAMAR 3239.0N 06044.0E)
G208	(PANJGUR) PG KEBUD 2735.9N 06250.4E ZAHEDAN (ZDN) DARBAND (DAR) NODLA 325330N 0545850E ANARAK (ANK) TEHRAN (TRN) ZANJAN (ZAJ) UROMIYEH (UMH) ALRAM 3743.0N 04437.0E (SIIRT)		
G216	LAKLU 232235N 0570401E *Note 7 (OO/OP) Muscat (MCT) ITILA 234055N 0584817E SODEB 234747N 0593023E DORAB 235033N 0594746E ALPOR 240441N 0612000E LATEM (KC)	UG216	LAKLU 232235N 0570401E *Note 7 (OO/OP) Muscat (MCT) ITILA 234055N 0584817E SODEB 234747N 0593023E DORAB 235033N 0594746E ALPOR 240441N 0612000E LATEM (KC)
G452	SHIRAZ (SYZ) KERMAN (KER) ZAHEDAN (ZDN) DERBO 2925.7N 06117.0E (RAHIMYAR KHAN) RK	UG452	SHIRAZ (SYZ) KERMAN (KER) ZAHEDAN (ZDN) DERBO 2925.7N 06117.0E (RAHIMYAR KHAN) RK
G462	ROVOS 241825N 0552143E Note 7 to ITROK NIBAX 245748N 0541437E RAGTA 250850N 0535840E	UG462	ROVOS 241825N 0552143E Note 7 to ITROK NIBAX 245748N 0541437E RAGTA 250850N 0535840E

LOWER AIRSPACE

Designator	Significant Points
1	2
	ALSOK 252607N 0533904E
	ITROK 253557N 0532751E
	TUMAK 255031N 0531108E
G650	KING ABDULAZIZ (JDW)
	RASKA 190732N 0390329E
	ASMARA (ASM)
G652	ADEN (KRA)
	IMPOS 183136N 0511848E
	DUDRI 190000N 0520000E
	*Note 8 (DUDRI-TOKRA)
	TOKRA 220925N 0553350E
	TAPDO 2424N 06120 E
G660	(PORT SUDAN) PSD
	BOGUM 2006.6N 03803.0E
	MIPOL 203322N 0382145E
	KING ABDULAZIZ (JDW)
G662	BUSRA 322000N 0363700E
	KUPRI 320825.87N 0364530.21E
	ALKOT 313254.22N 0371121.51E
	GRY 3124.8N 3717.2E
	AL SHIGAR (ASH)
	HAIL (HIL)
	GASSIM (GAS)
	KING KHALID (KIA)
G663	KING KHALID (KIA)
	SILNO 2640.4N 04757.7E
	*Note 7 (KIA-KFA)
	GIBUS 255724N 0472829E
	*Note 8 (GIBUS-ALSER)
	KING FAHD (KFA)
	ALSER 2710.8 05049.5E
	SHIRAZ (SYZ)
	YAZD (YZD)
	NODLA 3253.3N 05458.8E
	TABAS (TBS)
	MASHAD (MSD)
G665	ARAR (AAR)
	ABADAN (ABD)
	SHIRAZ (SYZ)
	* Note 5 (OI)
	NABOD 2816.1N 05825.8E
	LOXOL 2745.9N 06045.6E
	ASVIB 265724N 0631812E

UPPER AIRSPACE

Designator	Significant Points
1	2
	ALSOK 252607N 0533904E
	ITROK 253557N 0532751E
	TUMAK 255031N 0531108E
UG650	KING ABDULAZIZ (JDW)
	RASKA 190732N 0390329E
	ASMARA (ASM)
UG652	ADEN (KRA)
	IMPOS 183136N 0511848E
	DUDRI 190000N 0520000E
	*Note 8 (DUDRI-TOKRA)
	TOKRA 220925N 0553350E
	TAPDO 2424N 06120 E
UG660	(PORT SUDAN) PSD
	BOGUM 2006.6N 03803.0E
	MIPOL 203322N 0382145E
	KING ABDULAZIZ (JDW)
UG662	BUSRA 322000N 0363700E
	KUPRI 320825.87N 0364530.21E
	ALKOT 313254.22N 0371121.51E
	GRY 3124.8N 3717.2E
	AL SHIGAR (ASH)
	HAIL (HIL)
	GASSIM (GAS)
	KING KHALID (KIA)
UG663	KING KHALID (KIA)
	SILNO 2640.4N 04757.7E
	*Note 7 (KIA-KFA)
	GIBUS 255724N 0472829E
	*Note 8 (GIBUS-ALSER)
	KING FAHD (KFA)
	ALSER 2710.8 05049.5E
	SHIRAZ (SYZ)
	YAZD (YZD)
	NODLA 3253.3N 05458.8E
	TABAS (TBS)
	MASHAD (MSD)
UG665	ARAR (AAR)
	ABADAN (ABD)
	SHIRAZ (SYZ)
	* Note 5 (OI)
	NABOD 2816.1N 05825.8E
	LOXOL 2745.9N 06045.6E
	ASVIB 265724N 0631812E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
	(PANJGUR) PG
G666	SHIRAZ (SYZ)
	LAMERD (LAM)
	LAVAN (LVA)
	* Note 7 (OI)
	ORSAR 2604 .5N 05357.5E
	ITITA 254410N 0541839E
	SINBI 250842N 0543741E
	ABU DHABI (ADV)
G667	PUTMA 3748.0N 05157.6E
	NOSHAHR (NSR)
	TEHRAN (TRN)
	SAVEH (SAV)
	MIS
	AHWAZ (AWZ)
	ABADAN (ABD)
	ALSAN 295707N 0481456E
	FALKA
	KUWAIT (KUA)
	WAFRA (KFR)
	*Note 7 (KFR-MGA)
	COPPI 275033N 0474359E
	*Note 8 (COPPI-AVOBO)
	EMENI 273232N 0473849E
	MUSKO 272640N 0473708E
	ALSAT 270611N 0473118E
	LUGAL 264533N 0472528E
	MAGALA (MGA)
	AVOBO 260334N 0470719E
	KING KHALID (KIA)
	WADI AL DAWASIR (WDR)
	NEJRAN (NEJ)
	SANA'A (SAA)
	PARIM 123142.7N 0432712E
	DJIBOUTI (DTI)
G669	AL SHIGAR (ASH)
	AL JOU (AJF)
	RAFHA (RAF)
	NISER 2930.5N 04418.4E
	*Note 3 (OK)
	SOLAT 290942N 0463810E
	KUWAIT (KUA)
	SESRA 290803N 0485453E
	NANPI 290457N 0493157E
	KHARK(KHG)
	SHIRAZ (SYZ)

UPPER AIRSPACE

Designator	Significant Points
1	2
	(PANJGUR) PG
UG666	SHIRAZ (SYZ)
	LAMERD (LAM)
	LAVAN (LVA)
	* Note 7 (OI)
	ORSAR 2604 .5N 05357.5E
	ITITA 254410N 0541839E
	SINBI 250842N 0543741E
	ABU DHABI (ADV)
UG667	PUTMA 3748.0N 05157.6E
	NOSHAHR (NSR)
	TEHRAN (TRN)
	SAVEH (SAV)
	MIS
	AHWAZ (AWZ)
	ABADAN (ABD)
	ALSAN 295707N 0481456E
	FALKA
	KUWAIT (KUA)
	WAFRA (KFR)
	*Note 7 (KFR-MGA)
	COPPI 275033N 0474359E
	*Note 8 (COPPI-AVOBO)
	EMENI 273232N 0473849E
	MUSKO 272640N 0473708E
	ALSAT 270611N 0473118E
	LUGAL 264533N 0472528E
	MAGALA (MGA)
	AVOBO 260334N 0470719E
	KING KHALID (KIA)
	WADI AL DAWASIR (WDR)
	NEJRAN (NEJ)
	SANA'A (SAA)
	PARIM 123142.7N 0432712E
	DJIBOUTI (DTI)
UG669	AL SHIGAR (ASH)
	AL JOU (AJF)
	RAFHA (RAF)
	NISER 2930.5N 04418.4E
	*Note 3 (OK)
	SOLAT 290942N 0463810E
	KUWAIT (KUA)
	SESRA 290803N 0485453E
	NANPI 290457N 0493157E
	KHARK(KHG)
	SHIRAZ (SYZ)

LOWER AIRSPACE

Designator	Significant Points
1	2
G670	RASHT (RST) LALDA 3817.1N 04943.0E (BAKU) GYD
G674	MADINAH (PMA) GASSIM (GAS) 2617.9N 04346.8E BOPAN (BPN)
G775	(ASHGHABAT) (ASB) ORPAB 3742N 05834.5E MASHHAD (MSD) [BIRJAND] (BJD) * Note 1 ZAHEDAN (ZDN)
G781	(VAN) BONAM 3802.9N 04418.0E UROMIYEH (UMH) ROVON 3716 01N 0455322E ZANJAN (ZAJ) NOSHAHR(NSR)
G782	KING ABDULAZIZ (JDW) DAFINAH (DFN) RAGA\HBA (RGB) KING KHALID (KIA) MAGALA (MGA) *Note 7 (MGA-KFR) LUGAL 264533N 0472528E WAFRA (KFR) 283715N 0475729E KUWAIT (KUA)
G783	PURDA 210805N 0510329E TANSU 224136N 0542828E RIGIL 230146N 0551430E ELUDA 235107N 0552905E ALN 241535N 0553623E GIDIS 243600N 055600E BUBIN 245742N 0560642E
G792	BODKA 3939.0N 05130.0E GIRUN 3806.2N 05620.3E BOJNORD (BRD) MASHAD (MSD)
G795	FALKA 2926.2N 04818.3E TASMI 300120N 0475505E BSR 303132.4N 0472112E

UPPER AIRSPACE

Designator	Significant Points
1	2
UG670	RASHT (RST) LALDA 3817.1N 04943.0E (BAKU) GYD
UG674	MADINAH (PMA) GASSIM (GAS) 2617.9N 04346.8E BOPAN (BPN)
UG775	(ASHGHABAT) (ASB) ORPAB 3742N 05834.5E MASHHAD (MSD) [BIRJAND] (BJD) * Note 1 ZAHEDAN (ZDN)
UG781	(VAN) BONAM 3802.9N 04418.0E UROMIYEH (UMH) ROVON 3716 01N 0455322E ZANJAN (ZAJ) NOSHAHR(NSR)
UG782	KING ABDULAZIZ (JDW) DAFINAH (DFN) RAGA\HBA (RGB) KING KHALID (KIA) MAGALA (MGA) *Note 7 (MGA-KFR) LUGAL 264533N 0472528E WAFRA (KFR) 283715N 0475729E KUWAIT (KUA)
UG783	PURDA 210805N 0510329E TANSU 224136N 0542828E RIGIL 230146N 0551430E ELUDA 235107N 0552905E ALN 241535N 0553623E GIDIS 243600N 055600E BUBIN 245742N 0560642E
UG792	BODKA 3939.0N 05130.0E GIRUN 3806.2N 05620.3E BOJNORD (BRD) MASHAD (MSD)
UG795	FALKA 2926.2N 04818.3E TASMI 300120N 0475505E BSR 303132.4N 0472112E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
	RAFHA (RAF)
G799	PMA DAFINAH (DFN)
L126	PUSTO 3321.0N 04245.0E SOGUM 3412.2N 04354.9E SIGNI 3400.1N 04442.2E MIGMI 3345.9N 04527.4E ILAM (ILM)
L200	AMMAN LOXER 320256N 362500E LUDAN 320256N 0363713 E KUPRI 320825N 0364530 E ASLON 321211N 0365111E NADEK 322728N 0371429E DAXEN 324444N 0374105E ORNAL 324755N0375153E KAREM 325110N 0380324 E KUMLO 325811N 0382807 E DAPUK 330139N 0384026 E PASIP 330600N 0385600E GIBUX 330715N 0411625E SIGBI 330200N 0422000E SILBO 325900N 0432900E

UPPER AIRSPACE

Designator	Significant Points
1	2
	RAFHA (RAF)
UG799	PMA DAFINAH (DFN)
UL124	(VAN) BONAM URUMIYEH (UMH) ZANJAN (ZAJ) SAVEH (SAV) DISEL 332904N 0510118E YAZD (YZD) (R654) KERMAN (KER) KEBUD 273558N 0625028E (PANJGUR) PG
UL125	DULAV 3857N 04537.9E TABRIZ (TBZ) ZANJAN (ZAJ) PAROT 360940N 0495756E TEHRAN (TRN) ANARAK (ANK) DARBAND (DAR) ZAHEDAN (ZDN) DANIB 290706N 0611717E KEBUD 273558N 0625028E
UL126	PUSTO 3321.0N 04245.0E SOGUM 3412.2N 04354.9E SIGNI 3400.1N 04442.2E MIGMI 3345.9N 04527.4E ILAM (ILM)
UL200	AMMAN LOXER 320256N 362500E LUDAN 320256N 0363713 E KUPRI 320825N 0364530 E ASLON 321211N 0365111E NADEK 322728N 0371429E DAXEN 324444N 0374105E ORNAL 324755N0375153E KAREM 325110N 0380324 E KUMLO 325811N 0382807 E DAPUK 330139N 0384026 E PASIP 330600N 0385600E GIBUX 330715N 0411625E SIGBI 330200N 0422000E SILBO 325900N 0432900E

LOWER AIRSPACE

Designator	Significant Points
1	2
L223	SIRRI (SIR) NALTA 250242N 0553955E * Note 7 (OI-OM-OO) TARDI 243418N 0560915E LAKLU 232235N 05704 01E
L300	LUXOR (LXR) MEMPO 252518N 0335457E GIBAL2437.2N03634.7E YENBO (YEN) 2408.8N 03803.9E
L301	RASKI 230330N 0635200E VAXIM 231900N 0611100E RAGMA 232301N 0603846E
L305	DOHA (DOH) *Note 7 (DOH-ITITA) *Note 8 (DOH-ASTOG) ASTOG 252822N 0525025E ITITA 2544.2N 05418.7E
L306	TOKRA 220925N 0553350E * Note- 7 (OO) DEMKI 224941N 0562308E LAKLU 232235N 0570401E
L308	EGNOV 270301N 0474713E *Note 7 (EGNOV- SERSA) *Note 8 (EGNOV- OBNET) (JBL) 270220N 0492427E RAMSI 270249N 0500714E GASSI 2702.9N 05022.5E TOSDA 270005N 0505629E TORBO 265223N 0511024E SOGAN 263915N 0515408E DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E DESDI 253603N 0544230E RAGOL 252743N 0550739E

UPPER AIRSPACE

Designator	Significant Points
1	2
UL223	DASIS 385430N 0441230E UROMIYEH (UMH) SANANDAJ (SNJ) KHORAM ABAD (KRD) MESVI 312920N 0495701E LAMERD (LAM) SIRRI (SIR) * Note 7 (OI-OM-OO) NALTA 250242N 0553955E TARDI 243418N 0560915E LAKLU 232235N 05704 01E
UL300	LUXOR (LXR) MEMPO 252518N 0335457E GIBAL2437.2N03634.7E YENBO (YEN) 2408.8N 03803.9E
UL301	AAU 5153N 07523 38.6E NOBAT 210902.5N 0880000.1E LADOT 220502N 0660001 RASKI 230330N 0635200E VAXIM 231900N 0611100E RAGMA 232301N 0603846E
UL305	DOHA (DOH) *Note 7 (DOH-ITITA) *Note 8 (DOH-ASTOG) ASTOG 252822N 0525025E ITITA 2544.2N 05418.7E
UL306	TOKRA 220925N 0553350E * Note- 7 (OO) DEMKI 224941N 0562308E LAKLU 232235N 0570401E
UL308	EGNOV 270301N 0474713E *Note 7 (EGNOV- SERSA) *Note 8 (EGNOV- OBNET) (JBL) 270220N 0492427E RAMSI 270249N 0500714E GASSI 2702.9N 05022.5E TOSDA 270005N 0505629E TORBO 265223N 0511024E SOGAN 263915N 0515408E DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E DESDI 253603N 0544230E RAGOL 252743N 0550739E

LOWER AIRSPACE

Designator	Significant Points
1	2
	SERSA 251945N 0553118E TUKLA 251936N 0554010E NADNI 251915N 0555658E LALDO 251806N 0563600E IMLOT 2517.1N 05708.1E KATUS 2515.9N 05747.0E DIVAB 2510.7N 05952.1E EGPIC 2508.6N 06029.5E (JIWANI) LATEM 2431.7N 06449.7E
L310	BOXAK 244536N 0540032E *Note 7 & 8 to LALDO SIGBO 2455.4N 05456.9E NALTA 2502.7N 05539.8E AVAMI 2505.9N 05556.8E LALDO 251806N 0563600E
L314	NABAN 163124N 0430148E GOMRI 131816N 0443224E
L315	CAIRO(CVO) HURGHADA (HGD) GIBAL 2437.2N 03634.7E
L321	KATAB 292501N 0290506E KUNKI 290726N 0291949E KUNAK 2527.7N 03041.2E LUGAV 224205N 0313722E SML 222118N 0313719E
L417	VUSEB 361637N 0434800E UMESA 351741N 0434307E MUTAG 343003N 0433834 E LAGLO 3515.6 04414.0E

UPPER AIRSPACE

Designator	Significant Points
1	2
	SERSA 251945N 0553118E TUKLA 251936N 0554010E NADNI 251915N 0555658E LALDO 251806N 0563600E IMLOT 2517.1N 05708.1E KATUS 2515.9N 05747.0E DIVAB 2510.7N 05952.1E EGPIC 2508.6N 06029.5E (JIWANI) LATEM 2431.7N 06449.7E
UL310	BOXAK 244536N 0540032E *Note 7 & 8 to LALDO SIGBO 2455.4N 05456.9E NALTA 2502.7N 05539.8E AVAMI 2505.9N 05556.8E LALDO 251806N 0563600E
UL314	NABAN 163124N 0430148E GOMRI 131816N 0443224E
UL315	CAIRO(CVO) HURGHADA (HGD) GIBAL 2437.2N 03634.7E
UL321	KATAB 292501N 0290506E KUNKI 290726N 0291949E KUNAK 2527.7N 03041.2E LUGAV 224205N 0313722E SML 222118N 0313719E
UL322	MUMBAI (BBB) * Note 7&1 SUGID 1933.1N 06921.0E BOLIS 2033.5N 065 00.0E REXOD 2112.5N 06138.5E
UL333	DASIS TABRIZ (TBZ) RASHT (RST) GIBAB 3537.0N 05430.9E ALRAS 3511.3N 05541.6E TASLU 342632N 0574234E SOKAM 331316N 0603752E
UL417	VUSEB 361637N 0434800E UMESA 351741N 0434307E MUTAG 343003N 0433834 E LAGLO 3515.6 04414.0E

LOWER AIRSPACE

Designator	Significant Points
1	2
	ELOSI 330800N 0441800E LOVEK 3222.1N 04440.0E ELIBA 320915N 0444645E NADOX 310505N 0451851E
L430	VAXIM 231900N 0611100E MESPO 244936N 0593411E MELMI 264625N 0572300E TAVNO 281112N 0563252E ASMET 284827N 0560806E SRJ 2933.4N 05539.6E
L440	KANIP 2410.7N 05520.7E *Note 7 RETAS 235754N 0553423E
L444	KIPOL 230410N 0612903E *Note 7 (OO) VUSIN 225940N 0605510E MIBSA 225400N 0601338E KAXEM 225103N 0595243E IMDEK 224647N 0592217E TOLDA 224008N 0583624E
L513	MURAK 3459.4N 03642.1E LEBOR 3415.9N 03635.0E DAMASCUS (DAM) * Note 3 (OS) BUSRA 3220.0 N 03637.0 E QUEEN ALIA (QAA) QATRANEH (QTR) MAZAR 3048.0N 03610.0E

UPPER AIRSPACE

Designator	Significant Points
1	2
	ELOSI 330800N 0441800E LOVEK 3222.1N 04440.0E ELIBA 320915N 0444645E NADOX 310505N 0451851E
UL425	KING ABDULAZIZ (JDW) TONBO 205502N 0394911E AL BAHA (BHA) BISHA (BSH) WADI AL DAWASIR (WDR) EGREN 202236N 0464422E ASTIN 200410N 0495320E DIRAS 195235N 0513704E GOBRO 193622N 0534741E NOVNO 193313N 0535858E ITUVO 190315N 0554328E DEDSO 185811N 0560041E BOVOS 182230N 0575844E ASPUX 174406N 0600006E (TRIVANDRUM)
UL430	VAXIM 231900N 0611100E MESPO 244936N 0593411E MELMI 264625N 0572300E TAVNO 281112N 0563252E ASMET 284827N 0560806E SRJ 2933.4N 05539.6E
UL440	KANIP 2410.7N 05520.7E *Note 7 RETAS 235754N 0553423E
UL444	KIPOL 230410N 0612903E *Note 7 (OO) VUSIN 225940N 0605510E MIBSA 225400N 0601338E KAXEM 225103N 0595243E IMDEK 224647N 0592217E TOLDA 224008N 0583624E
UL513	MURAK 3459.4N 03642.1E LEBOR 3415.9N 03635.0E DAMASCUS (DAM) * Note 3 (OS) BUSRA 3220.0 N 03637.0 E QUEEN ALIA (QAA) QATRANEH (QTR) MAZAR 3048.0N 03610.0E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
L519	ABU DHABI (ADV) *Note 7 (OM) NAMSI 2437.5N 05456.8E EMERU 244829N 0550303 LUDER 2457.5N 05505.2E
L551	ANTAR 334800N 0281600E EL DABA (DBA) 310041N 0282801E
L555	TOTOX 215030N 0622230E TUMET 222307N 0595702E TOLDA 224008N 0583624E
L564	DOHA (DOH) *Note 8 (DOH-PURDA) NAJMA 250346N 0513908E

UPPER AIRSPACE

Designator	Significant Points
1	2
UL516	KITAL 2003.0N 06018.0E ELKEL 0149.0N 06911.0E DIEGO GARCIA (NDG
UL519	ABU DHABI (ADV) *Note 7 (OM) NAMSI 2437.5N 05456.8E EMERU 244829N 0550303 LUDER 2457.5N 05505.2E
UL550	WAFRA (KFR) NIDAP 283850N 0473656E BOSID 2842.4N 04652.6E VATIM 2851.6N 04444.7E RASMO 2857.2N 04331.3E ORSAL2902.8N 04210.8E NIMAR 2906.6N 03954.4E KITOT 2902.1N 03450.8E NUWEIBAA (NWB) TABA (TBA) EL ARISH (ARH) PASOS (KAROL 3252.0N 03229.0E)
UL551	ANTAR 334800N 0281600E EL DABA (DBA) 310041N 0282801E
UL555	TOTOX 215030N 0622230E TUMET 222307N 0595702E TOLDA 224008N 0583624E
UL556	EGREN 202236N 0464422E NONGA 205048N 0492014E PURDA 210805N 0510329E Note:- 7 (OO, OB) IMDAM 202416N 0550801E OTISA 201000N 0554556E HAIMA (HAI) 195813N 0561651E GIVNO 195011N 0563059E KUTVI 184306N 0582642E
UL560	ARDABIL (ARB) 3819.9N 04824.9E * Note 3&4 (OI) SEVAN (SVN) 4032.0N 04456.9E
UL564	DOHA (DOH) *Note 8 (DOH-PURDA) NAJMA 250346N 0513908E

LOWER AIRSPACE

Designator	Significant Points
1	2
	BATHA (BAT) 241257N 0512707E
	MIGMA 225035N 0512749E
	PURDA 210805N 0510329N
	ASTIN 200410N 0495320E
	SHARURAH (SHA)
	ATBOT 171418N 0464706E
	RAGNI 163454N 0454815E
	LOPAD 161651N 0453738E
	ITOLI 152825N 0450927E
	OBNAM 144541N 0444448E
	GEVEL 141229N 0442547E
	NOPVO 135436N 0441536E
	TAZ 134149.53N 0440818.98E
	PARIM 123142N 0432712E

UPPER AIRSPACE

Designator	Significant Points
1	2
	MIGMA 225035N 0512749E
	PURDA 210805N 0510329N
	ASTIN 200410N 0495320E
	SHARURAH (SHA)
	ATBOT 171418N 0464706E
	RAGNI 163454N 0454815E
	LOPAD 161651N 0453738E
	ITOLI 152825N 0450927E
	OBNAM 144541N 0444448E
	GEVEL 141229N 0442547E
	NOPVO 135436N 0441536E
	TAZ 134149.53N 0440818.98E
	PARIM 123142N 0432712E
UL566	ASMAK 162327N 0524634E
	UKNEN 160542N 0522012E
	PURUG 151204N 0510142E
	KUSOL 144009N 0501534E
	NOTBO 142609N 0495530E
	EMABI 141627N 0494139E
	SOKEM 134235N 0485329E
	DATEG 123549N 0471627E
UL572	KAMISHLY (KML)
	LESRI 3704.3N 04113.8E
	HASSAKEH (HAS) 3629N 04045.3E
	DIER ZZOR (DRZ)
	TANF (TAN)
UL573	DAFINAH (DFN) 231658N 0414310E
	PMA
	WEJH (WEJ) 261045N 0362917E
UL601	BAGLUM (BAG) 04004.2 03248.6)
	* Note 7
	ADANA 3656.4N 03512.6E (ADA)
	TUNLA 3553.0N 0360200E)
	KARIATAIN 3412.8N 03715.9E
UL602	BAHRAIN (BAH)
	*Note 7
	PEBOS 262722N0503043E
	RULEX 264529N 0501745E
	RAMSI 270249N 0500714E
	IVONI 275911N 0492131E
	DAVUS 282346N 0490622
	DARVA 284814N 0484734E
	ALVIX 2919.3N04824.2E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator 1	Significant Points 2	Designator 1	Significant Points 2
			FALKA 292611N 0481819E TASMI 300120N 0475505E LOVEK322206N 0444000E DELMI331911N 0431731E ELEXI 344237N 0411054E DRZ 351724N 0401124E KUKSI 364508N 0374910E GAZ 365701N 0372824E
L604	PLH 3513.7N 02340.9E SALUN 340000N 0242700E * BRN 3134.5N 02600.3E KHG 2526.9N 03035.4E LUXOR (LXR) 254458 N 0324607E IMRAD 260500N 0354400E WEJH 2610.8N 03629.3E HLF 262600N 03916.1E GASSIM (GAS) 2617.9N 04346.8E *Note 7 (GAS-KFA) PUSLA 261758N 0461706E *Note 8 to TOSNA MGA 2617.3N 04712.4E ALMAL 2615.9N 04821.1E KING FAHD (KFA) 2621.9N 04949.2E BAHRAIN (BAH) ASNIX 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E	UL604	PLH 3513.7N 02340.9E SALUN 340000N 0242700E * BRN 3134.5N 02600.3E KHG 2526.9N 03035.4E LUXOR (LXR) 254458 N 0324607E IMRAD 260500N 0354400E WEJH 2610.8N 03629.3E HLF 262600N 03916.1E GASSIM (GAS) 2617.9N 04346.8E *Note 7 (GAS-KFA) PUSLA 261758N 0461706E *Note 8 to TOSNA MGA 2617.3N 04712.4E ALMAL 2615.9N 04821.1E KING FAHD (KFA) 2621.9N 04949.2E BAHRAIN (BAH) ASNIX 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E
		UL607	SITIA (SIT) * Note 7 PAXIS 3357.1N02720.0E OTIKO 3134.4N 02936.6E ALEXANDRIA (NOZ)
L612	KUMBI 334250N 0284500E LABNA 321956N 0301612E BALTIM (BLT) 313144N 0310721E	UL612	KUMBI 334250N 0284500E LABNA 321956N 0301612E BALTIM (BLT) 313144N 0310721E
		UL613	EL – DABA (DBA) * Note 7 SOKAL 3236.0N 02720.0E TANSA 3400.0N 02649.0E
L617	ALEXANDRIA NOZ	UL617	ALEXANDRIA NOZ

LOWER AIRSPACE

Designator	Significant Points
1	2
	IMRUT 313259N 0293346E
	ASNIR 323849N 0282144E
	TANSA 340000N 0264900E
L620	BALMA 342856N 0350302E
	KAD 334827N 0352910E
L631	TOTOX 215030N0622230E
	IVOMA 223408N 0605430E
	* Note 7 (OO)
	MIBSA 225400N 0601338E
	AMBOS 230324N 0595405E
	ELIGO 232458N 0590848E
	KARAR 233042N 0585438E
	MCT 233528.01N 0581536.47
L677	(CAIRO) 3005.5N 03123.3E
	MENLI 2947.0N 03152.1E
	KAPIT 2917.0N 03236.1E
	SHARM EL SHEIKH
	PASAM 2730.8N 03455.7E
	*Note 7(OE)
	WEJH 2610.8N 03629.3E
	MUVAT 2537.9N 03654.8E
	YEN 2409.0N 03802.3E
	JDW 2140.7N 03910.0E
	QUN 1922.2N 04104.5E
	TALIB 1838.9N 04131.2E
	GIZ 1654.5N 04234.7E
	NABAN 1631.4N 04301.8E
	IMSIL 1557.6N 04313.2E
	SAA 1530.0N 04413.2E
L681	EGNOV 270301N 0474713E
	* Note 5 & 7 & 8 to SALWA
	GEPAK 2633.0N 04843.5E
	RADMA 2623.0N 04857.5E
	DELMU 2618.9N 04903.4E
	ROSEM 2607.7N 04919.0E
	SALWA 251538N 0503048E
L695	PAROK 231030N 0590245E
	*Note 7 (OO)
	ITURA 232351N 0580720E
L764	MUSCAT (MCT)
	ALMOG 233524N 0574940E
	IVETO 233520N 0570704E
	PAXIM 240245N 0561631E

UPPER AIRSPACE

Designator	Significant Points
1	2
	IMRUT 313259N 0293346E
	ASNIR 323849N 0282144E
	TANSA 340000N 0264900E
UL620	BALMA 342856N 0350302E
	KAD 334827N 0352910E
UL631	TOTOX 215030N0622230E
	IVOMA 223408N 0605430E
	* Note 7 (OO)
	MIBSA 225400N 0601338E
	AMBOS 230324N 0595405E
	ELIGO 232458N 0590848E
	KARAR 233042N 0585438E
	MCT 233528.01N 0581536.47
UL677	(CAIRO) 3005.5N 03123.3E
	MENLI 2947.0N 03152.1E
	KAPIT 2917.0N 03236.1E
	SHARM EL SHEIKH
	PASAM 2730.8N 03455.7E
	*Note 7(OE)
	WEJH 2610.8N 03629.3E
	MUVAT 2537.9N 03654.8E
	YEN 2409.0N 03802.3E
	JDW 2140.7N 03910.0E
	QUN 1922.2N 04104.5E
	TALIB 1838.9N 04131.2E
	GIZ 1654.5N 04234.7E
	NABAN 1631.4N 04301.8E
	IMSIL 1557.6N 04313.2E
	SAA 1530.0N 04413.2E
UL681	EGNOV 270301N 0474713E
	* Note 5 & 7 & 8 to SALWA
	GEPAK 2633.0N 04843.5E
	RADMA 2623.0N 04857.5E
	DELMU 2618.9N 04903.4E
	ROSEM 2607.7N 04919.0E
	SALWA 251538N 0503048E
UL695	PAROK 231030N 0590245E
	*Note 7 (OO)
	ITURA 232351N 0580720E
UL764	MUSCAT (MCT)
	ALMOG 233524N 0574940E
	IVETO 233520N 0570704E
	PAXIM 240245N 0561631E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
L768	ALPOB 254218N 0530055E * Note 7 to FIRAS * Note 8 (ALPOB-COPPI) ROTAG 255353N 0523621E SOLEG 260159N 0521756E RAMKI 261138N 0515625E RABLA 261506N 0514834E SOLOB 262241N 0513132E MEDMA 263421N 0505454E TOTLA 263806N 0504301E COPPI 2750.6N 04744.0E
M203	PUSTO 3321.0N 04245.0E LOVEK 3222.1N 04440.0E ILMAP 312133N 0465702E
M300	LOTAV 2037N 0605700E

UPPER AIRSPACE

Designator	Significant Points
1	2
UL768	ALPOB 254218N 0530055E * Note 7 to FIRAS * Note 8 (ALPOB-COPPI) ROTAG 255353N 0523621E SOLEG 260159N 0521756E RAMKI 261138N 0515625E RABLA 261506N 0514834E SOLOB 262241N 0513132E MEDMA 263421N 0505454E TOTLA 263806N 0504301E COPPI 2750.6N 04744.0E HFR VATIM 2851.6N 04444.7E RAFHA (RAF) ARAR (AAR) OVANO3148.0N 03909.9E OTILA 3201.5N 03901.9E MODAD 3235.7N 03841.6E SOKAN 3308.1N 03822.1E RAFIF 3312.8N 03819.3E SULAF 3327.3N 03810.4E FIRAS 3352.3N 03755.2E
UL883	REXOD 211230N 0613830E GADMA 211439N 0600938E TAVKO 211519N 0593147E UMILA 211555N 0584738E MEVLI 211632N 0565606E KUROV 211627N 0561853E ALNUN 211625N 0561041E SITOL 211604N 0552514E PURDA 210805N 0510329E ALRIK 220631N 0482535E UMRAN 2315.1N 04520.4E TUKVU 2346.4N 04353.3E BIR DARB (BDB) PMA N243251N 0394219E
UL894	KITAL 2003.0N 06018.0E (MALE (MLE) (SUNAN 0028.7N 07800.0E) (DADAR 0200.0S 07927.1E) (PERTH (PH)
UM203	PUSTO 3321.0N 04245.0E LOVEK 3222.1N 04440.0E ILMAP 312133N 0465702E
UM300	(CALICUT) CLC

LOWER AIRSPACE

Designator	Significant Points
1	2
	EMURU 221535N 0584950E
M301	PURAD 145500N 0415354E SANA'A (SAA) ITOLI 152825N 0450927E ASMAK162327N 0524634E
M303	MCT 233528.01N 0581536.47E *Note 7 (OO) SEVLA 233321N 0591122E KIPOL230410N 0612903E
M305	BRN 3134.5N 02600.3E ATMUL 200000N 2905.4E *Note 3
M312	DBA 3100.7N 02828.0E AMIBO 3456.7N 2136.4E *Note 3 (HE)
M316	KANAS 251552N 0574700E GOKSO 265542N 0604012E
M318	DARAX 260942N 0555300E *Note 8 (DARAX-MUXIT) SERSA 251945N 0553118E MIADA 245112N 0545736E ABU DHABI (ADV) 242508N 0544023E ATUDO 241708N 0543532E MUSEN 241429N 0543336E GOLGU 231151N 0523109E MUXIT 230230N 0523024E KITAP 224928N 0522923E PURDA 210805N 0510329E SHARURAH (SHA)
M320	KING FAHD (KFA) KODAG 2703.3N 04920.4E RAS ASVIR 283220N 0482220E KUWAIT (KUA)
M321	HALAIFA 262602N 0391609E (HLF)

UPPER AIRSPACE

Designator	Significant Points
1	2
	LOTAV 2037N 0605700E EMURU 221535N 0584950E
M301	PURAD 145500N 0415354E SANA'A (SAA) ITOLI 152825N 0450927E ASMAK162327N 0524634E
UM303	MCT 233528.01N 0581536.47E *Note 7 (OO) SEVLA 233321N 0591122E KIPOL230410N 0612903E
UM305	BRN 3134.5N 02600.3E ATMUL 200000N 2905.4E *Note 3
UM309	KIND KHALED (KIA) RAGHBA (RGB) RABTO 221608N 0400326E
UM312	DBA 3100.7N 02828.0E AMIBO 3456.7N 2136.4E *Note 3 (HE)
UM316	KANAS 251552N 0574700E GOKSO 265542N 0604012E
UM318	DARAX 260942N 0555300E *Note 8 (DARAX-MUXIT) SERSA 251945N 0553118E MIADA 245112N 0545736E ABU DHABI (ADV) 242508N 0544023E ATUDO 241708N 0543532E MUSEN 241429N 0543336E GOLGU 231151N 0523109E MUXIT 230230N 0523024E KITAP 224928N 0522923E PURDA 210805N 0510329E SHARURAH (SHA)
UM320	KING FAHD (KFA) KODAG 2703.3N 04920.4E RAS ASVIR 283220N 0482220E KUWAIT (KUA)
UM321	HALAIFA 262602N 0391609E (HLF)

LOWER AIRSPACE

Designator	Significant Points
1	2
	ROSUL 2539.7N 04215.3E
	OVEKU 2509.9 04457.0E
	KING KHALED (KIA)
	RESAL 240649N 0470427E
	AMBAG 230529N 0474611E
	ALRIK 220631N 0482525E
	NONGA 205048N 0492014E
	ASTIN 200410N 0495320E
	SILPA 184953N 0510158E
	IMPOS 183136N 0511848E
	LOTEL 180926N 0514103E
	PUTRA 165432N 0525631E
M425	SILKO 3347.9N 03435.0E
	CAK
M428	RIKET 251859N 0560200E
	*Note 7/8 (OO/OM)
	GOMTA 251115N 0563447E
	TARBO 244351N 0574637E
	MUNGA 242516N 0584533E
M430	*Note 5 (KIA-DOH)
	KING KHALID (KIA)
	KOBOX 250716N 0475046E
	KIREN 251447.0N 0490724.0E
	*Note 8 (KIREN-TOSNA)
	HAS 2516.7N 04929.0E
	LAGNO 251613N 0511518E
	DOHA (DOH)
	*Note 7 (DOH-KISAG)
	TOSNA 251612N 0524116E
	KISAG 251834N 0541408E
M434	UMESA 351741N 0434307E
	OTALO 351700N 0441900E
	IVANO 351724N 0451235E
	BOXIX 351724N 0460921E
	ALSAX 351607N 0463118E
	SANANDAJ (SNJ)
	HAMDAN(HAM)
	SAVEH(SAV)

UPPER AIRSPACE

Designator	Significant Points
1	2
	ROSUL 2539.7N 04215.3E
	OVEKU 2509.9 04457.0E
	KING KHALED (KIA)
	RESAL 240649N 0470427E
	AMBAG 230529N 0474611E
	ALRIK 220631N 0482525E
	NONGA 205048N 0492014E
	ASTIN 200410N 0495320E
	SILPA 184953N 0510158E
	IMPOS 183136N 0511848E
	LOTEL 180926N 0514103E
	PUTRA 165432N 0525631E
UM425	SILKO 3347.9N 03435.0E
	CAK
UM428	RIKET 251859N 0560200E
	*Note 7/8 (OO/OM)
	GOMTA 251115N 0563447E
	TARBO 244351N 0574637E
	MUNGA 242516N 0584533E
UM430	*Note 5 (KIA-DOH)
	KING KHALID (KIA)
	KOBOX 250716N 0475046E
	KIREN 251447.0N 0490724.0E
	*Note 8 (KIREN-TOSNA)
	HAS 2516.7N 04929.0E
	LAGNO 251613N 0511518E
	DOHA (DOH)
	*Note 7 (DOH-KISAG)
	TOSNA 251612N 0524116E
	KISAG 251834N 0541408E
UM434	UMESA 351741N 0434307E
	OTALO 351700N 0441900E
	IVANO 351724N 0451235E
	BOXIX 351724N 0460921E
	ALSAX 351607N 0463118E
	SANANDAJ (SNJ)
	HAMDAN(HAM)
	SAVEH(SAV)
UM440	KING KHALED (KIA)
	OTAMA 235148N 0494707E
	KUTNA 231341N 0512730E
	KITAP 224928N 0522923E
	TOKRA 220925N 0553350E

LOWER AIRSPACE

Designator	Significant Points
1	2
M449	BUSRA 322000N 0363700E MAZAR 3048.0N 03610.0E GIBET 2926.3N 03625.0E TABUK (TBK) WEJH (WEJ)
M551	KIVEL 165306N 0553633E DAXAM 171612N 0544715E
M557	ATBOR 251007N 0551947E *Note7 & 8 to MIDSI NADIL 252252N 0544717E NABOP 252607N 0540405E EMAGO 253456N 0535751E VUVOK 254408N 0533024E TUMAK 255031N 0531108E ALTOM 262230N 0515639E TOXEL 263020N 0515553E MIDSI 264142N 0515442E
M559	LABNI 165620N 0410921E NISMI 162415N 0421838E ITOLI 152825N 0450927E MUKALLA (RIN) VEDET 120134N 0512410E
M561	KISH (KIS) MOBET 2645.3N 05609.8E ASVIB 265724N 0631812E PANJGUR (PG)
M600	RANBI 251908N 0544500E KISAG 251834N 0541408E SINGU 253706N 052570E NOBLA 255111N 0522740E TOBLI 262134N 0512301E

UPPER AIRSPACE

Designator	Significant Points
1	2
UM449	BUSRA 322000N 0363700E MAZAR 3048.0N 03610.0E GIBET 2926.3N 03625.0E TABUK (TBK) WEJH (WEJ)
UM551	DONSA1435.3N06344.0E ANGAL1614.1N 06000.1E OTOTO 164004N 0570435E KIVEL 165306N 0553633E DAXAM 171612N 0544715E
UM557	ATBOR 251007N 0551947E *Note7 & 8 to MIDSI NADIL 252252N 0544717E NABOP 252607N 0540405E EMAGO 253456N 0535751E VUVOK 254408N 0533024E TUMAK 255031N 0531108E ALTOM 262230N 0515639E TOXEL 263020N 0515553E MIDSI 264142N 0515442E
UM559	LABNI 165620N 0410921E NISMI 162415N 0421838E ITOLI 152825N 0450927E MUKALLA (RIN) VEDET 120134N 0512410E
UM561	KISH (KIS) MOBET 2645.3N 05609.8E ASVIB 265724N 0631812E PANJGUR (PG)
UM573	TEHERAN (TRN) TABRIZ (TBZ) 3808.3N 04613.9E
UM574	MALE) (MLE) (POPET) 0713.7N06813.6E NABIL 1222.0E0600.0E RIGAM 143932N 0530414E NOBSU 171554N 0431318E
UM600	RANBI 251908N 0544500E KISAG 251834N 0541408E SINGU 253706N 052570E NOBLA 255111N 0522740E TOBLI 262134N 0512301E

LOWER AIRSPACE

Designator	Significant Points
1	2
	RULEX 264529N 0501745E
M628	LUDID 230227N 0551800E LABSA 230153N 0555505E EGVAN 230127N 0561907E TULBU 230005N 0571827E IZK 225318.60N 0574542.73E TOLDA 224008N 0583624E LOXOP 223722N 0594548E LADAP 223513N 0603238E IVOMA 223408N 0605430E PARAR 222630N 0630700E
M634	ANGAL 161406N 0600006E VEDET 120134N 0512410E DAROT 0911.4N 04721.2E
M651	ATBOT 171418N 0464706E ADEN (KRA) (HARGEISA) HARGA
M677	SESRA 2908.0N 04854.9E RABAP 283625N 0492722E GEVAL 282101N 0494300E UMAMA 265831N 0504648E
M681	TARBO 244351N 0574637E *Note 7/8 (OO) DAMUM 243236N 0591307E
M686	LUXOR (LXR) MEMPO 252518N 0335457E GIBAL 243712N 0363442E KING ABDULAZIZ (JDW)

UPPER AIRSPACE

Designator	Significant Points
1	2
	RULEX 264529N 0501745E
UM628	DAFINAH (DFN) 231700N 0414312E KIPOM 225316N 0501518E MIGMA 225035N 0512749E KITAP 224928N 0522923E ALPEK 224648N 0535942E LUDID 230227N 0551800E LABSA 230153N 0555505E EGVAN 230127N 0561907E TULBU 230005N 0571827E IZK 225318.60N 0574542.73E TOLDA 224008N 0583624E LOXOP 223722N 0594548E LOSIM 223513N 0603238E IVOMA 223408N 0605430E PARAR 222630N 0630700E
UM634	ANGAL 161406N 0600006E VEDET 120134N 0512410E DAROT 0911.4N 04721.2E
UM651	ATBOT 171418N 0464706E ADEN (KRA) (HARGEISA) HARGA
UM677	SESRA 2908.0N 04854.9E RABAP 283625N 0492722E GEVAL 282101N 0494300E UMAMA 265831N 0504648E
UM681	TARBO 244351N 0574637E *Note 7/8 (OO) DAMUM 243236N 0591307E
UM686	LUXOR (LXR) MEMPO 252518N 0335457E GIBAL 243712N 0363442E KING ABDULAZIZ (JDW)
UM688	CRM GULRA ERN EVSAS BAYIR 383541N 0412414 E ULTED OTKEP NINVA 372100N 0431300E ROXOP 364917N 0433100E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator 1	Significant Points 2	Designator 1	Significant Points 2
			VUSEB 3616 37N E0434800E OTALO 351700N 0441900E RIDIP 343012N 0444027E UKMUG 334300N 0450329E VAXEN 3318 00N 0451500E PAPUS 325334N 0452706E KATUT 323737N 0453439E DENKI 322228.46N 0455121.58E ILMAP 31 21 33N 0465702E PEBAD 305023.09N 0472958.49E SIDAD 295231N 0482944E
		UM690	ZELAF 325656N 0371121E ORNAL 324755N0375153E DESLI 314921N_0365909E ELOXI 313359N 0364536E KULDI 311847 0363214E MAZAR 3048N 3610E ROVAR 292438N0345711E
M691	DEDAS 2630.2N 05014.4E KING FAHAD KUSAR 264741N 0490218E KEDAT 2721.8N 04759.0E ITIXI 275031N 0470435E	UM691	DEDAS 2630.2N 05014.4E KING FAHAD KUSAR 264741N 0490218E KEDAT 2721.8N 04759.0E ITIXI 275031N 0470435E
M762	REXOD 211230N 0613830E SUR 223159N 0592829E ITURA 232351N 0580720E ALMOG 233524N0574940E TAPRA 242607N 0563803E VAXAS 244308N 0561807E * Note 7 (OM, OO) BUBIN 245742N 0560642E		
M860	KUGOS 4246.8N 03405.3E SINOP (SIN) CARSAMBA (CRM) SRT 3754.6N 04152.9E KABAN N371456N 0423859E EMIDO 364411.33N 042 56 00E SEVKU 360548.02N 0431715.84E UMESA 351741.49N 0434306.89E TAGRU 342958.95N 0440816.67E PUTSI 333200N E044 3700E ITOVA 331950.91N 0444 28.97E SEPTU 331300N 0444400E LONOR 323838.63N 0450458.48E ULIMA 321500N 0451600E	UM860	KUGOS 4246.8N 03405.3E SINOP (SIN) CARSAMBA (CRM) SRT 3754.6N 04152.9E KABAN N371456N 0423859E EMIDO 364411.33N 042 56 00E SEVKU 360548.02N 0431715.84E UMESA 351741.49N 0434306.89E TAGRU 342958.95N 0440816.67E PUTSI 333200N E044 3700E ITOVA 331950.91N 0444 28.97E SEPTU 331300N 0444400E LONOR 323838.63N 0450458.48E ULIMA 321500N 0451600E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
	ITBIT 314735.20N 045 2916.57E RUGIR 303219.06N 046 0618.20E MOBIS 295108.84N 047 0457.39E
M863	KING ABDUL AZIZ (JDW 214237N 0390948E GIBAP 212218N 0380931E TOMRU 204411N 0361950E ASKOL 1548.9N 02400.1E KITOB 1521.7N 02258.8E IPONO 150621 N 0222436 E N'DJAMENA (FL) 1208.5N 01502.3E
M872	PLH 3513.7N 02340.9E *Note 7 (PLH-DBA) METRU 340000N 0250900E KANAR 322727N 0265330E EL DABA (DBA) 310041N 0282801E FYM 2923.8N 03023.6E *Note 7 (FYM-SEMRU) SEMRU 280200N 0320306E HURGHADA (HGD) SILKA 263400N 0352900E WEJH (WEJ) 261046N 0362917E KODIN 2517.9N 03836.2E MADINAH (PMA) *Note 7 (PMA-MIDSI) BIR DARB (BDB) AL DAWADMI (DAW) KING KHALID (KIA) AKRAM 255036N 0475133E *Note 8 to MIDSI ALMAL 261553N 0482108E DAVRI 264936N 0505732E MIDSI 264142N0515442E
M999	GS DITAR 265903N 0250000E KHG KUNAK

UPPER AIRSPACE

Designator	Significant Points
1	2
	ITBIT 314735.20N 045 2916.57E RUGIR 303219.06N 046 0618.20E MOBIS 295108.84N 047 0457.39E
UM861	ELEXI 3441.5N 04109.0E DIER-ZZOR (DRZ) ALEPPO (ALE) NISAP 364724N 0363830E
UM863	KING ABDUL AZIZ (JDW 214237N 0390948E GIBAP 212218N 0380931E TOMRU 204411N 0361950E ASKOL 1548.9N 02400.1E KITOB 1521.7N 02258.8E IPONO 150621 N 0222436 E N'DJAMENA (FL) 1208.5N 01502.3E
UM872	PLH 3513.7N 02340.9E *Note 7 (PLH-DBA) METRU 340000N 0250900E KANAR 322727N 0265330E EL DABA (DBA) 310041N 0282801E FYM 2923.8N 03023.6E *Note 7 (FYM-SEMRU) SEMRU 280200N 0320306E HURGHADA (HGD) SILKA 263400N 0352900E WEJH (WEJ) 261046N 0362917E KODIN 2517.9N 03836.2E MADINAH (PMA) *Note 7 (PMA-MIDSI) BIR DARB (BDB) AL DAWADMI (DAW) KING KHALID (KIA) AKRAM 255036N 0475133E *Note 8 to MIDSI ALMAL 261553N 0482108E DAVRI 264936N 0505732E MIDSI 264142N0515442E
UM877	VUSET 235540N 0590812E ITILA 234015N 0584817E KUSRA 232426N 0582611E
UM999	GS DITAR 265903N 0250000E KHG KUNAK

LOWER AIRSPACE

Designator	Significant Points
1	2
	(LUXOR) LXR DEDLI 2242 32N 03737 19E IMLER 221706N 0381653E KING ABDULAZIZ (JDW) TOKTO 194421N 00395945E DANAK 1608.0N 04129.0E (ASSAB) SB
N300	DOH 2514.0N 05134.6E *Note 7 & 8 to TONVO NAMLA 2505.5N 05233.3E BOXAK 244536N 0540032E MIADA 245112N 0545736E TONVO 250500N 0563200E
N302	SIDAD 295231N 0482944E ALVIX 291915N 0482944E
N303	(HARGEISA) HARGA PARIM 1231.7N 04327.2E RIBOK1547N 04152.5E LABNI 1656.3N 04109.4E
N307	MELDO 320201N 0310406E LAKTO 323800N 0320500E
N310	BALMA 342856N 0350302E CAK 341802N 0354200E LATEB 3401.9N 03624.1E BASEM 3333.6N 03739.1E
N318	QAA 314423N 0360926E ALNOR 313955N 0362507E KINUR 313626N 0363714E ELOXI 313359N 0364536E GENEX 3129.6N 3700.9E GURIAT (GRY)

UPPER AIRSPACE

Designator	Significant Points
1	2
	(LUXOR) LXR DEDLI 2242 32N 03737 19E IMLER 221706N 0381653E KING ABDULAZIZ (JDW) TOKTO 194421N 00395945E DANAK 1608.0N 04129.0E (ASSAB) SB
UN300	DOH 2514.0N 05134.6E *Note 7 & 8 to TONVO NAMLA 2505.5N 05233.3E BOXAK 244536N 0540032E MIADA 245112N 0545736E TONVO 250500N 0563200E
UN302	SIDAD 295231N 0482944E ALVIX 291915N 0482944E
UN303	(HARGEISA) HARGA PARIM 1231.7N 04327.2E RIBOK1547N 04152.5E LABNI 1656.3N 04109.4E
UN307	MELDO 320201N 0310406E LAKTO 323800N 0320500E
UN310	BALMA 342856N 0350302E CAK 341802N 0354200E LATEB 3401.9N 03624.1E BASEM 3333.6N 03739.1E
UN315	ASPUX 174406N 0600006E KUTVI 184306N 0582642E Note:- 7 (OO/OB) SITOL 211604N 0552514E LOTOS 220000N 0503912E RAPMA 232256N 0482028E RESAL 240649N 0470427E KING KHALED (KIA)
UN316	HALAIFA (HLF) 262603N 0391609E PASAM 273045N 0345542E
UN318	QAA 314423N 0360926E ALNOR 313955N 0362507E KINUR 313626N 0363714E ELOXI 313359N 0364536E GENEX 3129.6N 3700.9E GURIAT (GRY)

LOWER AIRSPACE

Designator	Significant Points
1	2
	ORKAS 3047.4N 03846.3 E NEVOL 3024.7N 03938.6E VELAL2946.0N 04038.4E TAMRO 2838.6N 04240.8E * Note7 (OE, OB, OM, OO) MOGON 2738.8N 04445.9E TAGSO 272744N 0454510E *Note 8 (OB, OO) EGNOV 270301N 0474713E KUSAR 264741N 0490218E ASPAN 263255N 0494903E DEDAS 263011N 0501427E ASTAD 261812N 0505646E VUTAN 255016N 0515218E RESAR 253707N 0522328E UMABA 252703N 0524322E OVONA 252443N 0524739E (segment LOXAT - REXOD KATIK 2517.1N 05315.2E KANIP 2410.7N 05520.7E LABRI 240344N 0553842E EGROK 235253N 0560126E LAKLU 232235N 0570401E GEVED 230105N 0575111E TOLDA 223720N 0583503E REXOD211230N 0613830E
N324	PURDA 210805N 0510329E GOBRO 193622N 0534741E ASTUN 180832N 0551040E
N430	TARBO 244351N 0574637E *Note 7/8 (OO) ITLOB 244325N 0590701E
N438	LITAN 333456N 0343758E KAD 334827N 0352910E

UPPER AIRSPACE

Designator	Significant Points
1	2
	ORKAS 3047.4N 03846.3 E NEVOL 3024.7N 03938.6E VELAL2946.0N 04038.4E TAMRO 2838.6N 04240.8E * Note7 (OE, OB, OM, OO) MOGON 2738.8N 04445.9E TAGSO 272744N 0454510E *Note 8 (OB, OO) EGNOV 270301N 0474713E KUSAR 264741N 0490218E ASPAN 263255N 0494903E DEDAS 263011N 0501427E ASTAD 261812N 0505646E VUTAN 255016N 0515218E RESAR 253707N 0522328E UMABA 252703N 0524322E OVONA 252443N 0524739E (segment LOXAT-REXOD) KATIK 2517.1N 05315.2E KANIP 2410.7N 05520.7E LABRI 240344N 0553842E EGROK 235253N 0560126E LAKLU 232235N 0570401E GEVED 230105N 0575111E TOLDA 223720N 0583503E REXOD211230N 0613830E
UN319	ZAHEDAN (ZDN) TABAS (TBS) DASHT-E-NAZ (DNZ) ULDUS- 3800.0N 05101.0E LUSAL 4035.0N 04757.0E ADEKI 4117.8N 04645.0E TBILIS (TBS) MUKHARANI (DF) ALI (BT) LOBIN 4210.9N 04306.4E IBERI 4209.6N 04143.3E
UN324	PURDA 210805N 0510329E GOBRO 193622N 0534741E ASTUN 180832N 0551040E
UN430	TARBO 244351N 0574637E *Note 7/8 (OO) ITLOB 244325N 0590701E
UN438	LITAN 333456N 0343758E KAD 334827N 0352910E

LOWER AIRSPACE

Designator	Significant Points
1	2
	CAK 341802N 0354200E RA 343510N 0360010E
N440	MOBON 274414N 0552513E DARAX 260916N 0555307E
N563	REXOD 211230N 0613830E *Note 8 (OB, OM) *Note 7 (OB, OO, OM) EMURU 221357N 0585338E TULBU 230005N 0571827E MEKNA 223309N 0560815E SODEX 234954N 0553202E NOBTO 235525N 0551840E ADV MEMBI 243705N 0542631E ATBEX 250739N 0535019E ITROK 253557N 0532751E ALPOB 254218N 0530055E ROTAG 255353N 0523621E SOLEG 260159N 0521756E SOLOB 262241N 0513132E MEDMA 263412N 0505454E TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E GIBUS 255724N 0472829E
N571	PARAR 2226.5 N 06307E *Note 7 & 8 (OB, OM, OO) KIPOL 230410N 0612903E

UPPER AIRSPACE

Designator	Significant Points
1	2
	CAK 341802N 0354200E RA 343510N 0360010E
UN440	MOBON 274414N 0552513E DARAX 260916N 0555307E
UN555	BELGAUM (BBM) BISET 1823.4N 06918.1E KATBI 1931.6N 06500.0E LOTAV 2037.0N 06057.0E
UN563	(BANGALORE) BBG *Note 8 (OB, OM) REXOD 211230N 0613830E *Note 7 (OB, OO,OM) EMURU 221357N 0585338E TULBU 230005N 0571827E MEKNA 223309N 0560815E SODEX 234954N 0553202E NOBTO 235525N 0551840E MEMBI 243705N 0542631E ATBEX 250739N 0535019E ITROK 253557N 0532751E ALPOB 254218N 0530055E ROTAG 255353N 0523621E SOLEG 260159N 0521756E SOLOB 262241N 0513132E MEDMA 263412N 0505454E TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E GIBUS 255724N 0472829E
UN569	BONUM 221252N 0393805E RABTO 221608N 0400326E LOTOS *Note:- 7 (LOTOS-GOLNI) TOKRA 220925N 0553350E TOPSO 215653N 0562043E MOGOK 215057N 0564236E KEBAS 214330N 0570948E GISKA 213503N 0574014E UMILA 211555N 0584738E GOLNI 210014N 0594130E LOTAV 203700N 0605700E
UN571	(GUNIP 0429.9N 09931.8E) (VAMPI 0610.9N 09735.1E) (MEKAR 0630.2N 06929.5E)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator 1	Significant Points 2	Designator 1	Significant Points 2
	RAGMA 230600N 0610539E SODEB 234747N 0593023E VUSET 235540N 0590812E KIROP 243000N 0574700E MENSA 245750N 0563249E AVAMI 250554N 0555647E ATBOR 251007N 0551947E MUVLA 251716N 0544500E SENTO 251908N 0544500E ELUKU 252910N 0535610E ITROK 253557N 0532751E ALPOB 254218N 0530055E SOLOB 262241N 0513132E MEDMA 263412N 0505454E TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E KUTEM 264359N 0473521E BOPAN (BPN) 270314N 0452642E		(SUGID- 1933.1 N 06921.0E) PARAR 2226.5 N 06307E *Note 7 & 8 (OB, OM, OO) KIPOL 230410N 0612903E RAGMA 230600N 0610539E SODEB 234747N 0593023E VUSET 235540N 0590812E KIROP 243000N 0574700E MENSA 245750N 0563249E AVAMI 250554N 0555647E ATBOR 251007N 0551947E MUVLA 251716N 0544500E SENTO 251908N 0544500E ELUKU 252910N 0535610E ITROK 253557N 0532751E ALPOB 254218N 0530055E SOLOB 262241N 0513132E MEDMA 263412N 0505454E TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E KUTEM 264359N 0473521E BOPAN (BPN) 270314N 0452642E
N629	TARDI 243418N 0560915E *Note 7 (OO) NOSMI 241757N 0563002E MUSUK 234320N 0572148E GEPOT 231446N 0580053E GIDAN 230104N 0582232E TOTOX 215030N 0622230E	UN629	TARDI 243418N 0560915E *Note 7 (OO) NOSMI 241757N 0563002E MUSUK 234320N 0572148E GEPOT 231446N 0580053E GIDAN 230104N 0582232E TOTOX 215030N 0622230E
N638	KING KHALED (KIA) OVEKU 250955N 0445701E MADINAH (PMA)	UN638	KING KHALED (KIA) OVEKU 250955N 0445701E MADINAH (PMA)
N685	TAGSO 272744N 0454510E *Note 7 (TAGSO-KUSAR) *Note 8 (TAGSO-TOSNA) DEBOL 272116N 0461843E TORTA 271906N 0462911E ALSAT 270611N 0473118E EGNOV 270301N 0474713E KUSAR 264741N 0490218E KING FAHAD (KFA) BAHRAIN (BAH) 261551N 0503856E ASNIX 260452N 0510509E PATOM 255821N 0511836E	UN685	TAGSO 272744N 0454510E *Note 7 (TAGSO-KUSAR) *Note 8 (TAGSO-TOSNA) DEBOL 272116N 0461843E TORTA 271906N 0462911E ALSAT 270611N 0473118E EGNOV 270301N 0474713E KUSAR 264741N 0490218E KING FAHAD (KFA) BAHRAIN (BAH) 261551N 0503856E ASNIX 260452N 0510509E PATOM 255821N 0511836E

LOWER AIRSPACE

Designator	Significant Points
1	2
	EMISA 254658N 0514207E
	*Note 7 to LAKLU
	KAPAX 254218N 0515118E
	ORSIS 252801N 0521636E
	TOSNA 251612N 0524116E
	TOPSI 250910N 0531200E
	BOXAK 244536N 0540032E
	ADV 242508N 0544024
	RETAS 235754N 0553423E
	*Note 8 (OO)
	PUTSO 232037N 0565322E
	LAKLU 232235N 0570401E
N687	KING KHALID (KIA)
	KINIB 254108N 0482317E
	*Note 5 & 7 & 8
	KING FAHAD (KFA)
	MUTAR 263611N 0500627E
	MEMKO 264611N 0504427E
	DAVRI 264936N 0505732E
	TORBO 265223N 0511024E
N694	KING KHALD (KIA)
	TORKI 261400N 0463103E
	SIBLI 265459N 0462334E
	AKODI 275012N 0461320E
	HAFR AL BATIN 281949N 0460746E
	(HFR)
N697	MENLI 2947.0N 03152.1E
	SISIK 2936.0N 03241.E
	NUWEIBAA
	* Note 7 (NWB-KITOT below FL350)
	KITOT 2902.1N 03450.8E
	SOBAS 2756.0N 03904.9E
	HAIL (HIL)
	*Note 7 (HIL–KFA)
	BPN 2703.2N 04526.7E
	*Note 8 (BPN-TORBO)
	KING FAHD (KFA)
	BAHRAIN (BAH)
	*Note 7
	TORBO 265223N 0511024E
N764	NOBSU 171554N 0431318E
	MUKALLAH (RIN) 144015N 0492329E
	SOCOTRA (SOC) 123749N 0535429E
	SUHIL 120000N 0550000E
	NABAM 101112N 0581424E

UPPER AIRSPACE

Designator	Significant Points
1	2
	EMISA 254658N 0514207E
	*Note 7 to LAKLU
	KAPAX 254218N 0515118E
	ORSIS 252801N 0521636E
	TOSNA 251612N 0524116E
	TOPSI 250910N 0531200E
	BOXAK 244536N 0540032E
	ADV 242508N 0544024
	RETAS 235754N 0553423E
	*Note 8 (OO)
	PUTSO 232037N 0565322E
	LAKLU 232235N 0570401E
UN687	KING KHALID (KIA)
	KINIB 254108N 0482317E
	*Note 5 & 7 & 8
	KING FAHAD (KFA)
	MUTAR 263611N 0500627E
	MEMKO 264611N 0504427E
	DAVRI 264936N 0505732E
	TORBO 265223N 0511024E
UN694	KING KHALD (KIA)
	TORKI 261400N 0463103E
	SIBLI 265459N 0462334E
	AKODI 275012N 0461320E
	HAFR AL BATIN 281949N 0460746E
	(HFR)
UN687	MENLI 2947.0N 03152.1E
	SISIK 2936.0N 03241.E
	NUWEIBAA
	* Note 7 (NWB-KITOT below FL350)
	KITOT 2902.1N 03450.8E
	SOBAS 2756.0N 03904.9E
	HAIL (HIL)
	*Note 7 (HIL–KFA)
	BPN 2703.2N 04526.7E
	*Note 8 (BPN-TORBO)
	KING FAHD (KFA)
	BAHRAIN (BAH)
	*Note 7
	TORBO 265223N 0511024E
UN764	NOBSU 171554N 0431318E
	MUKALLAH (RIN) 144015N 0492329E
	SOCOTRA (SOC) 123749N 0535429E
	SUHIL 120000N 0550000E
	NABAM 101112N 0581424E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
N767	PARAR 222630N 0630700E VUSIN 225940N 0605510E * Note 7 (OO) ATBED 230352N 0603752E ELIGO 232458N 0590848
N929	DASLO 254537N 0523029E *Note 7 & 8 to GIBUS NAGOG 255214N 0521615E BONAN 260201N 0515505E VEDED 260558N 0514628E SOGAT 262029N 0511443E TOSTA 262746N 0504913E DANAG 264438N 0494856E NADNA 264245N 0485309E SILNO 264026N 0475745E ASKOK 262623N 0474809E MUSRI 261647.0N 0474137.0E GIBUS 255724.0N 0472829.0E
P300	KAD 334827N 0352910E LATEB 3401.9N 03624.1E
P304	EGROK 235253N 0560126E *Note 7 (OO) MEKNA 233309N 0560815E EGVAN 230127N 0561907E DEMKI 224941N 0562308E NAMVA 223309N 0562223E TOPSO 215653N 0562043E

UPPER AIRSPACE

Designator	Significant Points
1	2
UN767	PARAR 222630N 0630700E VUSIN 225940N 0605510E * Note 7 (OO) ATBED 230352N 0603752E ELIGO 232458N 0590848
UN881	RASKI 230330N 0635200E SETSI 230412N 0614410E KIPOL 230410N 0612903E ATBED 230352N 0603752E AMBOS 230324N 0595405 MUSRU 230256N 0592223E *Note 7 (OO) OBTIN 230216N 0585920E GIDAN 230104N 0582232E GEVED 230105N 0575111E TULBU 230005N 0571827E
UN929	DASLO 254537N 0523029E *Note 7 & 8 to GIBUS NAGOG 255214N 0521615E BONAN 260201N 0515505E VEDED 260558N 0514628E SOGAT 262029N 0511443E TOSTA 262746N 0504913E DANAG 264438N 0494856E NADNA 264245N 0485309E SILNO 264026N 0475745E ASKOK 262623N 0474809E MUSRI 261647.0N 0474137.0E GIBUS 255724.0N 0472829.0E
UP146	RASHT (RST) AGINA 3919.4N 04405.2E (AGRI) (ARI) (YAVUZ 4002.7N 04226.0E) (TRABZON (TBN)
UP300	KAD 334827N 0352910E LATEB 3401.9N 03624.1E
UP304	EGROK 235253N 0560126E *Note 7 (OO) MEKNA 233309N 0560815E EGVAN 230127N 0561907E DEMKI 224941N 0562308E NAMVA 223309N 0562223E TOPSO 215653N 0562043E

LOWER AIRSPACE

Designator	Significant Points
1	2
	KUROV 211627N 0561853E
	VELIK 203322N 0561656E
P307	(SHJ) 251944.9N 0553118.1E
	Note 7 (OM,OO)
	TONVO 250500N 0563200E
	PURNI 243804N 0574354E
	*Note 8 (OO)
	KUNUS 241927N 0583226E
	ALSAS 240054N 0591955E
	DERTO 235033N 0594746E
	VAXIM 231900N 0611100E
	SETSI 230412N 0614410E
	PARAR 222630N 0630700E
P312	MUKALLA (RIN)
	PAKER 1155.0N0463500E
	(HARGEISA) HARGA
P316	SALALLAH (SLL)
	* Note 7 (OO)
	DAXAM 171612N 0544715E
	GAGLA 180505N 0552410E
	GIVNO 195011N 0563059E
	MOBAB 201032N 0564415E
	GISKA 213503N 0574014E
	RADAX 220809N 0580230E
	MUSCAT (MCT)
P425	DAHRAN (DHA)
	*Note 8 to ALSER
	BAHRAIN (BAH)
	ALSER 271100N 0504900E
P430	DOHA (DOH)
	*Note 8 to MIDSI
	BAYAN 252926N 0514849E
	*Note 7 to MIDSI
	KAPAX 254218N 0515118E
	VUTAN 255016N 0515218E
	BONAN 260201N 0515505E
	RAMKI 261138N 0515625E
	ALTOM 262230N 0515639E

UPPER AIRSPACE

Designator	Significant Points
1	2
	KUROV 211627N 0561853E
	VELIK 203322N 0561656E
UP307	(SHJ) 251944.9N 0553118.1E
	Note 7 (OM,OO)
	TONVO 250500N 0563200E
	PURNI 243804N 0574354E
	*Note 8 (OO)
	KUNUS 241927N 0583226E
	ALSAS 240054N 0591955E
	DERTO 235033N 0594746E
	VAXIM 231900N 0611100E
	SETSI 230412N 0614410E
	PARAR 222630N 0630700E
UP312	MUKALLA (RIN)
	PAKER 1155.0N0463500E
	(HARGEISA) HARGA
UP316	SALALLAH (SLL)
	* Note 7 (OO)
	DAXAM 171612N 0544715E
	GAGLA 180505N 0552410E
	GIVNO 195011N 0563059E
	MOBAB 201032N 0564415E
	GISKA 213503N 0574014E
	RADAX 220809N 0580230E
	MUSCAT (MCT)
UP323	DONSA 1435.3N06511.6E
	GIDAS 142004N0600000E
	NODMA 1526.0N05334.0E
	THAMD 1717.0N 04955.0E
	WDR
UP425	DAHRAN (DHA)
	*Note 8 to ALSER
	BAHRAIN (BAH)
	ALSER 271100N 0504900E
UP430	DOHA (DOH)
	*Note 8 to MIDSI
	BAYAN 252926N 0514849E
	*Note 7 to MIDSI
	KAPAX 254218N 0515118E
	VUTAN 255016N 0515218E
	BONAN 260201N 0515505E
	RAMKI 261138N 0515625E
	ALTOM 262230N 0515639E

LOWER AIRSPACE

Designator	Significant Points
1	2
	TOXEL 263020N 0515553E
	MIDSI 264142N 05155442E
P513	BUBAS 245938N 0570003E
	GERAR 240600N 0573616E
	MIXAM 234139N 0575523E
	* Note 7 (OO)
	MUSCAT (MCT)
P557	NUBAR 220000N 0313806E
	*See Note 6&7
	MISUK 290507N 0290621E
	KATAB 292501N0290506E
P559	TURAIF (TRF)
	*Note 7 to DESDI
	KAVID 3035.9N 04011.8E
	TOKLU 2942.1N 04202.4E
	RASMO 2857.2N 04331.3E
	KMC
	ULOVO 274830N 0455420E
	*Note 8 (ULOVO-NAPLO)
	MUSKO 2726.7N 04737.1E
	KEDAT 2721.8N 04759.0E
	JUBAIL (JBL)
	GASSI 2702.9N 05022.5E
	SODAK 264634N 0510530E
	ASPAK 262115N 0522257E
	TOMSO 260611N 0530214E
	NALPO 255602N 0532945E
	RAPSA 253700N 0541700E
	DESDI 253603N 0544230E

UPPER AIRSPACE

Designator	Significant Points
1	2
	TOXEL 263020N 0515553E
	MIDSI 264142N 05155442E
UP517	WAFRA (KFR)
	GOVAL
	KMC
UP552	DATEG 123549N 0471627E
	ULAXI 141524N 0482317E
	GINBO 160349N 0494017E
	IMPOS 183137N 0511848E
UP557	NUBAR 220000N 0313806E
	*See Note 6&7
	MISUK 290507N 0290621E
	KATAB 292501N0290506E
UP559	TURAIF (TRF)
	*Note 7 to DESDI
	KAVID 3035.9N 04011.8E
	TOKLU 2942.1N 04202.4E
	RASMO 2857.2N 04331.3E
	KMC
	ULOVO 274830N 0455420E
	*Note 8 (ULOVO-NAPLO)
	MUSKO 2726.7N 04737.1E
	KEDAT 2721.8N 04759.0E
	JUBAIL (JBL)
	GASSI 2702.9N 05022.5E
	SODAK 264634N 0510530E
	ASPAK 262115N 0522257E
	TOMSO 260611N 0530214E
	NALPO 255602N 0532945E
	RAPSA 253700N 0541700E
	DESDI 253603N 0544230E
UP567	BIRJAND (BJD)
	ODKAT 3540.6N 05457.2E
	DASHT-E-NAZ (DNZ) 3638.7N 05311.4E
	(ULDUS -3800.0N 05101.0E)
	NETON 3945.7N 04811.7E
	BARUS 4154.2N 04250.5E

LOWER AIRSPACE

Designator	Significant Points
1	2
P570	KITAL 2003N 06018E MIXAM 234139N 0575523E
P699	ATBOR 251007N 0551947E *Note 7 (ATBOR-BAH) SITAT 251105N 0544500E KISAG 251834N 0541408E ITMUS 252322N 0535429E ALSOK 252607N 0533904E RUBAL 252957N 0531723E ORMID 253354N 0525434E *Note 8 (ORMID-KFA) SOGAT 262029N 0511443E ASTAD 261812N 0505646E BAHRAIN (BAH) 261551N 0503856E KING FHAD (KFA) 262153N 0494910E
P751	AMIBO 3456.7N 2136.4E BRN 3134.5N 02600.3E KATAB 2925.0N 2905.1E AST 2701.9N 03101.9E

UPPER AIRSPACE

Designator	Significant Points
1	2
UP570	TRIVENDRUM (TVM) POMAN 1156.1N 07200.0E LATEB 1717.1N 06422.0E KITAL 2003N 06018E MIXAM 234139N 0575523E
UP574	(BELGAUM) BBM (BISET- 1823.4N 06918.1E) TOTOX 215030N 0622230E * Note 7 (OM, OO) KUSRA 231726N 0585102E MIXAM 234138N 0575525E SOLUD 243223N 0564421E GISMO 244743N 0562236E BUBIN 245742N 0560642E TUKLA 2519.6N 05540.2E KUMUN 254000N 0551512E PAPAR 264000N 0542700E SHIRAZ SAVEH (SAV) ULDUS
UP634	LALDO 251806N 0563600E *Note 7 ATBOR 251007N 0551947E
UP693	AL AHSA (HSA) 251644N 0492902E *Note 8 to BUNDU BATHA (BAT) 241257N 0512707E BUNDU 250024N 0522924E
UP699	ATBOR 251007N 0551947E *Note 7 (ATBOR-BAH) SITAT 251105N 0544500E KISAG 251834N 0541408E ITMUS 252322N 0535429E ALSOK 252607N 0533904E RUBAL 252957N 0531723E ORMID 253354N 0525434E *Note 8 (ORMID-KFA) SOGAT 262029N 0511443E ASTAD 261812N 0505646E BAHRAIN (BAH) 261551N 0503856E KING FHAD (KFA) 262153N 0494910E
UP751	AMIBO 3456.7N 2136.4E BRN 3134.5N 02600.3E KATAB 2925.0N 2905.1E AST 2701.9N 03101.9E

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
	LUXOR (LXR) ALEBA 2200.0N 03527.0E PORT SUDAN [ASMARA] * Note 1 TOKAR 1304.0N 04238.8E PARIM 1231.7N 04327.2E ADEN (KRA) ANGAL 1614.0N 06000.0E MUMBAI (BBB)
P891	MAGALA (MGA) *Note 7 to KUA KUTEM 264359N 0473521E EGNOV EMILU KUNRU 283220N 0481050E KUWAIT (KUA)
P899	MIXAM 234139N 0575523E *Note 7 to KUPSA PAXIM 240245N 05617631E ITRAX 241248N 0554749E AL AIN (ALN) ABU DHABI DASLA N2437.8 E05332.8 VEBAT N2448.5 E05251.0 MEKMA N245430 E0522506 *Note 8 (OB) KUPSA N250445 E0521151
P975	NOLDO 324932N 0452129E *Note7 KATUT 323737N 0453439E DENKI 322228N 0455122E ILMAP 312133N 0465702E PEBAD 305023N 0472958E SIDAD 295231N 0482944E LOVAR 2924.4N 04846.1E SESRA 2908000N 004854.9E DANAL 2851.5N 04904.8E IMDOX 2834.9N 04914.6E LONOS 283027N 0491713E DETKO 280550N 0493130E TOLMO 2655.1N 05029.4E TORNA 2633.6N 05042.2E MEMBO 262425N 0504737E

UPPER AIRSPACE

Designator	Significant Points
1	2
	LUXOR (LXR) ALEBA 2200.0N 03527.0E PORT SUDAN [ASMARA] * Note 1 TOKAR 1304.0N 04238.8E PARIM 1231.7N 04327.2E ADEN (KRA) ANGAL 1614.0N 06000.0E MUMBAI (BBB)
UP891	MAGALA (MGA) *Note 7 to KUA KUTEM 264359N 0473521E EGNOV EMILU KUNRU 283220N 0481050E KUWAIT (KUA)
UP899	MIXAM 234139N 0575523E *Note 7 to KUPSA PAXIM 240245N 05617631E ITRAX 241248N 0554749E AL AIN (ALN) ABU DHABI DASLA N2437.8 E05332.8 VEBAT N2448.5 E05251.0 MEKMA N245430 E0522506 *Note 8 (OB) KUPSA N250445 E0521151
UP975	(ELAZIG) EZS *Note7 (DYB) 384225N 0391328E LESRI 370420N 0411348E SIDNA 3634.0N 04141.0E TUBEN 351724N 0425434E MUTAG 343003N 0433834E SOGUM 341212N 0435454E SINKA 332137N 0444753E NOLDO 324932N 0452129E KATUT 323737N 0453439E DENKI 322228N 0455122E ILMAP 312133N 0465702E PEBAD 305023N 0472958E SIDAD 295231N 0482944E LOVAR 2924.4N 04846.1E SESRA 2908000N 004854.9E DANAL 2851.5N 04904.8E

LOWER AIRSPACE

Designator	Significant Points
1	2
R2	ATMUL 220000N 0290527E TULOP 252209N 0262226E DITAR 265903N 0250000E
R205	ANARAK (ANK) BIRJAND (BJD)
R219	KUKLA 3414.6N 03444.8E KALDE (KAD)
R401	AMPEX 08 10.0N 055 00.0E SUHIL 1200.0N 05500.0E DAPAP 151115N 0552354E KIVEL 165306N 0553633E ERDAX 175903N 0554458E HAIMA (HAI) DEMKI 224941N 0562308E MUSAP 241754N 0555245E GIDIS 243600N 0555600E RAS AL KHAIMAH (RAK) DARAX GHESHM (KHM)
R402	LAKLU 232235N 0570401E *Note 7 (OO) HAIMA (HAI)
R462	(JIWANI) JI DENDA 2442.5N 06054.8E VUSET 235540N 0590812E *Note 7 (OO) MIXAM 234139N 0575523E
R650	ASRAB 2547.4N 03306.3E HURGHADA (HGD) SHARM EL SHEIKH (SHM) NUWEIBAA (NWB) NALSO 2932.0N 03453.0E
R652	ROVAR 292438N0345711E QATRANEH (QTR) GURIAT (GRY)

UPPER AIRSPACE

Designator	Significant Points
1	2
	IMDOX 2834.9N 04914.6E LONOS 283027N 0491713E DETKO 280550N 0493130E TOLMO 2655.1N 05029.4E TORNA 2633.6N 05042.2E MEMBO 262425N 0504737E
UR2	ATMUL 220000N 0290527E TULOP 252209N 0262226E DITAR 265903N 0250000E
UR205	ANARAK (ANK) BIRJAND (BJD)
UR219	KUKLA 3414.6N 03444.8E KALDE (KAD)
UR401	AMPEX 08 10.0N 055 00.0E SUHIL 1200.0N 05500.0E DAPAP 151115N 0552354E KIVEL 165306N 0553633E ERDAX 175903N 0554458E HAIMA (HAI) DEMKI 224941N 0562308E MUSAP 241754N 0555245E GIDIS 243600N 0555600E RAS AL KHAIMAH (RAK) DARAX GHESHM (KHM)
UR402	LAKLU 232235N 0570401E *Note 7 (OO) HAIMA (HAI)
UR462	(JIWANI) JI DENDA 2442.5N 06054.8E VUSET 235540N 0590812E *Note 7 (OO) MIXAM 234139N 0575523E
UR650	ASRAB 2547.4N 03306.3E HURGHADA (HGD) SHARM EL SHEIKH (SHM) NUWEIBAA (NWB) NALSO 2932.0N 03453.0E
UR652	ROVAR 292438N0345711E QATRANEH (QTR) GURIAT (GRY)

LOWER AIRSPACE

Designator	Significant Points
1	2
	*Note 7(OE)
	TURAIF (TRF)
	OVANO 3148.0N 03909.8E
	DAXAN 320512N 0393719E
	GIBUX 330500N 0411100E
	RAPLU 332300N 0414530E
	GEPAP 334906N 0422851E
	MUTAG 343003N 0433834E
	IVANO 351724N 0451235E
R654	ZANJAN (ZAJ)
	SAVEH (SAV)
	ESFAHAN (ISN)
	YAZD (YZD)
	KERMAN (KER)
	NABOD 2816.1N 05825.3E
	CHAH BAHAR (CBH)
	EGPIC 2508.6N 06029.5E
R655	(LARNACA) LCA
	CHEKA (CAK)
	KARIATAIN (KTN)
R659	TEHRAN(TRN)
	*Note 7 (ISN-TRN)
	BOXAM 343749N 0515147E
	DAPOG 333744N 0522331E
	*Note 3 (DAPOG-SYZ)
	SHIRAZ (SYZ)
	MIDSI 264142N 0515442E
	*Note 8 (MIDSI-DOH)
	*Note 7 (MIDSI-VELAM)
	SOGAN 263915N 0515408E
	ROSAN 263129N 0515220E
	DASOS 262430N 0515043E
	RABLA 261506N 0514834E
	VEDED 260558N 0514628E
	VELAM 255426N 0514347E
	EMISA 254626N 0514207E
	DOHA (DOH)
R660	(ERZURUM) (ERZ)
	DASIS 38 54.5N 044 12.5E
	TABRIZ (TBZ)
	RASHT (RST)
	TEHRAN (TRN)

UPPER AIRSPACE

Designator	Significant Points
1	2
	*Note 7(OE)
	TURAIF (TRF)
	OVANO 3148.0N 03909.8E
UR654	MAGRI 385408N 0462300E
	ZANJAN (ZAJ)
	SAVEH (SAV)
	ESFAHAN (ISN)
	YAZD (YZD)
	KERMAN (KER)
	NABOD 2816.1N 05825.3E
	CHAH BAHAR (CBH)
	EGPIC 2508.6N 06029.5E
UR655	(LARNACA)
	CHEKA (CAK)
	KARIATAIN (KTN)
UR659	TEHRAN(TRN)
	*Note 7 (ISN-TRN)
	BOXAM 343749N 0515147E
	DAPOG 333744N 0522331E
	*Note 3 (DAPOG-SYZ)
	SHIRAZ (SYZ)
	MIDSI 264142N 0515442E
	*Note 8 (MIDSI-DOH)
	*Note 7 (MIDSI-VELAM)
	SOGAN 263915N 0515408E
	ROSAN 263129N 0515220E
	DASOS 262430N 0515043E
	RABLA 261506N 0514834E
	VEDED 260558N 0514628E
	VELAM 255426N 0514347E
	EMISA 254626N 0514207E
	DOHA (DOH)
UR660	(ERZURUM) (ERZ)
	RASHT (RST)
	TEHRAN (TRN)

LOWER AIRSPACE

Designator	Significant Points
1	2
R661	DULAV 3857.0N 04537.9E TABRIZ (TBZ) ZANJAN (ZAJ) RUDESHUR (RUS) VARAMIN (VR) DEHNAMAK (DHN)
R777	DANAK 1608.0N 04129.0E SANA'A TAIZ ARABO 1238.8N 04404.0E TORBA 1210.6N 04402.1E
R784	SHARJAH (SHJ) ORSAR 2604.5N 05357.5E *Note 8 (OM) DURSI 2712.3N 05201.7 E IMDAT 2740.0N 05113.0E ALNIN 2840.9N 05001.6E NANPI 290457N 0493157E SIDAD 295231N 0482944E
R785	TURAIF (TRF) ZELAF 3257.0N 03800.0E KARIATAIN (KTN) BANIAS (BAN) NIKAS 3511.6N 03543.0E
R794	ULDUS 3810.0N 05020.0E NOSHAHR (NSR) DEHNAMAK (DHN) TABAS (TBS) BIRJAND (BJD) * Note 5 (OI)

UPPER AIRSPACE

Designator	Significant Points
1	2
UR661	DULAV 3857.0N 04537.9E TABRIZ (TBZ) ZANJAN (ZAJ) RUDESHUR (RUS) VARAMIN (VR) DEHNAMAK (DHN)
UR674	SABEL 185158N 0520339E LOTEL 180926N 0514103E PASUL 180341N 0513803E GOGRI 170752N 0510857E OBTAS 164633N 0505756E RARBA 161021N 0503920E UKORA 152407N 0501547E NAKAD 150056N 0500402E DANAN 144010N 0495334E XABIL 142924N 0494809E EMABI 141627N 0494139E PAXED 135027N 0492759E DEMGO 120258N 0483040E
UR777	DANAK 1608.0N 04129.0E SANA'A TAIZ ARABO 1238.8N 04404.0E TORBA 1210.6N 04402.1E
UR784	SHARJAH (SHJ) ORSAR 2604.5N 05357.5E *Note 8 (OM) DURSI 2712.3N 05201.7 E IMDAT 2740.0N 05113.0E ALNIN 2840.9N 05001.6E NANPI 290457N 0493157E SIDAD 295231N 0482944E
UR785	TURAIF (TRF) ZELAF 3257.0N 03800.0E KARIATAIN (KTN) BANIAS (BAN) NIKAS 3511.6N 03543.0E
UR794	ULDUS 3810.0N 05020.0E NOSHAHR (NSR) DEHNAMAK (DHN) TABAS (TBS) BIRJAND (BJD) * Note 5 (OI)

Appendix C

LOWER AIRSPACE

Designator	Significant Points
1	2
R799	IMPOS 183136N 0511848 E PASUL 180341N 0513803E TONRO 165850N 0522235E ASMAK 162327N 0524634E ENADO 153333N 0532015E

UPPER AIRSPACE

Designator	Significant Points
1	2
UR799	IMPOS 183136N 0511848 E PASUL 180341N 0513803E TONRO 165850N 0522235E ASMAK 162327N 0524634E ENADO 153333N 0532015E

APPENDIX D

Deficiencies in the ATM Field

EGYPT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
2	MID ANP Table ATS 1-ATS routes	-	ATS routes M305/UM305 not implemented	Apr, 2013	Segment BRN-ATMUL not implemented.	S	Egypt to continue the coordination with the relevant authorities.	Egypt	Dec, 2014	B
3	MID ANP Table ATS 1-ATS routes	-	ATS routes M312/UM312 not implemented	Apr, 2013	Segment DBA-AMIBO not implemented.	S	Egypt to continue the coordination with its relevant authorities for the implementation of this route.	Egypt	Dec, 2014	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the ATM Field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
2	MID ANP Table ATS-1 Plan of ATS routes	-	ATS routes A418/UP574 not implemented KUMUN – PAPAR	Dec, 2006	KUMUN-PAPAR segment not implemented.	S O	States to continue negotiations with one another. Iran has no plan to implement the route segment.	Iran- UAE	Dec, 2014	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the ATM Field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	**Facilities/ Services**	**Description**	**Date First Reported**	**Remarks/ Rationale for Non-elimination**		**Description**	**Executing Body**	**Date of Completion**	**Priority for Action**
1	MID ANP Table ATS-1 Plan of ATS Routes	-	ATS route G667 not implemented	Sep, 2006	Iraq has no objection to implement the Route segment ALSAN-ABD. Kuwait has no objection.	S	Iraq to implement and publish the route segment ABD-ALSAN (G677).	Iraq- Iran-Kuwait	Jun, 2014	B
3	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route G795 Rafha- Basrah segment not implemented	May, 2008	Coordination between Iraq and Saudi Arabia.	S	States to negotiate coordination issues between the two FIRs, update LoA and coordinate opening of the route.	Iraq- Saudi Arabia	Dec, 2014	B
4	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route A424 LOTAN-LOVEK segment (Baghdad FIR) not implemented	May, 2008	Communication problems between concerned FIRs.	O	Saudi Arabia has no objection to extend the route into Baghdad FIR. Iraq will implement the route or it may be replaced by the ATS route from RAF to ELODI.	Iraq	Dec, 2014	B
5	MID ANP Table ATS-1 Plan of ATS routes	ATS route	ATS Route G669 segment Rafha SOLAT not implemented	May, 2008	Airspace restrictions.	S	Airspace restrictions to be addressed. To check the need for the ATS route segment,taking into consideration the traffic flows and the exiting alternatives.	Iraq	Dec, 2014	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the ATM Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID ANP Table ATS-1Plan of ATS routes	-	ATS route G202 not implemented	Dec, 1997	Not implemented DAKWE - Damascus. Economic impact-alternative routes available but longer-not affecting safety.	S	Syria has no plan to implement the route.	Syria	Dec, 2014	B
2	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route UL602 not implemented in Damascus FIR	Dec, 2003	Segments ELEXI-DRZ-GAZ not implemented.	S	Syria to implement ELEXI-DRZ and to coordinate with Turkey for the implementation of DRZ-GAZ.	Syria	Dec, 2014	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the ATM Field

UAE

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	**Facilities/ Services**	**Description**	**Date First Reported**	**Remarks/ Rationale for Non-elimination**		**Description**	**Executing Body**	**Date of Completion**	**Priority for Action**
2	MID ANP Table ATS-1 Plan of ATS routes	-	ATS routes A418/UP574 not implemented KUMUN – PAPAR	Dec, 2006	KUMUN-PAPAR segment not implemented.	S	States to continue negotiations with one another. The UAE considers options for a resolution to be exhausted	Iran- UAE	~~Dec, 2014~~ Jun, 2015	B

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(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

APPENDIX E

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MID REGION ATM CONTINGENCY PLAN

Edition December 2013

APPENDIX E

MID REGION AIR TRAFFIC MANAGEMENT CONTINGENCY PLAN

TABLE OF CONTENTS

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), States 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

Amendment Number	Effective Date	Initiated by	Paragraph/ Reference	Remarks

APPENDIX E

INTRODUCTION

The MID Region 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 its Attachment C.

The MID Region is fast growing continental airspace in the world. 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 movements' number 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.

The ICAO MID Regional Office will coordinate with ICAO HQ and the concerned Regional Offices any amendment to the Regional Contingency Plan.

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

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						
Mr. Ebrahim Shoushtari Deputy CEO for Aeronautical Operations (IAC)	982163148900		989121861900	9821 63148906	E_shoushtari@yahoo.com E.shoushtari@airport.ir	*Note*.- During New Year Holidays in Iran (20 March – 5 April) or for any urgent message Contact Tehran ACC on +9821-44544116
Mr. Ali- Arabi DG of ATS Department	98 21 445 44101		98-9122967946	9821 44544102	aarabi@airport.ir	
Mr. Javad – Pashaei Deputy Director of ATS Dept.	9821 44544103		989122967946	9821 44544102	aarabi@airport.ir	
Mr. Ramezan Ali Ziaee Deputy Director of ATS Dept.	9821-44544103		989123874917	9821 44544102	r.a.ziaee@airport.ir	

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
IRAQ						
Mr. Ali Mohsin Hashim ATS Director	96418133370	9647702997761	9647815762525		atc_iraqcaa@yahoo.com	
JORDAN						
Nayef Al Marshoud Director, ATM	9626 489 7729	962 5 3862584	962 797498992 962 777789470	9626 4891 266	nayefmarshoud@hotmail.com datm@carc.gov.jo	
KUWAIT						
Mr. Adel S. Boresli	965 24710268		96599036556	965 24346221	as.buresli@dgca.gov.kw	
LEBANON						
Walid Al Hassanieh Chief Air Navigation Dept.	+ 961 1 628178		+961 70474517	+961 1 629023	hassaniehw@beirutairport.gov.lb	AFTN OLBAZPZX
LIBYA						
Issa Maaroug. Air Navigation Director	218 21 5630811	218 91 6827688	218 92 5439240	218.21.3605535	airnav.director@caal.ly	LIBYAN C.A.A P.O.BOX 14399
OMAN						
Mr. Abdullah Nasser Al-Harthy	968519201		9689476806	968519939 /519930	Abdullah_nasser@dgcam.com.om	
Mr. Saud Al-Adhoobi	968519305		9689321664	968519939/519930	saud@dgcam.com.om	
SAUDI ARABIA						
Mr. Mohammad Al Alawi	96626401005		96655621582	9662 6401005	alalawi_m@yahoo.com	
SUDAN						
Abubakr Elsiddig Elamin	249183784964		249912146745	249183784964	abubakratco@live.com	ATM Director ANS P.O. Box 137 code 11112, Khartoum, Sudan
SYRIA						
Eng. Feras MohamadDirector General of Civil Aviation	963 1133 33815			963 11 2232201	dgca@scaa.sy	P.O.BOX:6257 Damascus, Syria
Hassan Hamoud ATM Director	009631154010180	00963116460395	00963 988235106	963 11 540101801	atm@scaa.sy	P.O.BOX:6257 Damascus, Syria

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
UNITED ARAB EMIRATES (UAE)						
Mr. Ahmed Al Jallaf Assistant Director General, ANS, GCAA	9712 599 6888		97150 614 9065	9712 599 6883	aljallaf@szc.gcaa.ae	9712 599 6999 SCZ
Abdulla Al Hashmi Director ATM, ANS, GCAA	971 2 599 6830		971 50 442 0486	971 2 599 6836	ahashimi@szc.gcaa.ae	
YEMEN						
Mr.Abdullah Ahmed Al-Awlaqi	9671 345 402	9671 506828	967777776830	967-1-344047	ns@gmail.com	D.G ANS
Abdullah Abdulwareth Aleryani	967-1-345403	967-1-344254	967777190602	967-1-345403	ernlabd@gmail.com	D.G ACC/FIC
Ahmed Mohammed Al-Koobati	967-1-344675	967-1-214375	967777241375	967-1-344047	70@yahoo.com	D.Air Navigation Operation
IATA						
ICAO MID						
Elie El Khoury (RO ATM/SAR)	202 267 4845 ext 104			202 267 4843	ekhouryi@icao.int	
Mohamed Smaoui (DRD)	202 267 4841 ext. 116/115			202 267 4843	msmaoui@icao.int	
ICAO APAC						
ICAO ESAF						
ICAO WACAF						
ICAO Headquarters – Montreal						
Chris Dalton (C/ATM)	1514 954-6711	1 514 281-0731	1 514 951-0283	1-514-954 8197	cdalton@icao.int	

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.

States shall ensure to include in their contingency plans provisions related to the spread of communicable diseases, based on the ICAO guidance related to the Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA).

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 agreements in the MID Region is at **Table 2**.

Status of Contingency Agreements in the MID Region

STATE	CORRESPONDING STATES			REMARKS
BAHRAIN	☒ IRAN ☒ KUWAIT	☒ OMAN ☒ QATAR	☒ SAUDI ARABIA ☒ UAE	Completed
EGYPT	☒ GREECE ☒ JORDAN	☒ LYBIA ☒ CYPRUS	☒ SAUDI ARABIA ☒ SUDAN	Completed
IRAN	☐ ARMENIA ☐ AZERBAIJAN ☐ TURKMANISTAN ☐ AFGHANISTAN	☒ BAHRAIN ☐ IRAQ ☐ KUWAIT ☒ OMAN	☒ PAKISTAN ☐ TURKEY ☐ UAE	3/11
IRAQ	☐ IRAN ☐ JORDAN	☐ KUWAIT ☐ SAUDI ARABIA	☐ SYRIA ☐ TURKEY	0/6
JORDAN	☒ EGYPT ☐ IRAQ	☐ ISRAEL ☒ SAUDI ARABIA	☐ SYRIA	2/6
KUWAIT	☒ BAHRAIN ☐ IRAN	☐ IRAQ	☒ SAUDI ARABIA	2/6
LEBANON	☐ CYPRUS	☐ SYRIA		0/2
LIBYA	☐ ALGERIA ☐ CHAD ☒ EGYPT	☐ MALTA ☐ NIGER	☐ SUDAN ☐ TUNIS	1/7
OMAN	☒ BAHRAIN ☐ INDIA	☒ IRAN ☐ PAKISTAN	☒ UAE ☒ YEMEN	4/6
QATAR	☒ BAHRAIN	☐ SAUDI ARABIA	☐ UAE	1/3
SAUDI ARABIA	☒ BAHRAIN ☒ EGYPT ☐ ERITREA	☐ IRAQ ☒ JORDAN ☒ KUWAIT	☐ SUDAN ☐ YEMEN	4/8
SUDAN	☐ CENTRAL AFRICAN ☐ CHAD ☒ EGYPT	☐ ERITREA ☐ ETHIOPIA ☐ LIBYA	☐ SAUDI ARABIA ☐ SOUTH SUDAN	1/8
SYRIA	☐ IRAQ ☐ JORDAN	☐ LEBANON ☐ CYPRUS	☐ TURKEY	0/5
UAE	☒ BAHRAIN ☐ IRAN	☒ OMAN	☐ QATAR	2/4
YEMEN	☐ DJIBOUTI ☐ ERITREA ☐ ETHIOPIA	☐ INDIA ☒ OMAN ☐ SAUDI ARABIA	☐ SOMALIA	1/7

☒ Agreement Signed ☐ Agreement NOT Signed Signed Agreements / Total No. of required Agreements

Table 2

CHAPTER 2

COMMON PROCEDURES

Implementation of the plan

A Contingency Coordination Team (CCT) to be established from the following members:

- ICAO (HQ and Regional Offices Focal points) and IATA as permanent members;
- States concerned as essential members; and
- Other organizations, Agencies etc., when deemed necessary, as temporary members.

The main tasks of the CCT are as follows:

- monitor continuously information from all relevant sources;
- initiate action for the activation/deactivation of the Contingency Plan;
- arrange for the constant supply of relevant aeronautical information to the ICAO Regional Office and Headquarters;
- liaise with international/regional organizations as appropriate; and
- exchange up-to-date information with States directly concerned and States which are potential participants in contingency arrangements.

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

In **Limited Service situations:** the individual States/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 States/ANSP will issue NOTAMs and broadcast on appropriate frequencies that contingency procedures have been initiated. The notification process employed by individual States/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).”

CHAPTER 3

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.

During the contingency operations, States concerned should take necessary measures to grant special over flight permissions to those flights avoiding the affected Airspace(s).

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 ALTERNATIVE ROUTINGS

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 may be 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.

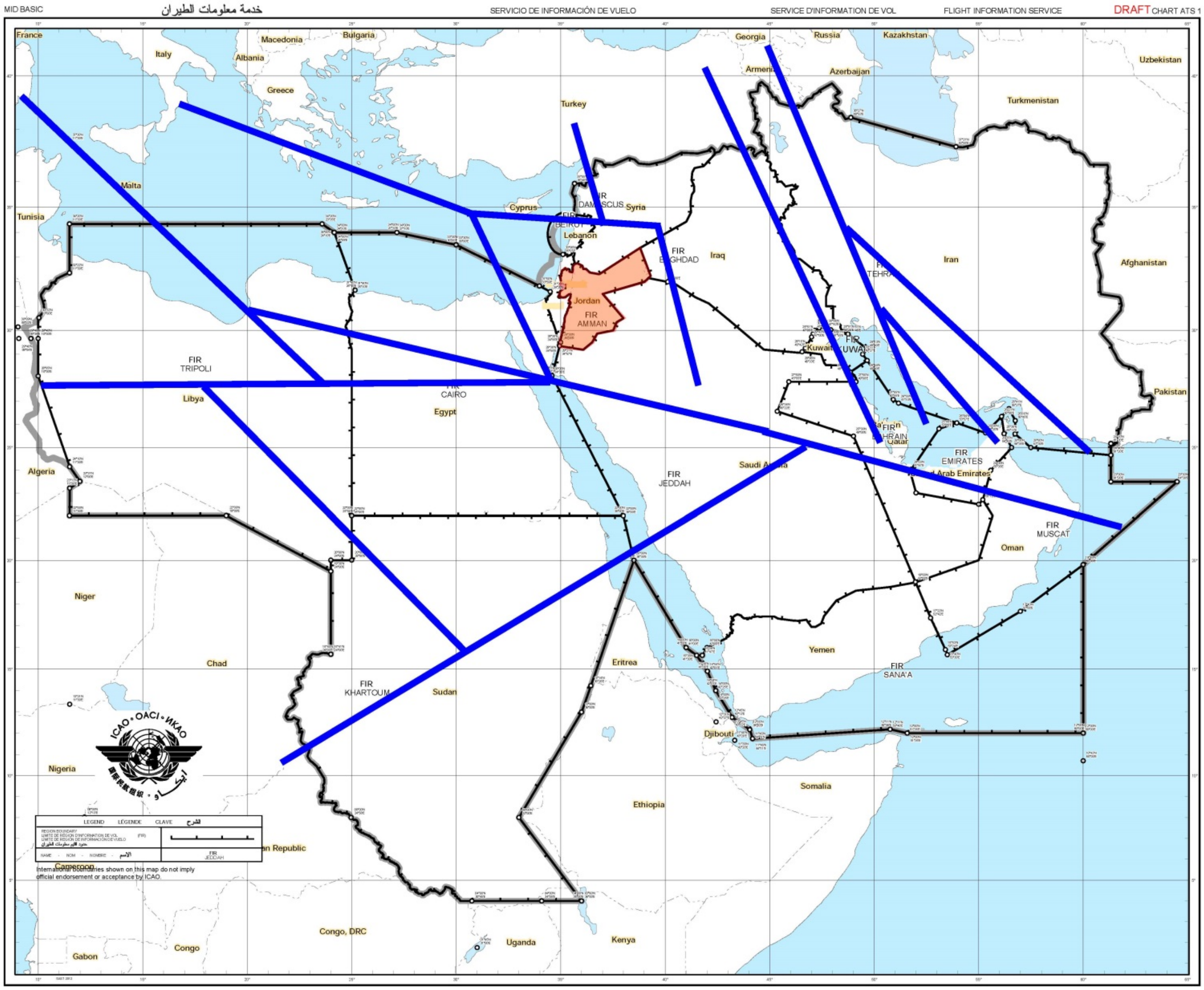
The alternative routings were given "CR" designators based on various scenarios that may be implemented. It is to be highlighted that the scenarios drawn on the charts were developed based on the existing route network, and do not reflect new routes. Furthermore, one scenario could be used to avoid different FIRs, subject to users' requirements. The scenarios are detailed in the **Table 3** below:

CR	**FIR(s) to be Avoided**	***Traffic Flows through the MID Region*** **Alternative routings/FIRs**	**Remarks**
CR 1	Amman	***Eastern Europe from/to Asia*** ▪ Ankara, Baghdad, Jeddah ▪ Ankara, Tehran ▪ Ankara, Damascus, Baghdad, Jeddah ***Western Europe from/to Asia*** ▪ Nicosia, Cairo, Jeddah ▪ Nicosia, Beirut, Damascus, Baghdad, Jeddah ***Northern Africa from/to Asia*** ▪ Cairo, Jeddah ***Southern Africa from/to Asia*** Not Applicable	
CR 2	Baghdad	***Eastern Europe from/to Asia*** ▪ Ankara, Tehran, (Kuwait) or (Bahrain) or (UAE) ▪ Ankara, Damascus, Amman, Jeddah ***Western Europe from/to Asia*** ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah ***Northern Africa from/to Asia*** ▪ Cairo, Jeddah ***Southern Africa from/to Asia*** ▪ Addis Ababa, (Asmara, Jeddah) or (Mogadishu, Sana'a)	
CR 3	Bahrain	***Eastern Europe from/to Asia*** ▪ Ankara, (Baghdad), Tehran, UAE, Muscat ▪ Ankara, Baghdad, Jeddah, Sana'a, Muscat ***Western Europe from/to Asia*** ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana'a; Muscat ▪ Nicosia, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah, Sana'a, Muscat ***Northern Africa from/to Asia*** ▪ Cairo, Jeddah, Sana'a, Muscat ***Southern Africa from/to Asia***	

		▪ Khartoum, Jeddah, Sana'a, Muscat ▪ Addis Ababa, Mogadishu, Sana'a, Muscat	
CR 4	Beirut, Damascus	***Eastern Europe from/to Asia*** ▪ Ankara, Baghdad Jeddah or Kuwait; ▪ Ankara, Tehran ***Western Europe from/to Asia*** ▪ Nicosia, Cairo, Jeddah ***Northern Africa from/to Asia*** ▪ Cairo, Jeddah ***Southern Africa from/to Asia*** ▪ Khartoum Addis Ababa, Mogadishu, Sana'a ▪ Khartoum, Jeddah	
CR 5	Cairo	***Eastern Europe from/to Asia*** Not Applicable ***Western Europe from/to Asia*** ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Damascus, Baghdad; Kuwait, Bahrain, UAE ▪ Malta, Tripoli, Khartoum, Jeddah ▪ Malta, Tripoli, Khartoum, Asmara, Jeddah or Sana'a ***Northern Africa from/to Asia*** ▪ Tripoli, Khartoum, Jeddah ▪ Tripoli, Khartoum, Asmara, Jeddah or Sana'a ▪ Algiers, Niamey, N'djamena, Khartoum, Asmara, Jeddah or Sana'a ***Southern Africa from/to Asia*** ▪ Khartoum, Jeddah, Sana'a, Muscat ▪ Addis Ababa, (Asmara, Jeddah) or (Mogadishu, Sana'a)	
		▪	
CR 6	Iran	***Eastern Europe from/to Asia*** ▪ Baku, Turkmenbashi, Ashgabat, Turkmenabad, Kabul, Karachi, Muscat or Delhi ▪ Baghdad, Kuwait, Bahrain, UAE, Muscat ▪ Nicosia Damascus Amman, Jeddah ***Western Europe from/to Asia*** ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah ***Northern Africa from/to Asia*** Not Applicable ***Southern Africa from/to Asia*** Not Applicable	
CR 7	Jeddah	***Eastern Europe from/to Asia*** ▪ Ankara, Baghdad, Kuwait, Bahrain, UAE, Muscat ▪ Ankara, Damascus, Amman, Baghdad, Kuwait, Bahrain, UAE ***Western Europe from/to Asia*** ▪ Nicosia, Beirut, Damascus, Amman, Baghdad, Kuwait, Bahrain, ▪ Athens or Nicosia, Cairo, Amman, Baghdad, Kuwait, Bahrain ***Northern Africa from/to Asia*** ▪ Cairo, Khartoum, Asmara, Sana'a ***Southern Africa from/to Asia*** ▪ Khartoum, Asmara, Sana'a ▪ Addis Ababa, Mogadishu, Sana'a, Muscat	
CR 8	Khartoum	***Eastern Europe from/to Asia***	

		Not Applicable ***Western Europe from/to Africa*** Not Applicable ***Northern Africa from/to Asia*** ▪ Cairo, Jeddah ▪ Tripoli, N'djamena, Brazzaville, Kinshasa, Entebbe, Nairobi Addis Ababa, Mogadishu, Sana'a, Jeddah or Muscat. ***Southern Africa from/to Asia*** ▪ Kinshasa, Entebbe, Nairobi Addis Ababa, Mogadishu, Sana'a, Jeddah or Muscat	
CR 9	Muscat, UAE	***Eastern Europe from/to Asia*** ▪ Ankara, Baghdad, Jeddah, Sana'a ***Western Europe from/to Asia*** ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana'a ▪ Nicosia, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah, Sana'a ***Northern Africa from/to Asia*** ▪ Cairo, Jeddah, Sana'a ***Southern Africa from/to Asia*** ▪ Khartoum, Jeddah, Sana'a ▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, or Sana'a)	
CR 10	Sana'a	***Eastern Europe from/to Asia*** ▪ Ankara, Baghdad, Tehran, UAE, Muscat ▪ Ankara, Baghdad, Jeddah, Bahrain, Muscat ***Western Europe from/to Asia*** ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Bahrain; Muscat ▪ Nicosia, Damascus, Amman, Jeddah, Bahrain; Muscat ▪ Nicosia, Cairo, Jeddah, Bahrain; Muscat ***Northern Africa from/to Asia*** ▪ Cairo, Jeddah, Bahrain; Muscat ***Southern Africa from/to Asia*** ▪ Khartoum, Jeddah, Bahrain; Muscat ▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, Mumbai, Muscat	
CR 11	Tripoli	***Eastern Europe from/to Asia*** Not Applicable ***Western Europe from/to Africa*** ▪ Cairo, Khartoum ***Northern Africa from/to South Africa or Middle East*** ▪ Athens, or Nicosia to Cairo, Khartoum or Jeddah ▪ Tunis, Algiers, Niamey, N'djamena ***Southern Africa from/to Asia*** Not Applicable	

Table 3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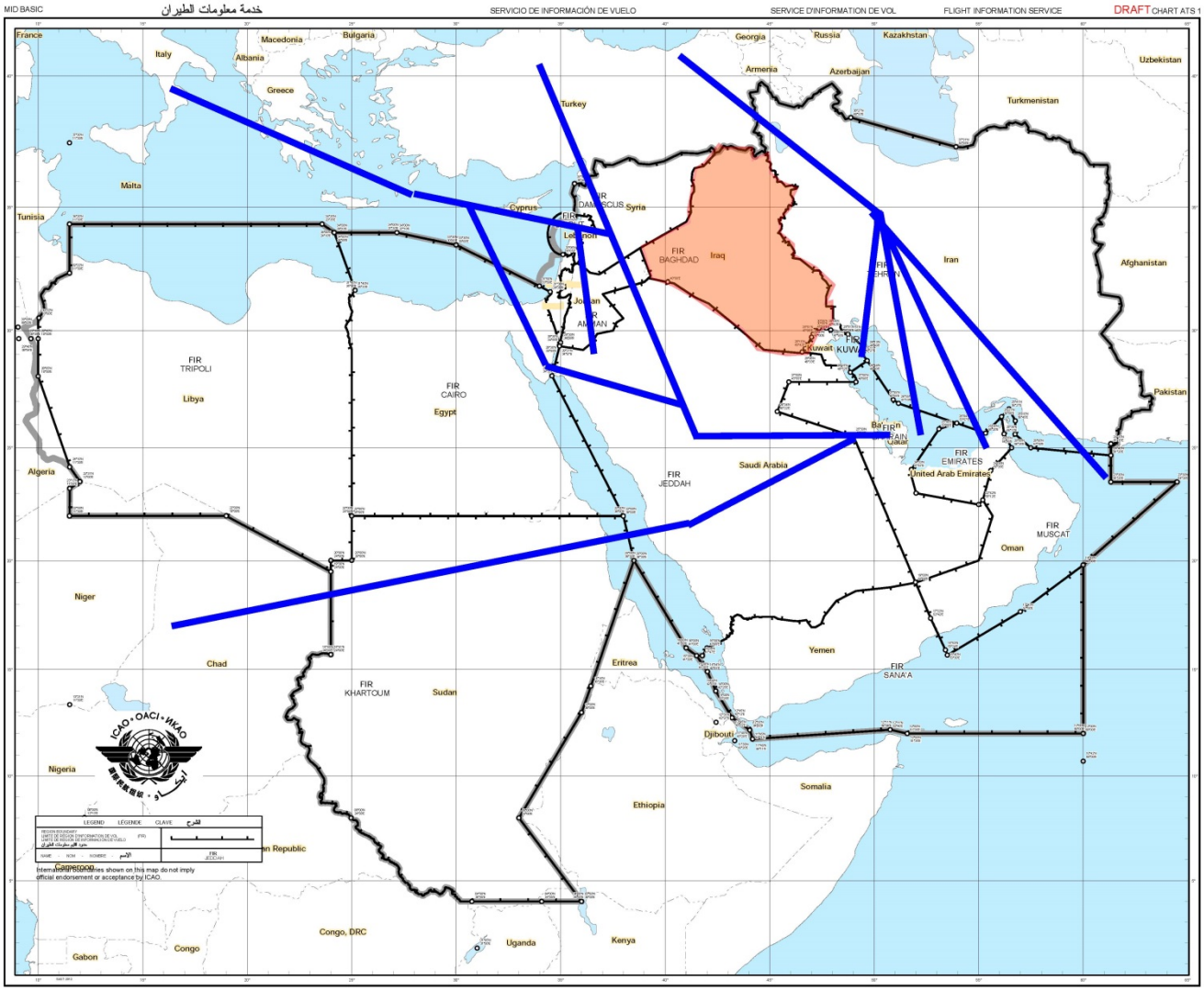
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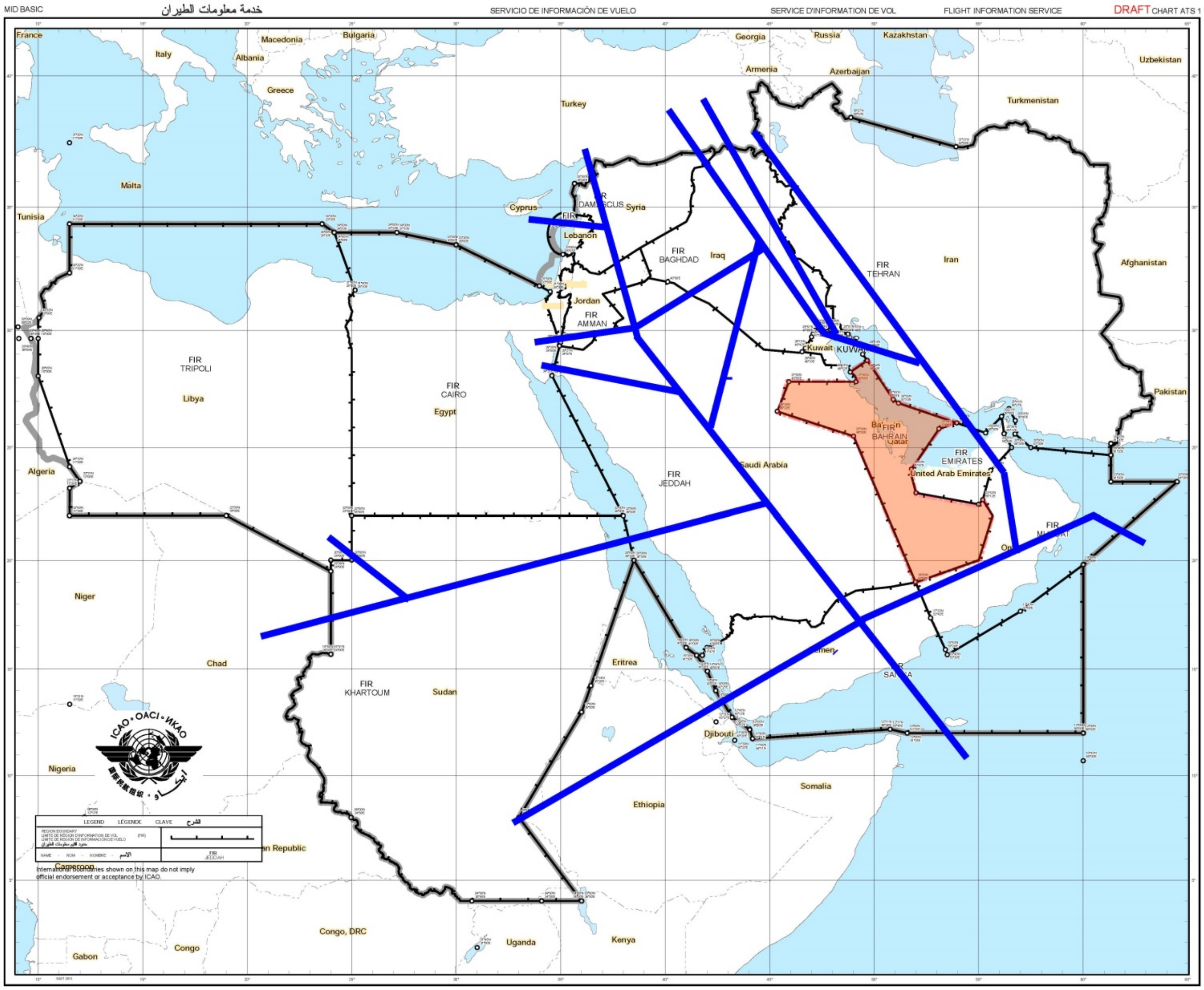
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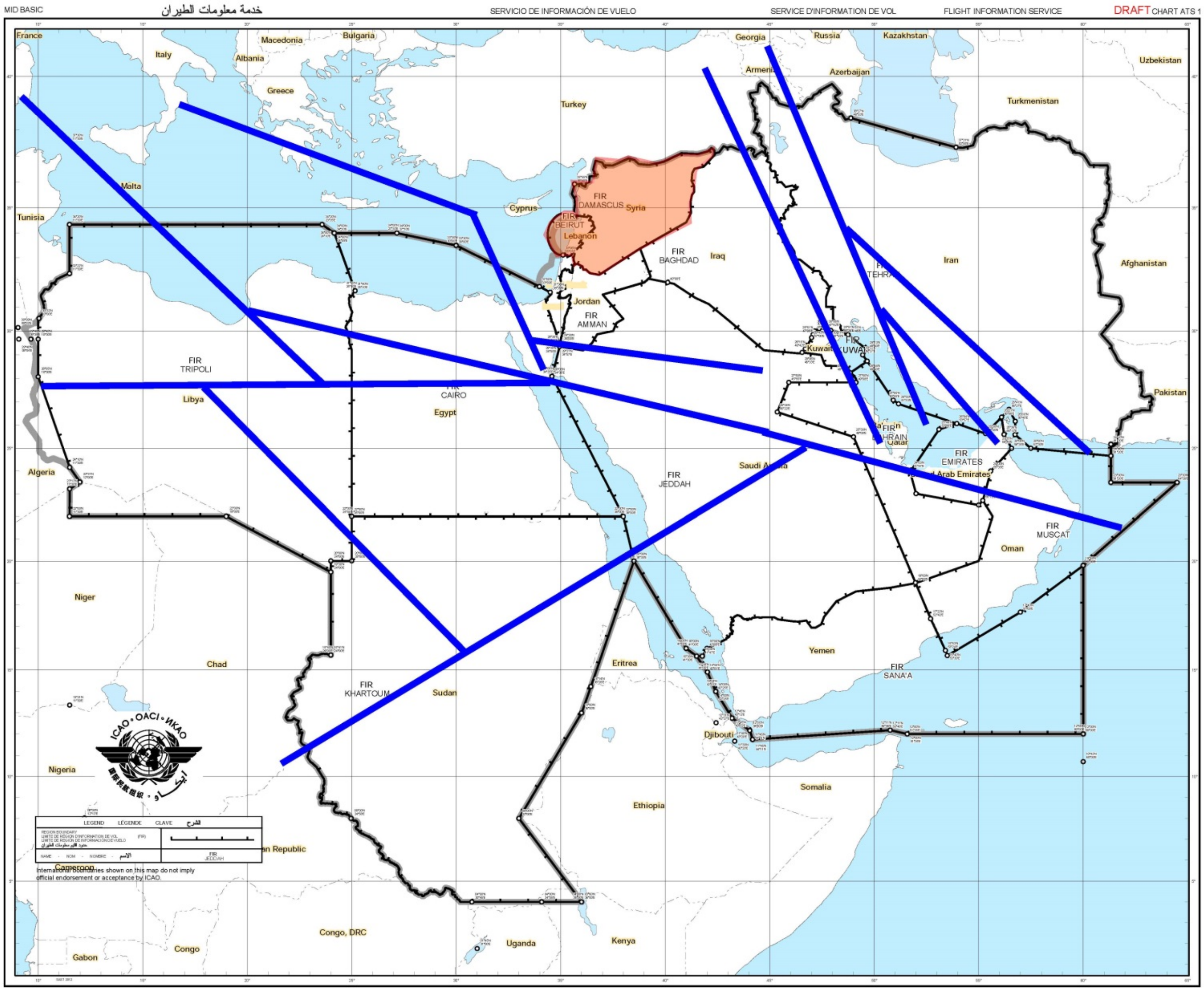
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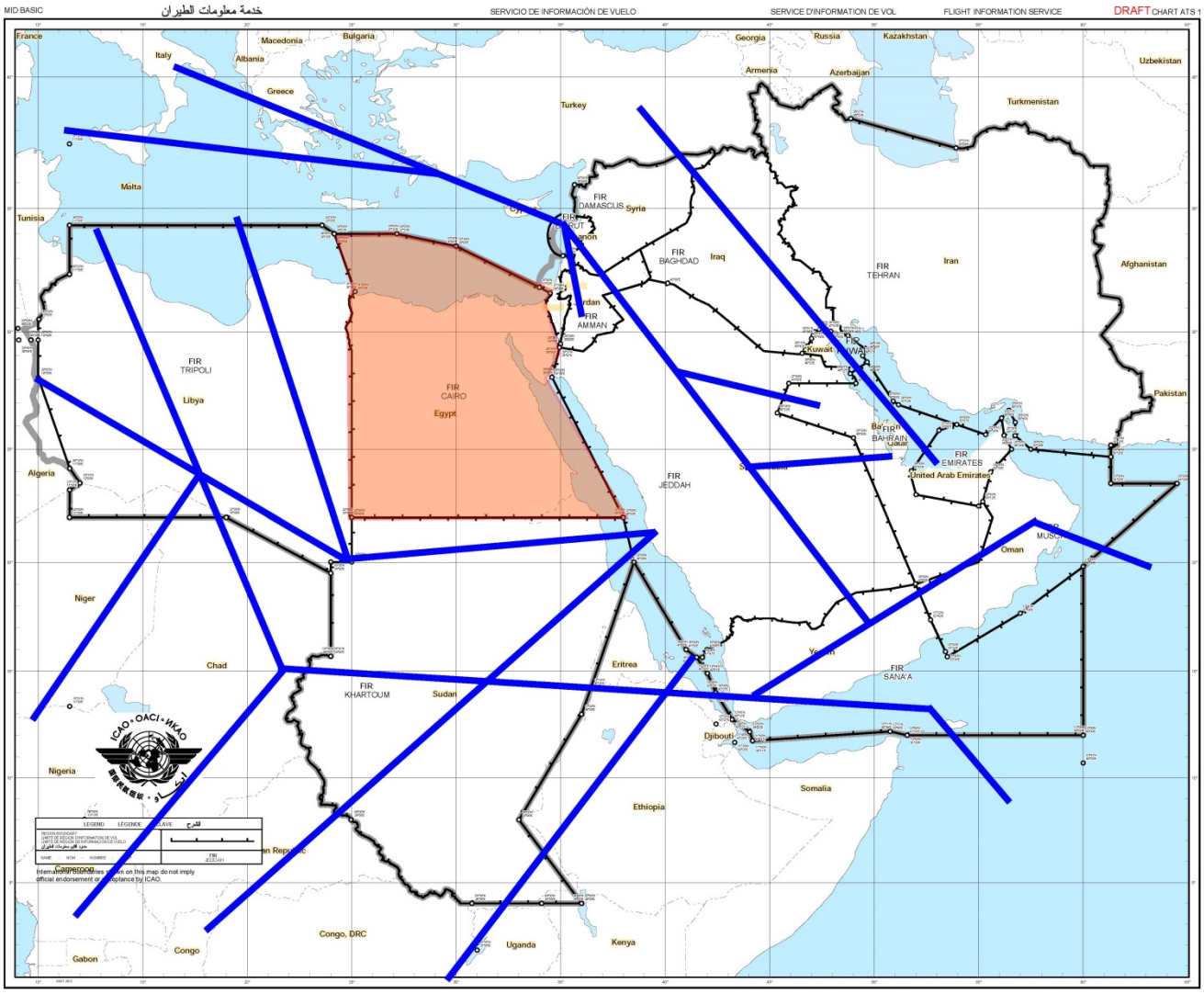
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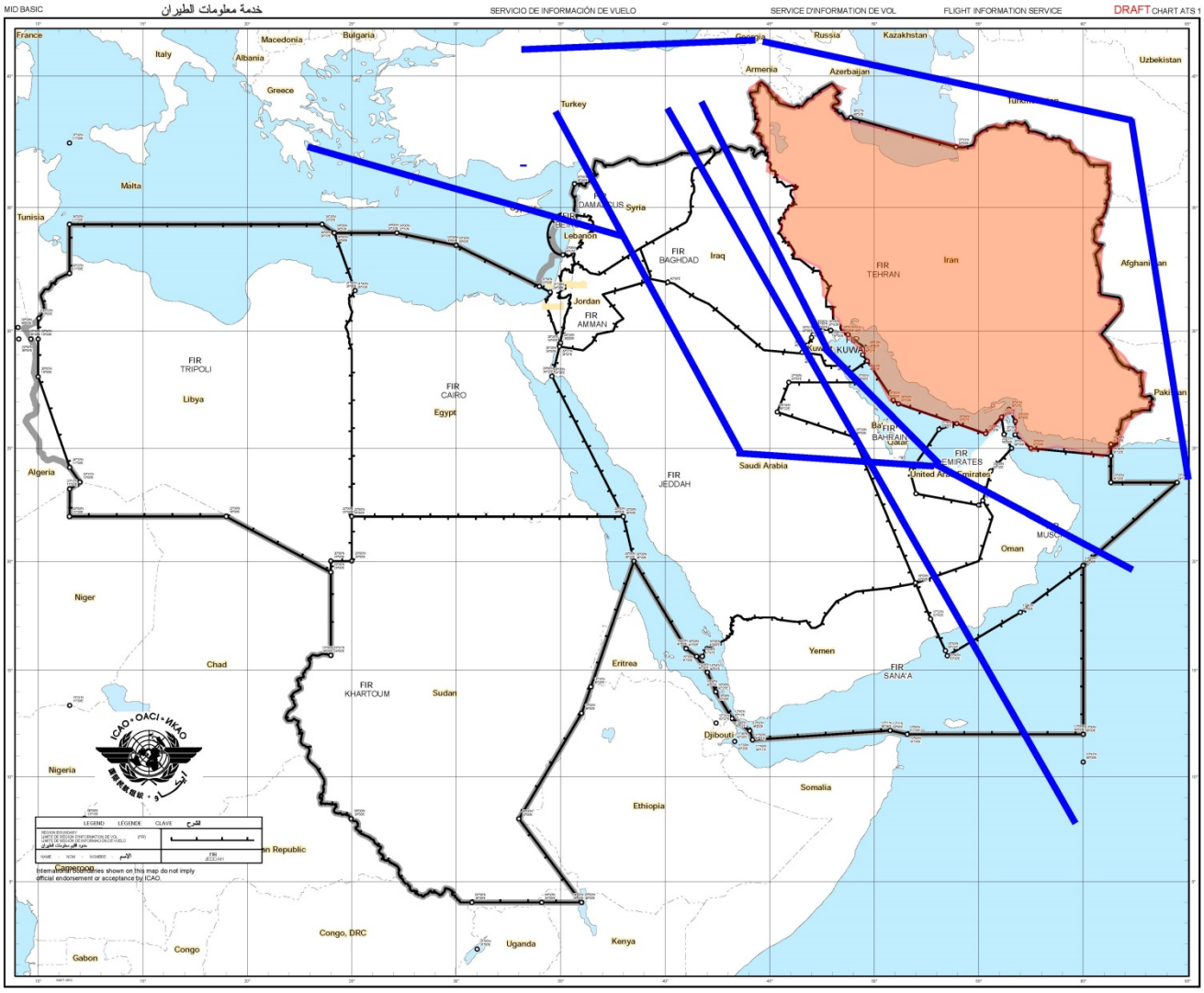
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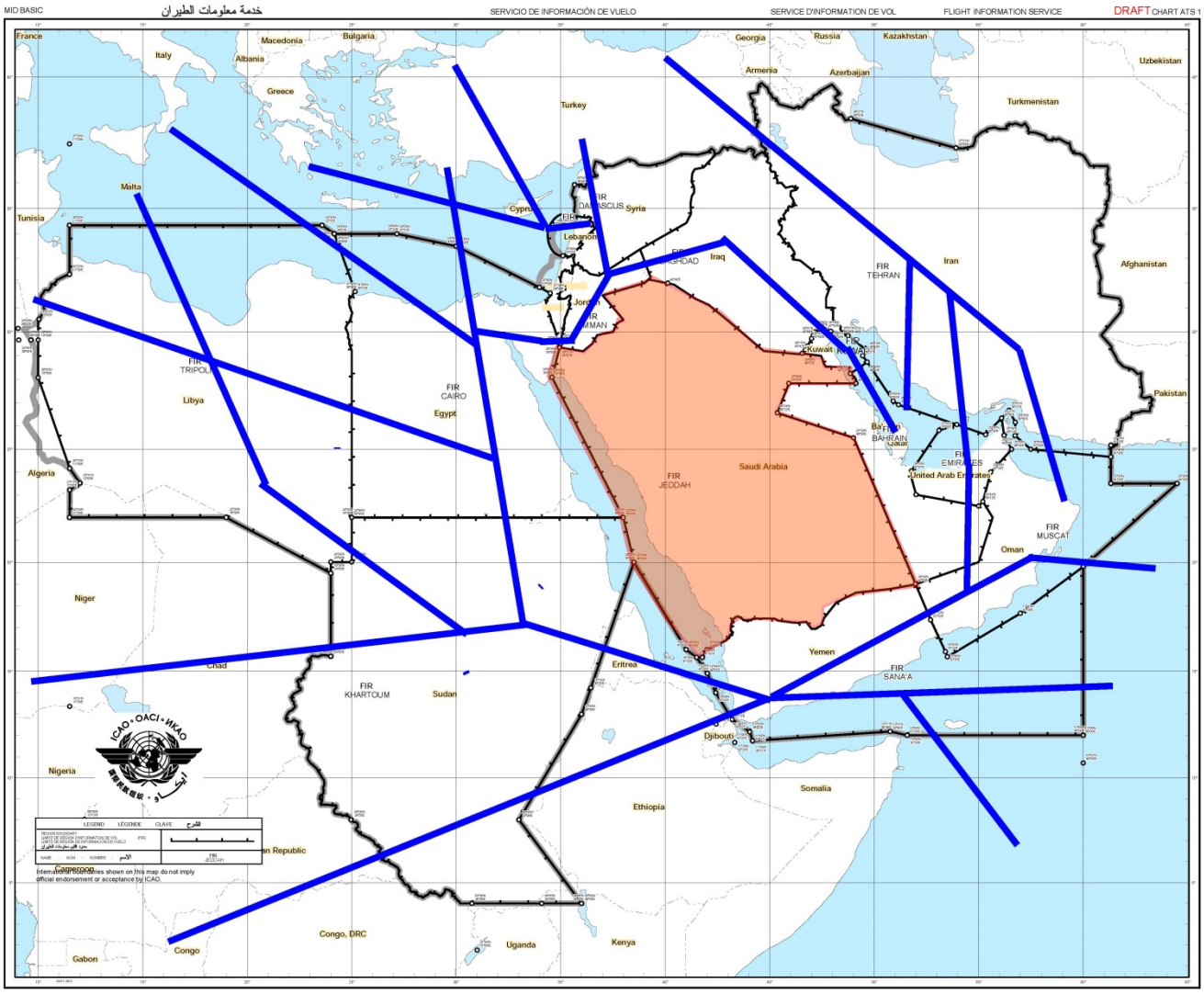
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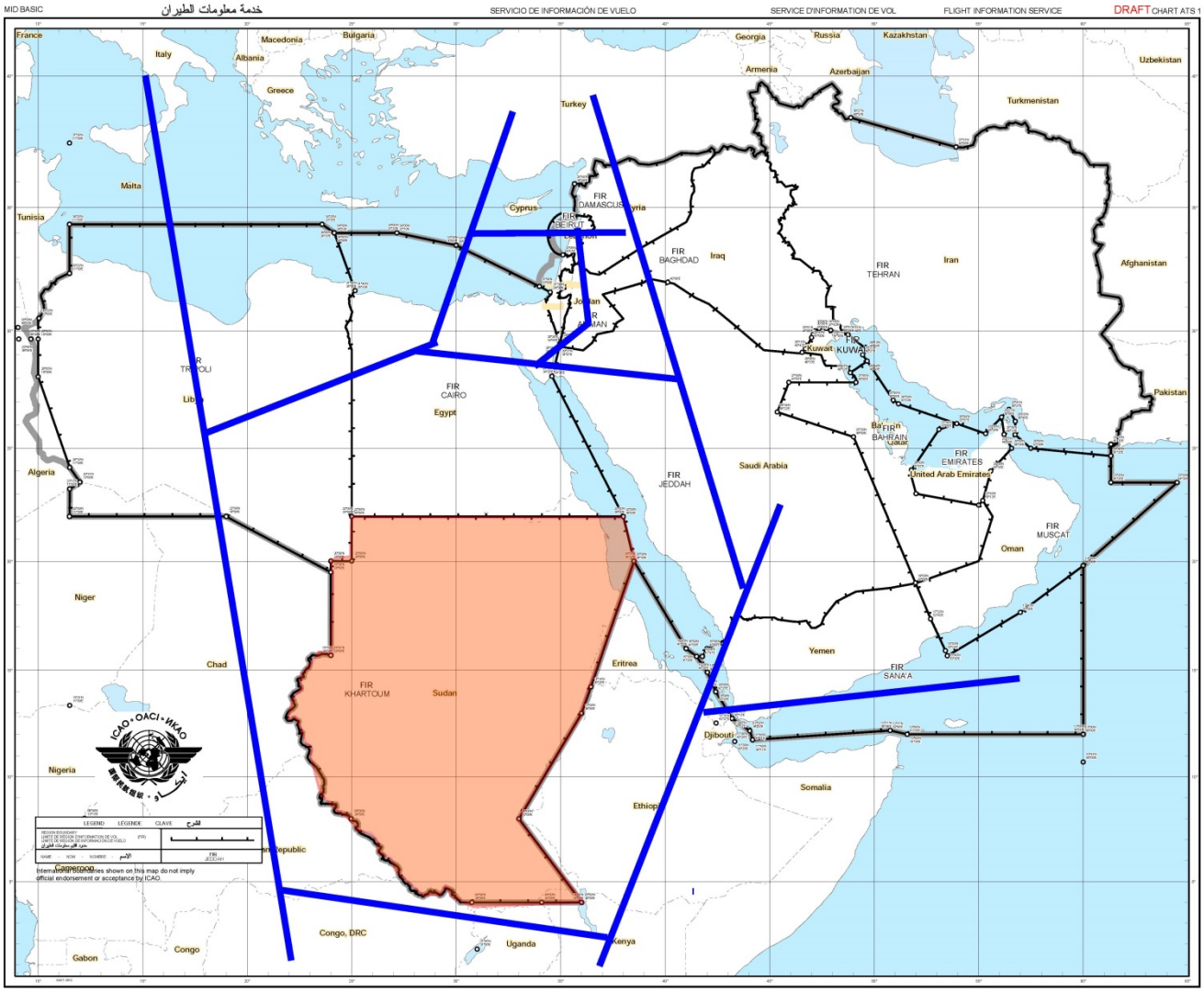
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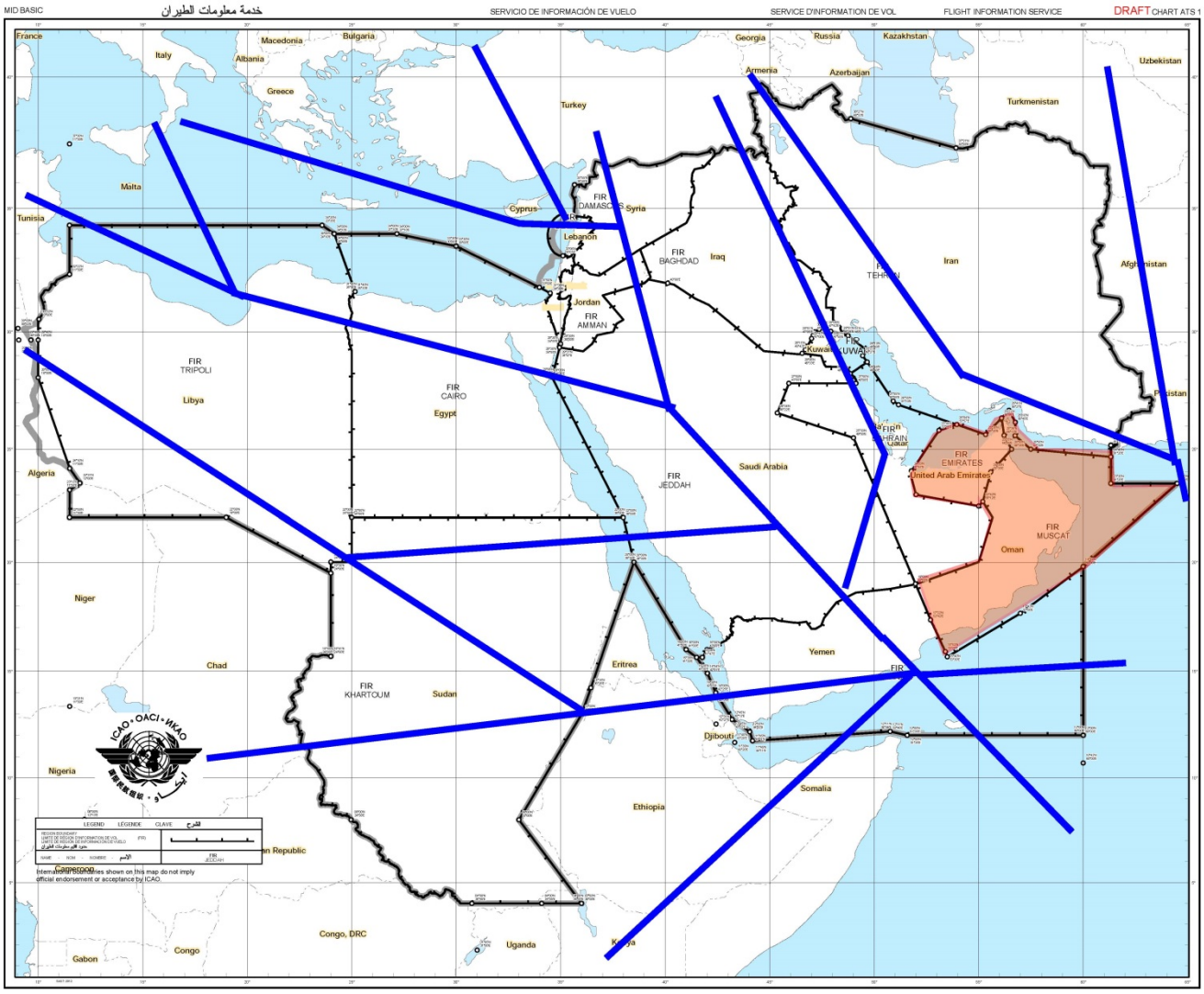
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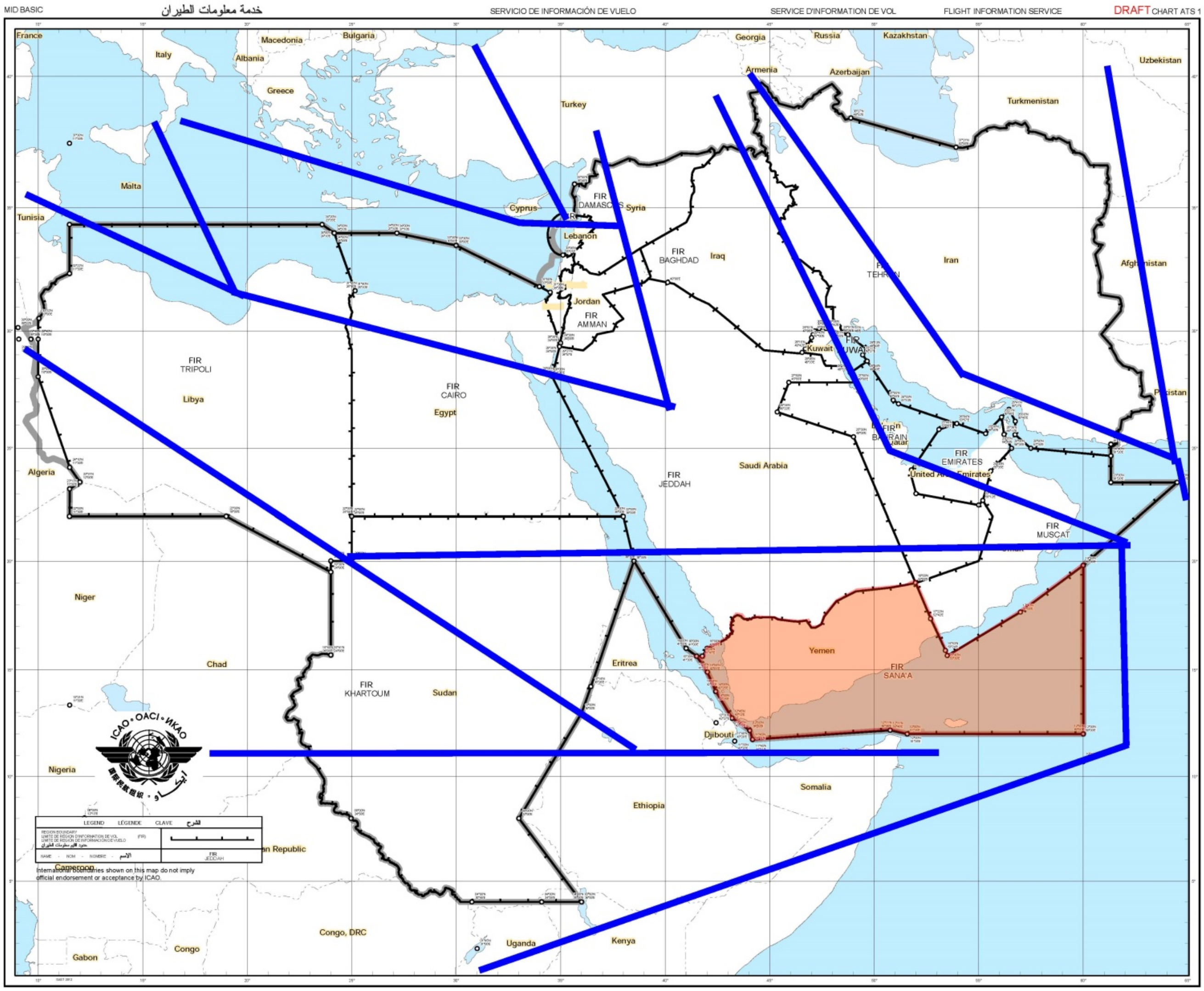
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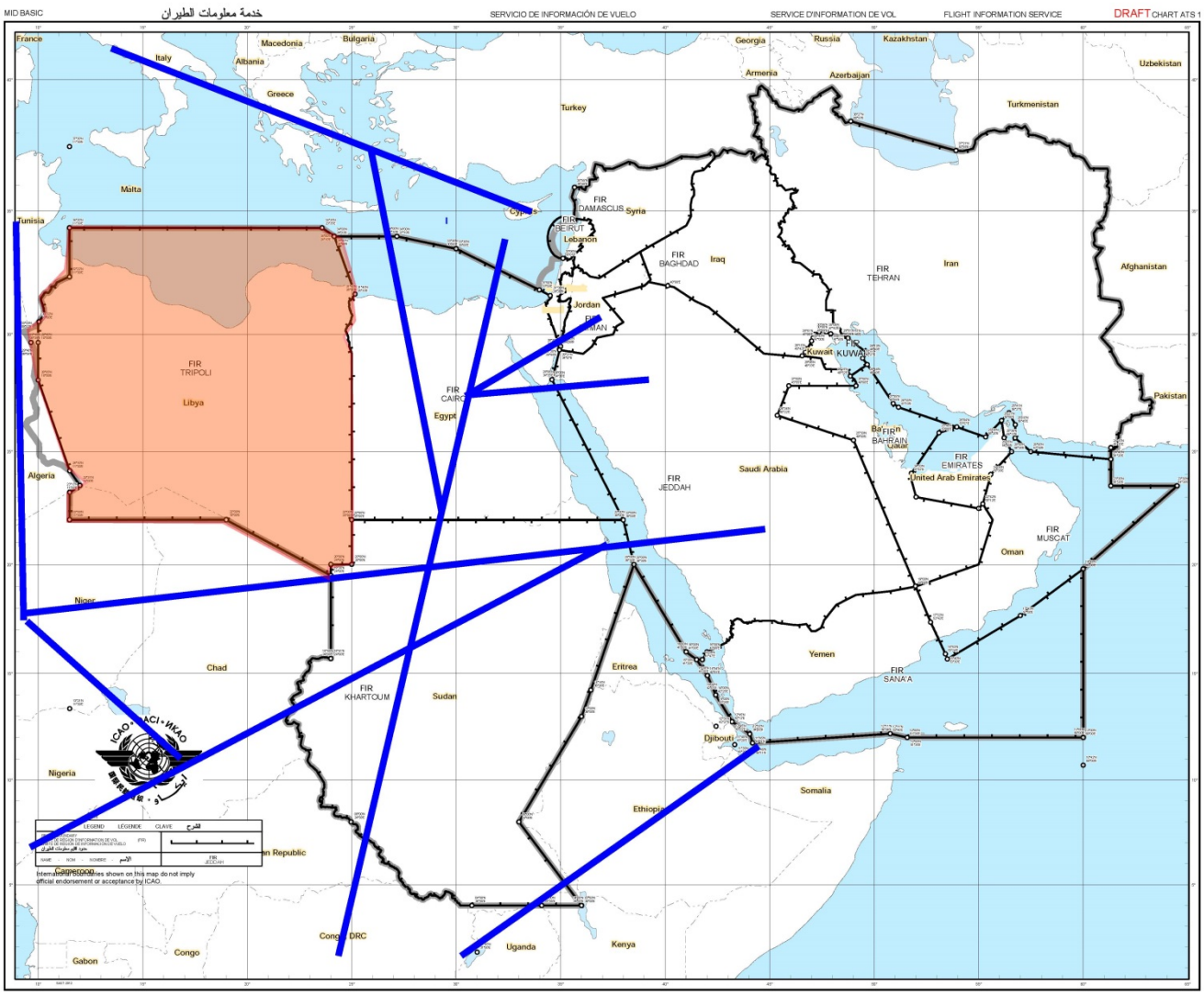
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CHAPTER 5

MID REGION ATM VOLACANIC ASH CONTINGENCY PLAN

The MID Region ATM Volcanic Ash Contingency Plan (MID ATM VACP) was developed based on the VACP prepared by the International Volcanic Ash Task Force (IVATF) in August 2012. The MID ATM VACP sets out standardised guidelines and procedures for the provision of information to airlines and en-route aircraft before and during a volcanic eruption. The plan and its appendices are at **Attachment A** to this Document.

The MID ATM VACP includes the **pre-eruption**, **start of eruption**, **ongoing**; and **recovery** phases.It is to be highlighted that most MID States would practice the **ongoing** and **recovery** phases only as the **pre-eruption** and **start of eruption** phases would only apply to the States where volcanoes erupt. Furthermore, the MID Region would receive volcanic ash advisories and volcanic ash advisories in graphic form from the Volcanic Ash Advisory Center (VAAC) Toulouse.

Volcanic contamination, of which volcanic ash is the most serious, is a hazard for safe flight operations. Mitigating the hazards posed by volcanic ash in the atmosphere and/or at the aerodrome cannot be resolved in isolation but through collaborative decision making (CDM) involving all stakeholders concerned. During an eruption, volcanic contamination can reach and exceed the cruising altitudes of turbine-powered aircraft within minutes and spread over vast geographical areas within a few days. Encounters with volcanic ash may result in a variety of hazards including one or more of the following:

a) the malfunction, or failure, of one or more engines leading not only to reduction, or complete loss of thrust but also to failures of electrical, pneumatic and hydraulic systems;
b) the blockage of pitot and static sensors resulting in unreliable airspeed indications and erroneous warnings;
c) windscreens rendered partially or completely opaque;
d) smoke, dust and/or toxic chemical contamination of cabin air requiring crew to don oxygen masks, thus impacting verbal communication; electronic systems may also be affected;
e) the erosion of external and internal aircraft components;
f) reduced electronic cooling efficiency leading to a wide range of aircraft system failures;
g) the aircraft may have to be manoeuvred in a manner that conflicts with other aircraft; and
h) volcanic ash deposition on a runway may degrade aircraft braking performance, most significantly if the volcanic ash is wet; and in extreme cases, this can lead to runway closure.

Operators are required by ICAO Annex 6 – *Operation of Aircraft* to implement appropriate mitigation measures for volcanic ash in accordance with their safety management system (SMS), as approved by the State of the Operator/Registry. The guidelines provided in the MID ATM VACP document assume that the ICAO requirements regarding safety management systems have been implemented by the operators. Detailed guidance on Safety Risk Assessments (SRAs) for flight operations with regard to volcanic ash contamination can be found in the manual on *Flight Safety and Volcanic Ash – Risk Management of Flight Operations with Known or Forecast Volcanic Ash Contamination* (ICAO Doc 9974).

Distribution of applicable Aeronautical Information Services (AIS) and Meteorological (MET) messages related to volcanic ash are set out in relevant ICAO Annexes, specifically Annex 15–*Aeronautical Information Services* and Annex 3 – *Meteorological Service for International Air Navigation.*

Volcanic ash can also affect the operation of aircraft at aerodromes. Volcanic ash deposition at an aerodrome, even in very small amounts, can result in the closure of the aerodrome until all the deposited ash has been removed. In extreme cases, the aerodrome may no longer be available for operation at all, resulting in repercussions on the ATM system, e.g. diversions, revised traffic flows, etc.

Some aircraft types or engine technologies are more vulnerable to volcanic ash contaminants than others; therefore, any specific mitigation measures to be applied would have to take into account any such variance. Considering that a commercial aircraft travels about 150 km (80 NM) in 10 minutes and that volcanic ash can rise to flight levels commonly used by turbine-engine aircraft in half that time, a timely response to volcanic eruptions and volcanic ash in the atmosphere is essential.

It is imperative that information on the volcanic activity is disseminated as soon as possible. In order to assist staff in expediting the process of originating and issuing relevant AIS and MET messages, a series of templates should be available for different stages of the volcanic activity. For the list of ICAO registered volcanoes see the *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (ICAO Doc 9691)*. Volcanoes name, number and nominal position should be available at the State's International NOTAM office. Volcanic ash exercises (VOLCEX) should be conducted at a frequency determined by the ICAO Region concerned, in order to ensure the smooth implementation and effectiveness of the contingency plan in case of an actual volcanic eruption.

This document has been prepared, and is in line with a proposal for amendment to the *Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444)* paragraph 15.8 *Procedures for an ATC unit when a volcanic ash cloud is reported or forecast* — which is expected to become applicable in November 2014.

General considerations during the development of an ATM contingency plan for volcanic ash and anticipated flight crew issues when encountering volcanic ash are provided in Appendices A and B respectively.

ATTACHMENT A

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MID REGION ATM VOLCANIC ASH CONTINGENCY PLAN

Draft Version 1.0: October 2013

MID REGION AIR TRAFFIC MANAGEMENT VOLCANIC ASH CONTINGENCY PLAN

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1. TERMINOLOGY

1.1. Areas of Contamination

1.1.1. Information on areas of observed and/or forecast volcanic ash in the atmosphere is provided by means of appropriate MET messages in accordance with Annex 3 – *Meteorological Service for International Air Navigation*.[1]

1.2. Danger Areas

1.2.1. If it is considered that the volcanic event could pose a hazard to aviation, a danger area[2] may be declared by NOTAM. However, this option should only be applied over and in the proximity of the volcanic source. Normally, clearances will not be issued through the danger area unless explicitly requested by the flight crew. In this context it should be noted that the final responsibility for aircraft safety rests with the flight crew. Therefore, the final decision regarding route, whether it will be to avoid or proceed through an area of volcanic activity, is the flight crew's responsibility. Wherever this document discusses the possible establishment of danger areas, States are not prevented from establishing restricted or prohibited areas over the sovereign territory of the State if considered necessary by the State concerned.

1.2.2. Although it is the prerogative of the Provider State to promulgate a danger area in airspace over the high seas, it should be recognized that restrictions to the freedom of flight over the high seas cannot be imposed in accordance with the United Nations Convention on the Law of the Sea (Montego Bay 1982).

1.3. Phases of An Event

1.3.1. The response to a volcanic event that affects air traffic has been divided into four distinct phases in this document: Pre-Eruption, Start of Eruption, On-going Eruption and Recovery Phases as follows:

Pre-Eruption Phase (when applicable)**:** The initial response, "raising the alert", commences when a volcanic eruption is expected.

Appropriate AIS and MET messages may be issued in accordance with Annex 15 and Annex 3 respectively, and disseminated to affected aircraft in flight by the most expeditious means. It should be noted that, sometimes volcanoes erupt unexpectedly without any alert being raised; hence the pre-eruption phase may be omitted.

Start of Eruption Phase (when applicable)**:** The start of eruption phase commences at the outbreak of the volcanic eruption and entrance of volcanic ash into the atmosphere and mainly pertains to aircraft in flight. Appropriate AIS and MET messages may be issued as appropriate in accordance with Annex 15 and Annex 3 respectively, and a danger area may be declared by NOTAM. Normally, clearances will not be issued through the danger area unless explicitly requested by the flight crew.

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[1] Principally this will include volcanic ash advisory messages (issued by volcanic ash advisory centres) and SIGMET information on volcanic ash (issued by meteorological watch offices).

[2] Depending on the State's regulation, the area may be established as a "danger area", "restricted area "or "prohibited area". Over the high seas only "danger area" may be established.

On-Going Eruption Phase: The on-going eruption phase commences with the issuance of the first Volcanic Ash Advisory (VAA) containing information on the extent and movement of the volcanic ash cloud following completion of the previous reactive responses. Appropriate AIS and MET messages may be issued as appropriate in accordance with Annex 15 and Annex 3, respectively.

Recovery Phase: The recovery phase commences with the issuance of the first VAA containing a statement that "NO VA EXP" (i.e. "no volcanic ash expected") which normally occurs when it is determined that no volcanic ash is expected in the atmosphere and the volcanic activity has reverted to its pre-eruption state.

Note: These descriptions are amplified in Chapter 3 of this document.

1.3.2. Although the four distinct phases herein describe actions to be undertaken during an actual volcanic event, they are based on a theoretical scenario. Actual eruptions may not always be distinct with respect to ATM actions to be undertaken. Similarly, an eruption may occur without any pre-eruptive activity, or may cease and restart more than once. Hence, the first observation may be the presence of an ash cloud which is already some distance away from the volcano. It is essential that the contingency planning prepares the ATM system for an appropriate response depending on the actual conditions. Therefore, the "Pre-Eruption Phase" and "Start of Eruption Phase" described in this document are annotated "when applicable" in order to provide for flexibility in the application of the contingency plan in those parts of the world with insufficient volcano monitoring and alerting.

1.3.3. Flight crews are required to report observations of volcanic activity by means of a special air-report (Special AIREP). Arrangements should be put in place to ensure that such information is transferred without delay to the appropriate aeronautical institutions responsible for subsequent action. The communication and dissemination of pilot reports on volcanic activity is described in Appendix C.

2. PRE-ERUPTION PHASE

2.1. General

2.1.1. Where flight operations are planned in areas that are susceptible to volcanic eruptions, ATS units may expect to receive from flight crews the ICAO Volcanic Activity Report (VAR) form (published in the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444, Appendix 1).

2.1.2. The focus of this phase is to gain early recognition of volcanic events. This phase is frequently characterised by a very limited availability of information on the potential extent and severity of the impending eruption. The priority is to ensure the continued safety of aircraft in flight; this requires promulgating information as a matter of urgency. Notwithstanding the potentially limited extent of information available, the pre-eruption phase actions described below should be carried out for every expected eruption.

2.1.3. The initial response, "raising the alert", commences when a volcanic eruption is expected. Initial awareness of the event may be by means of a Special AIREP/VAR and/or from information provided by meteorological or volcano-logical agencies. Arrangements in each State between designated volcano observatories, meteorological and air traffic management agencies

should ensure that alerting information is provided expeditiously by the most appropriate means to provide continued safety of flight.

2.1.4. Emphasis is placed on raising awareness of the hazard and to protect aircraft in flight. The actions are based on well-prepared, well-exercised contingency plans and standard operating procedures. Aircraft are expected to clear or avoid the volcanic ash affected area based on standard operating procedures.

2.2. Originating ACC Actions *(eruption expected in its own flight information region)*

2.2.1. In the event of significant pre-eruption volcanic activity, which could pose a hazard to aviation, an area control centre (ACC)[3], on receiving information of such an occurrence, should carry out the following:

a) ensure that appropriate AIS messages are originated in accordance with Annex 15. These must provide as precise information as is available regarding the activity of the volcano. It is imperative that this information is issued by the international NOTAM office and disseminated as soon as possible in accordance with the provisions of Annex 15;

b) when so required by the State, define an initial, precautionary danger area in accordance with established procedures. The size of the danger area should encompass a volume of airspace in accordance with the information available, aiming to avoid undue disruption of flight operations;

   i. if no such procedures have been established, the danger area should be defined as a circle with a radius of xxx km (xx NM)[4]. The circle should be centred on the estimated or known location of the volcanic activity;

   ii. although ATC would not normally initiate a clearance through a danger area, it will inform aircraft about the potential hazard and continue to provide normal services. It is the responsibility of the pilot-in-command to determine the safest course of action.

c) advise the associated MET service provider(s) in accordance with national/regional arrangements unless the initial notification originated from such provider(s), who will then inform the appropriate air traffic flow management (ATFM) units;

d) alert flights already within the area concerned and offer assistance to enable aircraft to exit the area in the most expeditious and appropriate manner. Flight crews should be provided with all necessary information required to make safe and efficient decisions in dealing with the hazards in the defined area. Aircraft that are close to the area should be offered assistance to remain clear of the area. Flights which would be expected to penetrate the area should be re-cleared onto routes that will keep them clear;

[3] Where the term "ACC" is used throughout this document, it is intended to also include all ATS facilities.
[4] The size of the area is to be agreed in the region concerned and should be based on local knowledge as regards the volcano concerned.

e) immediately notify other affected ACCs of the event and the location and dimensions of the area concerned. The ACC should also negotiate any re-routings necessary for flights already coordinated but still within adjacent Flight Information Regions (FIRs) and provide any information on potential implications on traffic flow and its capability to handle the expected traffic. It is also expected that adjacent ACCs will be asked to reroute flights not yet coordinated to keep them clear of the area. It should be noted that flight crews may make the decision not to completely avoid the area based on, for example, visual observations; and

f) implement flow management measures if necessary to maintain the required level of safety.

Note 1. — In order to assist staff in expediting the process of composing the AIS messages, a series of templates should be available for this stage of the volcanic activity.

2.2.2. In addition to sending the relevant AIS messages to the normal distribution list, it will be sent to the relevant meteorological facilities.

2.3. Adjacent ACC Actions

2.3.1. During the pre-eruption phase, ATC will not normally initiate clearances through a danger area; however, it will inform aircraft about the potential hazard and continue to provide normal services. Adjacent ACCs should take the following action to assist:

a) when advised, re-clear flights to which services are being provided and which will be affected by the area; and

b) unless otherwise instructed, continue normal operations and:

i. if one or more routes are affected by the area, suggest re-routings to the affected aircraft onto routes clear of the area; and

ii. maintain awareness of the affected area.

2.4. ATFM Unit Actions

2.4.1. The ATFM unit and the associated Volcanic Ash Advisory Centre (VAAC) will determine how their initial communications will take place on the basis of bilateral agreements. Upon reception of preliminary information on volcanic activity from the lead VAAC, the ATFM unit should initiate actions in accordance with its procedures to ensure exchange of information in order to support CDM between air navigation service providers (ANSPs), Meteorological Watch Offices (MWOs), VAACs and aircraft operators concerned.

3. START OF ERUPTION PHASE

3.1. General

3.1.1. This phase commences at the outbreak of a volcanic eruption, with volcanic ash being ejected into the atmosphere. The focus of the processes in this phase is to protect aircraft in

flight and at aerodromes from the hazards of the eruption through the collection and use of relevant information.

3.1.2. In addition to relevant actions described under the pre-eruption phase, major activities of the start of eruption phase such as the issuance of relevant AIS and MET messages in accordance with Annex 15 and Annex 3, respectively and provision of information and assistance to airborne traffic. Danger areas will be declared via NOTAM, as appropriate. This phase will last until such time as the on-going eruption phase can be activated.

3.2. Originating ACC Actions (eruption in its own FIR)

3.2.1. The ACC providing services in the FIR within which the volcanic eruption takes place should inform flights about the existence, extent and forecast movement of volcanic ash and provide information useful for the safe and efficient conduct of flights.

3.2.2. If necessary, rerouting of traffic should commence immediately or may be in progress if the alerting time has been sufficient to facilitate activation of the pre-eruption phase. The ACC should assist in rerouting aircraft around the danger area as expeditiously as possible. Adjacent ACCs should also take the danger area into account and give similar assistance to aircraft as early as possible.

3.2.3. During the start of eruption phase, although ATC will not normally initiate a clearance through a danger area, it will inform aircraft about the hazard and will continue to provide normal services. It is expected that aircraft will attempt to remain clear of the danger area. However, it is the responsibility of the pilot-in-command to determine the safest course of action.

3.2.4. During the start of eruption phase the ACC should:

a) ensure that a NOTAM is originated to define a danger area delineated cautiously so as to encompass a volume of airspace in accordance with the limited information available. In determining the area, information on upper winds should be taken into account, if available. The purpose is to ensure safety of flight in the absence of any prediction from a competent authority of the extent of contamination;

b) maintain close liaison with MET facilities, who should issue appropriate MET messages in accordance with Annex 3;

c) devise and update ATFM measures when necessary to ensure safety of flight operations, based on these forecasts and in cooperation with aircraft operators and the adjacent ACCs using the CDM process;

d) ensure that reported differences between published information and observations (pilot reports, airborne measurements, etc.) are forwarded as soon as possible to the appropriate authorities to ensure its dissemination to all concerned;

e) begin planning for the on-going eruption phase in conjunction with the aircraft operators, the appropriate ATFM unit and ACCs concerned; and

f) issue appropriate AIS messages in accordance with Annex 15. Significant reductions in intensity of volcanic activity should take place during this phase and the airspace no longer is contaminated by volcanic ash. Otherwise, begin CDM planning for the on-going eruption phase in conjunction with aircraft operators, the appropriate ATFM unit and the affected ACCs.

3.3. Adjacent ACC Actions

3.3.1. During the start of eruption phase, adjacent ACCs should take the following actions:

a) maintain a close liaison with the appropriate ATFM unit and the originating ACC to design, implement and keep up to date ATFM measures which will enable aircraft to ensure safety of flight operations;

b) the adjacent ACC, in cooperation with the originating ACC and aircraft operators, should impose as required additional tactical measures to those issued by the appropriate ATFM unit;

c) maintain awareness of the affected area; and

e) begin planning for the on-going eruption phase in conjunction with the aircraft operators, the appropriate ATFM unit and ACCs concerned.

3.4. ATFM Unit Actions

3.4.1. During the start of eruption phase, depending on the impact and/or extent of the volcanic ash, the appropriate ATFM unit should organise the exchange of latest information on the developments with the associated VAACs, ANSPs, MWOs and operators concerned in order to support CDM.

4. ON-GOING ERUPTION PHASE

4.1. The on-going eruption phase commences with the issuance of the first volcanic ash advisory (VAA) by the lead VAAC which contains information on the extent and movement of the volcanic ash cloud in accordance with Annex 3 provisions.

Note 2 - Volcanic ash advisory information in graphical format (VAG) may also be issued by the VAAC, containing the same information as its text-based VAA equivalent.

4.2. The VAA/VAG should be used to:

a) prepare appropriate AIS and MET messages in accordance with Annex 15 and Annex 3 provisions, respectively; and

b) plan and apply appropriate ATFM measures.

4.3. The volcanic contamination may affect any combination of airspace; therefore, it is not possible to prescribe measures to be taken for all situations. Furthermore, it is not possible to detail the actions to be taken by any particular ACC. The following guidance therefore may

prove useful during the on-going eruption phase but should not be considered mandatory or exhaustive:

a) ACCs affected by the movement of the volcanic ash should ensure that appropriate AIS messages are originated in accordance with Annex 15. ACCs concerned and the appropriate ATFM unit should continue to publish details on measures taken to ensure dissemination to all concerned;

b) depending on the impact and/or extent of the volcanic ash, the appropriate ATFM unit may take the initiative to organize teleconferences to exchange the latest information on the developments, in order to support CDM, with the VAACs, ANSPs and MWOs and operators concerned;

c) ACCs and ATFM units should be aware that for the purposes of flight planning, operators could treat the horizontal and vertical extent of the volcanic ash contaminated area to be over-flown as if it were mountainous terrain; and

d) any reported differences between published information and observations (pilot reports, airborne measurements, etc.) should be forwarded as soon as possible to the appropriate authorities (see Appendix C).

5. RECOVERY PHASE

5.1. The recovery phase commences with the issuance of the first VAA/VAG containing a statement that "NO VA EXP" (i.e. "no volcanic ash expected") — which normally occurs when it is determined that the volcanic activity has reverted to its pre-eruption state and the airspace is no longer affected by volcanic ash contamination. Consequently, appropriate AIS messages should be issued in accordance with Annex 15.

5.2. ACCs and ATFM units should revert to normal operations as soon as practical.

6. AIR TRAFFIC CONTROL PROCEDURES

6.1. If a volcanic ash cloud is reported or forecasted in the FIR for which the ATS unit is responsible, the following actions should be taken:

a) relay all pertinent information immediately to flight crews whose aircraft could be affected to ensure that they are aware of the ash cloud's position and levels affected;

b) request the intention of the flight crew and endeavour to accommodate requests for re-routing or level changes;

c) suggest appropriate re-routing to the flight crew to avoid an area of reported or forecast ash clouds; and

d) request a special air-report when the route of flight takes the aircraft into or near the forecast ash cloud and provide such special air-report to the appropriate agencies.

Note 3.— The recommended escape manoeuvre for an aircraft which has encountered an ash cloud is to reverse its course and begin a descent if terrain permits.

Note 4. — The final authority as to the disposition of the aircraft, whether to avoid or proceed through a reported or forecast volcanic ash cloud, rests with the flight crew.

6.2. When advised by the flight crew that the aircraft has inadvertently entered a volcanic ash cloud, the ATS unit should:

a) take such action applicable to an aircraft in an emergency situation; and

b) do not initiate modifications of route or level assigned unless requested by the flight crew or necessitated by airspace requirements or traffic conditions.

Note 5.— General procedures to be applied when a pilot reports an emergency situation are contained in Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444, *Chapter 15, 15.1.1 and 15.1.2).*

Note 6.— Guidance material concerning the effect of volcanic ash and the impact of volcanic ash on aviation operational and support services is provided in Chapters 4 and 5 of the Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691).

7. ATFM PROCEDURES

7.1. Depending on the impact and/or extent of the volcanic ash and in order to support CDM, the appropriate ATFM unit should organize the exchange of the latest information on the developments with the associated VAACs, ANSPs, MWOs and operators concerned.

7.2. The ATFM unit will apply ATFM measures on request of the ANSPs concerned. The measures should be reviewed and updated in accordance with updated information. Operators should also be advised to maintain watch for relevant AIS and MET messages for the area.

APPENDIX A

GENERAL CONSIDERATIONS DURING THE DEVELOPMENT OF AN ATM CONTINGENCY PLAN FOR VOLCANIC ASH

1. In a contingency plan relating to volcanic ash contamination, certain steps need to be taken to provide a coordinated and controlled response for dealing with an event of this nature. Responsibilities should be clearly defined to ATS personnel. The plan should also identify the officials who need to be contacted, the type of messages that are to be created, the proper distribution of the messages and how to conduct business.

2. ATS personnel need to be trained and be made aware of the potentially hazardous effects if an aircraft encounters a volcanic ash cloud. Some particular aspects include:

a) volcanic ash contamination may extend for hundreds, or even thousands of miles horizontally and reach the stratosphere vertically;

b) volcanic ash may block the pitot-static system of an aircraft, resulting in unreliable airspeed indications;

c) braking conditions at aerodromes where volcanic ash has recently been deposited on the runway will affect the braking ability of the aircraft. This is more pronounced on runways contaminated with wet ash. Flight crews and ATS personnel should be aware of the consequences of volcanic ash being ingested into the engines during landing and taxiing. For departure, it is recommended that pilots avoid operating in visible airborne ash; instead they should allow sufficient time for the particles to settle before initiating a take-off roll, in order to avoid ingestion of ash particles into the engine. In addition, the movement area to be used should be carefully swept before any engine is started;

d) volcanic ash may result in the failure or power loss of one or all engines of an aircraft; and

e) aerodromes with volcanic ash deposition may be declared unsafe for flight operations. This may have consequences for the ATM system.

4. The area control centre (ACC) in conjunction with ATFM units serves as the critical communication link between affected aircraft in flight and the providers of information during a volcanic eruption. During episodes of volcanic ash contamination within the FIR, the ACC has two major communication roles. First and most important is its ability to communicate directly with aircraft enroute which may encounter the volcanic ash. Based on the information provided in SIGMET information for volcanic ash and volcanic ash advisories (VAAs), and working with MWOs, ATS personnel should be able to advise the flight crew of which flight levels are affected by the volcanic ash and the forecast movement of the contamination. Through various communication means, ATS units have the capability to coordinate with the flight crew alternative routes which would keep the aircraft away from the volcanic ash cloud.

5. Similarly, through the origination of a NOTAM/ASHTAM for volcanic activity the ACC can disseminate information on the status and activity of a volcano even for pre-eruption increases in volcanic activity. NOTAM/ASHTAM and SIGMET, together with AIREPs, are critical to dispatchers for flight planning purposes. Operators need as much advance notification as possible on the status of a volcano for strategic planning of flights and the safety of the flying

public. Dispatchers need to be in communication with flight crew enroute so that a coordinated decision can be made between the flight crew, the dispatcher and ATS regarding alternative routes that are available. The ACC should advise the ATFM unit concerning the availability of alternative routes. However, it cannot be presumed that an aircraft which is projected to encounter ash will be provided with the most desirable route to avoid the contamination. Other considerations have to be taken into account such as existing traffic levels on other routes and the amount of fuel reserve available for flights which may have to be diverted to other routes to allow for the affected aircraft to divert.

6. The NOTAM/ASHTAM for volcanic activity provides information on the status of activity of a volcano when a change in its activity is, or is expected to be, of operational significance. They are originated by the ACC and issued through the respective international NOTAM office based on the information received from any one of the observing sources and/or advisory information provided by the associated VAAC. In addition to providing the status of activity of a volcano, the NOTAM/ASHTAM also provides information on the location, extent and movement of the ash contamination and the air routes and flight levels affected. NOTAM can also be used to limit access to the airspace affected by the volcanic ash. Complete guidance on the issuance of NOTAM and ASHTAM is provided in Annex 15 — *Aeronautical Information Services*. Included in Annex 15 is a volcano level of activity colour code chart. The colour code chart alert may be used to provide information on the status of the volcano, with "red" being the most severe, i.e. volcanic eruption in progress with an ash column/cloud reported above flight level 250, and "green" at the other extreme being volcanic activity considered to have ceased and volcano reverted to its normal pre-eruption state. It is very important that NOTAM for volcanic ash be cancelled and ASHTAM be updated as soon as the volcano has reverted to its normal pre-eruption status, no further eruptions are expected by volcanologists and no volcanic ash is detectable or reported within the FIR concerned.

7. It is essential that the procedures to be followed by ATS personnel during a volcanic eruption, as well as supporting services such as MET, AIS and ATFM, should be translated into local staff instructions (adjusted as necessary to take account of local circumstances). It is also essential that such local staff instructions form part of the basic training for all ATS, AIS, ATFM and MET personnel whose jobs would require them to take action in accordance with the procedures. Background information to assist the ACC or Flight Information Centre (FIC) in maintaining an awareness of the status of activity of volcanoes in their FIR(s) is provided in the monthly Scientific Event Alert Network Bulletin published by the United States Smithsonian Institution and sent free of charge to ACCs/FICs requesting it.

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APPENDIX B

ANTICIPATED FLIGHT CREW ISSUES WHEN ENCOUNTERING VOLCANIC ASH

1. ATS personnel should be aware that flight crews will be immediately dealing with some or all of the following issues when they encounter volcanic ash:

a) smoke or dust appearing in the cockpit which may prompt the flight crew to don oxygen masks (could interfere with the clarity of voice communications);

b) acrid odour similar to electrical smoke;

c) multiple engine malfunctions, such as stalls, increasing exhaust gas temperature (EGT), torching, flameout, and thrust loss causing an immediate departure from assigned altitude;

d) on engine restart attempts, engines may accelerate to idle very slowly, especially at high altitudes (could result in inability to maintain altitude or Mach number);

e) at night, St. Elmo's fire/static discharges may be observed around the windshield, accompanied by a bright orange glow in the engine inlet(s);

f) possible loss of visibility due to cockpit windows becoming cracked or discoloured, due to the sandblast effect of the ash;

g) because of the abrasive effects of volcanic ash on windshields and landing lights, visibility for approach and landing may be markedly reduced. Forward visibility may be limited to that which is available through the side windows; and/or

h) sharp distinct shadows cast by landing lights as compared to the diffused shadows observed in clouds (this affects visual perception of objects outside the aircraft).

2. Simultaneously, ATS personnel can expect flight crews to be executing contingency procedures such as the following:

a) if possible, the flight crew may immediately reduce thrust to idle;

b) exit volcanic ash cloud as quickly as possible. The shortest distance/time out of the ash may require an immediate, descend and/or 180 degrees turn (if terrains permit);

c) don flight crew oxygen masks at 100 per cent (if required);

d) monitor airspeed and pitch attitude. If unreliable airspeed is suspected, or a complete loss of airspeed indication occurs (volcanic ash may block the pitot system), the flight crew will establish the appropriate pitch attitude;

e) land at the nearest suitable aerodrome; and

f) upon landing, thrust reversers may be used as lightly as feasible.

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APPENDIX C

COMMUNICATION AND DISSEMINATION OF PILOT REPORTS OF VOLCANIC ACTIVITY

1. INTRODUCTION

1.1. ICAO Annex 3-*Meteorological Service for International Air Navigation* (paragraph 5.5, g and h) prescribes that volcanic ash clouds, volcanic eruptions and pre-eruption volcanic activity, when observed, shall be reported by all aircraft. The ICAO *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444) contain detailed provisions on this special air report requirement in paragraphs 4.12.3 and 4.12.5, and the Volcanic Activity Report form in Appendix 1.

1.2. Experience has shown that reporting and sharing of information on volcanic ash encounters in accordance with the above mentioned provisions (in-flight and post-flight) varies across the world. The efficiency and quality of reporting currently depends heavily on regional characteristics and the level of regional integration. A high level of global harmonization is essential to achieve the desired level of implementation and consistency of the information.

2. PURPOSES OF VOLCANIC ASH REPORTING AND DATA COLLECTION

2.1. The main purposes for volcanic ash reporting and data collection are to:

a) locate the volcanic hazards;
b) notify immediately other aircraft (in-flight) about the hazard;
c) notify other interested parties: ANSPs (ATC, AIS, ATFM), VAACs, MWO, etc. to ensure the consistent production of appropriate information and warning products in accordance with existing provisions; and
d) analyse collected reports from the post-flight phase in order to:
   - identify areas of concern;
   - validate and improve volcanic ash forecasts;
   - improve existing procedures;
   - assist in defining better airworthiness requirements; and
   - share lessons learned, etc.

3. PHASE OF OPERATIONS

3.1. The roles and responsibilities of the participants in the collection, exchange and dissemination of the volcanic information are distinctly different in two distinct phases:

a) in-flight; and
b) post-flight.

3.2. The following section analyses these separately.

4. PARTICIPANTS IN THE REPORTING PROCESS, THEIR ROLES AND RESPONSIBILITIES

4.1. Identification of the participants as well as their roles and responsibilities in general, but specifically during the two different phases of operations, is an important element in improving collection, exchange and dissemination of volcanic information. The number of participants and their roles and responsibilities depends on the phase of operations (in-flight, post-flight), their position in the information chain within one of these two phases and national/regional arrangements. One of the main issues regarding participants' roles and

responsibilities is that each of them is, at one time or another, both a data/information provider and user of the information.

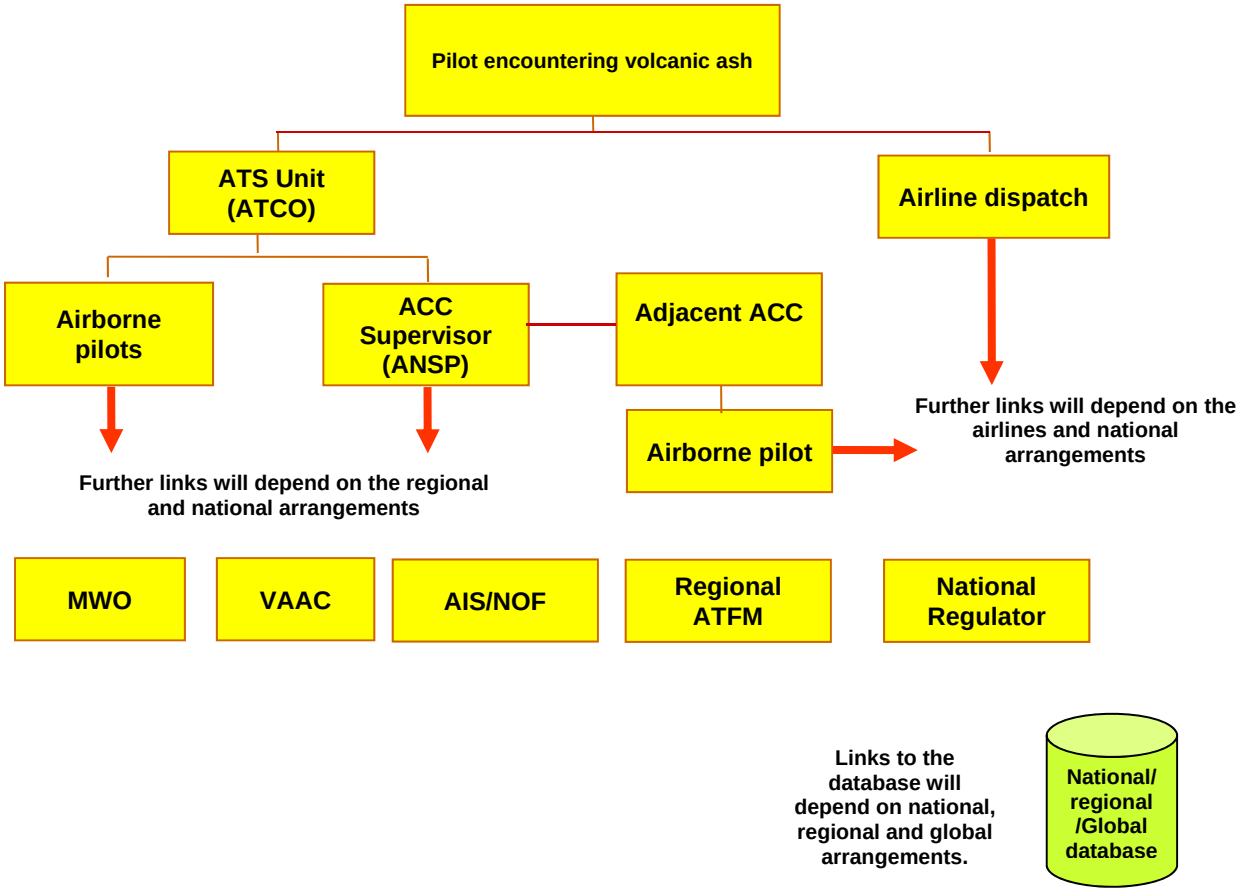
4.2. *In-Flight Phase*

4.2.1 Participants, Roles & Responsibilities:

Participants	Roles & Responsibilities
Pilots, civil and/or military, observing and/or encountering volcanic activity	To provide as much detailed information as possible about the type, position, colour, smell, dimensions of the volcanic contamination, level and time of the observation and forward VAR Part I immediately to the ATS unit with which the pilot is in radiotelephony (R/T) communication. Record the information required for VAR Part II on the appropriate form as soon as possible after the observation or encounter and file the report via data link, if available.
ATS unit receiving the information from the pilot encountering volcanic event	To ensure that information received by an air traffic controller from the pilot has been copied, clarified (if necessary), and disseminated to other pilots as well as to the ACC Supervisor. In addition, air traffic controllers could ask other pilots flying within the same area if they have observed any volcanic activity.
ATS unit/ACC Supervisor (if applicable) or other Air Navigation Service Provider responsible person	To use all means of communication and available forms to ensure that the information received from the air traffic controller has been: - passed on to the associated Meteorological organizations in accordance with national/regional arrangements; - fully and immediately disseminated across the organization, in particular to adjacent sectors and the associated NOTAM Office (NOF); - passed on to the neighbouring sectors and ACCs (if necessary); - passed on to the regional ATFM centre if existing (e.g. CFMU in Europe); - passed on to the national/regional authority responsible for the handling of contingency situations.
Neighbouring ANSPs (ACCs)	To ensure that information is provided to flight crews flying towards the area affected by the volcanic contamination; disseminated across the organization and the system prepared to cope with the possible changes of the traffic flows; and that the information is provided to the national authority responsible for the handling of contingency situations and passed on to the NOF and MWO as required.
MET Watch Office	To use the information originated by flight crews and forwarded by the ATS unit, in accordance with Annex 3.
VAAC	To use the information originated by flight crews, MWOs and other competent sources in accordance with Annex 3
AIS / NOF	To publish appropriate AIS messages in accordance with Annex 15
ATFM unit or centre (if existing)	To ensure that information received is stored and made available for information to all partners in its area of responsibility (ANSPs, airlines, VAAC, MET etc.). As part of the daily activity, coordinate ATFM measures with ACCs concerned.

4.2.2 *In-flight reporting – Sample Flow Chart of the volcanic ash information*

4.2.2.1 The chart below is a graphical representation of a possible path of the in-flight volcanic ash information and may differ between regions depending on regional arrangements. It also gives the position of the volcanic ash participants in the reporting chain. The flow chart is not exhaustive and the path of the information can be extended and new participants could be added depending of the national and regional requirements:



4.3 *Post-Flight Operations Roles & Responsibilities and order of reporting*

Participants	Roles & Responsibilities
Civil and/or military pilots/airlines having observed or encountered an eruption or volcanic contamination	To file the volcanic ash report with as much detailed information as possible about the volcanic activity and/or encounter (position, colour, smell, dimensions, FL, time of observation, impact on the flight, etc.). Ensure that the VAR is filed and transmitted to the relevant recipients as soon as possible after landing (if not filed via data link already during the flight). Make an entry into the Aircraft Maintenance Log (AML) in case of an actual or suspected encounter with volcanic contamination.
ANSP	To provide a summary report of effects of the volcanic activity that affected its operations at least once per day to the national authority with as much detailed information as possible about the number of encounters, impact on air traffic management, etc.).
AOC Maintenance - Post flight Inspection	To report about the observation of the aircraft surfaces, engine, etc., and to provide the information to the national, regional or global central data repository, where applicable.

Investigation authority	All aeronautical service providers (including operators, ANSPs, airports, etc.) shall investigate the effects of a volcanic activity, analyse the information, search for conclusions, and report the investigation results and relevant information to the national supervisory authority and any central data repository.
National Authority	To handle the national central data repository and report to the regional/global central data repository if any. To analyse reports from its aeronautical service providers and take action as appropriate.
Regional Central Data Repository	To collect the national data and make them available to interested stakeholders under agreed conditions.
MWO	To use the national and regional information coming from national and regional central data repositories.
VAAC	To use the information originated by flight crews, and other competent sources to: a) validate its products accordingly and; b) improve the forecast.
Global Data Repository (and research institutes - where appropriate)	To analyse the information stored in the regional central data repository and provide the research outcomes for lessons learnt process.
Knowledge management (e.g. SKYbrary)	To use the post-flight lessons learnt and disseminate them to interested stakeholders.
ICAO	To review/revise ATM volcanic ash contingency plans.

4.4 *Tools for presenting and sharing the volcanic ash information*

4.4.1 To report, transmit and disseminate the volcanic ash encounter information, different types of tools can be used. The list below is provided to give ideas as to what tools can be used. It could also be split into regulatory and general information tools. At any case, it is not an exhaustive list and can be updated with new elements depending on regional experiences.

a) Radiotelephony and Data link Communications;
b) VAR;
c) NOTAM/ASHTAM;
d) SIGMET;
e) VAA/VAG;
f) Central data repository e.g. CFMU Network Operations Portal (NOP);
g) Centralized web based sites with the regularly updated information and maps – e.g. http://www.eurocontrol.int/
h) Teleconferences;
i) Periodic Bulletins with the set of information defined by the data providers and data users; e.g. Smithsonian Institution Weekly Bulletin; and/or
j) Centralized internet-based sites for the sharing of lessons learnt (Knowledge management – e.g. SKYbrary http://www.skybrary.aero/index.php/Main_Page).

APPENDIX D

SIGMET and NOTAM EXAMPLES DURING VOLCANIC ASH

Volcanic Ash (VA) Cloud (CLD) in Kuwait FIR

WVKW31 OKBK 030900
OKBK SIGMET 1 VALID 030900/031500 OKBK-
OKAC KUWAIT FIR VA CLD OBS AT 0840Z W OF E48 FL180/320 MOV E 45KT NC FCST1500Z VA CLD APRX E OF E4730=

Cancellation SIGMET as volcanic ash cloud exits Kuwait FIR into Tehran FIR (sooner than expected)

WVKW31 OKBK 031400
OKBK SIGMET 2 VALID 031400/031500 OKBK-
OKAC KUWAIT FIR CNL SIGMET 1 030900/031500 VA MOV TO OIIX FIR=

VA CLD in Cairo FIR

WVEG31 HECA 030900
HECA SIGMET 1 VALID 030900/031500 HECA-
HECC CAIRO FIR VA CLD OBS AT 0840Z N OF LINE N3140 E2510 - N29 E30 W OF LINE N3150 E3359 – N29 E30 FL100/290 MOV SE 35KT NC FCST1500Z VA CLD APRX N OF LINE N3140 E2510 – N2806 E3435=

Cancellation SIGMET as volcanic ash cloud exits Cairo FIR into Jeddah FIR (sooner than expected)

WVEG31 HECA 031330
HECA SIGMET 2 VALID 031330/031500 HECA-
HECC CAIRO FIR CNL SIGMET 1 030900/031500 VA MOV TO OEJD FIR=

Example NOTAM based on SIGMET issued for Cairo FIR

Q) HECC/QWWXX/IV/NBO/W/100/290/999
A) HECC B) 1311030900 C) 1311031500
E) ATM AND ACFT TAKE NECESSARY ACTION DUE TO VOLCANIC ASH AREA OF HIGH/MEDIUM CONTAMINATION (FROM VOLCANO ETNA 211060, 37.734N 015.004E) AS FOLLOWS:
3400N 2410E – 3140N 2510E – 2900N 3000E – 3150N 3359E – 3330N 3000E – 3400N 2710E – 3400N 2410E
F) FL100 G) FL290

Special Air-Reports on Volcanic Ash

Special air-reports on volcanic ash sent to ACCs should then be sent via AFTN to the relevant Meteorological Watch Office (MWO) which is forwarded to the relevant Volcanic Ash Advisory Centre (VAAC) – for MID Region that is VAAC Toulouse.

SPECIAL AIREP → ACC → MWO → VAAC

Pilots should use the special air-reports format on volcanic ash as at Table A4-1 in Appendix 4 of ICAO Annex 3.
