International Civil Aviation Organization

MIDANPIRG STEERING GROUP

Sixth Meeting (MSG/6)
(Cairo, Egypt, 3 - 5 December 2018)

Agenda Item 5.3:   **Specific Air Navigation issues**

ATM MATTERS

(Presented by the Secretariat)

SUMMARY

This paper presents some ATM matters through the review of ATM SG/3, ATM SG/4 and ANSIG/3 meetings outcomes, for consideration and/or endorsement by the meeting.

Action by the meeting is at paragraph 3.

REFERENCES

- ATM SG/3 Report
- ATM SG/4 Report
- ANSIG/3 Report

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1.   **INTRODUCTION**

1.1   The Third meeting of the the MIDANPIRG ATM Sub-Group (ATM SG/3) was held at the ICAO Middle East Office in Cairo, Egypt, from 22 to 25 May 2017.

1.2   The Fourth meeting of the MIDANPIRG ATM Sub-Group (ATM SG/4) was hosted by the Civil Aviation Regulatory Commission (CARC) - Jordan, in Amman from 29 April to 2 May 2018.

1.3   The Third meeting of the Air Navigation Systems Implementation Group (ANSIG/3) was held at the ICAO Middle East Office in Cairo, Egypt, from 2 to 4 July 2018.

2.   **DISCUSSION**

ATS Route Network

2.1   The ATM SG/4 meeting commended States and stakeholders for the excellent cooperation and their commitment to improve the ATS route network in the MID Region.

2.2   The ATM SG/4 meeting congratulated UAE and Sudan for the successful implementation of the new airspace restructuring project on 7 December 2017 within Emirates FIR and 26 April 2018 within Khartoum FIR.

2.3   The ATM SG/4 meeting recalled that the ATM SG/3 meeting recognized that the prefix "U" (Routes in Upper Airspace) has been misused, which is leading to confusion. In most cases, the limits of Upper ATS Routes are beyond the limits of the upper Airspaces, which are not clearly defined by some States.

2.4   Based on the discussions and the European experience, the ATM SG/4 meeting agreed that the prefix "U" be removed from route designators providing that the limits of the ATS routes be clearly published in the AIPs. The meeting recognized the need for the optimization of the route designators in the MID Region. Accordingly, the meeting agreed to the following Draft Conclusion:

Why	To optimize the route designators in the MID Region
What	Removal of prefix "U" from Table ATM II-MID-1 — MID Region ATS Route Network and States AIPs.
Who	ICAO MID Office / States
When	Dec 2020

DRAFT CONCLUSION 4/2: REMOVAL OF PREFIX "U" WITH ROUTE DESIGNATORS

That,

a) *States take necessary measures to remove the prefix "U" from the route designators published in their AIPs; and*

b) *support the MID Office to optimize the use of route designators in the MID Region.*

ICAO International Codes and Route Designators (ICARD)

2.5   The meeting may wish to recall that the following issues related to ICARD/5LNCs were addressed by the ATM and AIM Sub-Groups:

- Publication in National AIPs of 5LNCs, which have not been registered in ICARD;
- 5LNCs duplicates (5LNCs used in more than one State);
- Sound-like proximity;
- 5LNCs registered in ICARD but not used;
- Increasing demand of 5LNCs for terminal use (SIDs, STARs, IAPs);
- Shortage of available 5LNCs for allocation;
- Coordination of 5LNCs used as FIR BDRY with the neighboring States; and
- ICARD system/platform issues.

2.6   The meeting may wish to note that ICAO has launched a new ICARD platform in March 2017 to resolve the issues faced with the old ICARD system. The meeting noted that the new system is more user-friendly with improved database, menus and functions, including the MAP function.

2.7   The ATM SG/3 meeting recalled that a Deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

2.8   The ATM SG/3 meeting underlined the need to use the alphanumeric codes for terminal airspace in accordance with PANS-OPS (Doc 8168) provisions and agreed to mandate the use of ICARD as the only mean for managing 5LNCs through the amendment of the MID eANP.

2.9   Based on the above, the ATM SG/3 meeting agreed to the following Draft Decision and Draft Conclusion that were supported by the AIM SG/4 and ATM SG/4 meetings:

Why	To mandate the use of ICARD as the only mean for managing 5LNCs in the MID Region
What	Amendment of the MID ANP Volume II-Part IV"
Who	ICAO MID Office / States
When	March 2019 (PfA)/Continuous

DRAFT DECISION 3/2:   5LNCS/ICARD REGIONAL REQUIREMENTS

That, the Secretariat develop a draft Proposal for Amendment to the MID eANP Volume II-Specific Regional Requirements to mandate the use of ICARD as the only means for managing 5LNCs; and the alphanumeric codes for terminal airspace, in accordance with PANS-OPS (Doc 8168) provisions.

Why	To resolve ICARD issues
What	Actions to be taken by States to address the issues in bullet a)
Who	ICAO MID Office/States/Users
When	Dec 2019

DRAFT CONCLUSION 3/3:   ICARD ISSUES

That,

a)   *States be urged to take necessary actions on the resolution of the issues related to ICARD/5LNCs, including:*

   i.   *registration of all 5LNCs published in AIP into ICARD;*
   ii.   *5LNCs duplicates;*
   iii. *Non-ICAO codes;*
   iv.   *sound-like proximity;*
   v.   *release of unused registered 5LNCs; and*
   vi.   *use of Alphanumeric codes for terminal airspace, in accordance with PANS-OPS (Doc 8168) provisions.*

b)   *Users (IATA, IFALPA, Jeppesen, etc.) are invited to report issues related to ICARD/5LNCs in the MID Region to the ICAO MID Office; and*

c)   *an air navigation deficiency be filed against those States that are not complying with Annex 11 and Doc 8168 provisions related to 5LNCs.*

MID Route Development Working Group (RDWG) Activities

2.10   The ATM SG/4 meeting recalled that MIDANPIRG/16, through Decision 16/17, established the MID RDWG. The Terms of Reference (ToRs) of the RDWG at **Appendix A** were developed by the ATM SG/3 meeting through the following Draft Decision:

Why	To enhance the regional ATS route network
What	Terms of Reference of RDWG
Who	MSG/6
When	Dec 2018

DRAFT DECISION 3/3:   TERMS OF REFERENCE OF THE MID ROUTE DEVELOPMENT WORKING GROUP (MID RDWG)

*That, the MID RDWG Terms of Reference at **Appendix A** are endorsed.*

2.11   The ATM SG/4 meeting was apprised of the RDWG activities aiming to improve the ATS Route Network. The meeting commended the work of the RDWG in particular related to the development of the new MID Region ATS Route Catalogue, which was reviewed and endorsed by the meeting. Accordingly, the meeting agreed to the following Draft Conclusion:

Why	To improve the MID Region ATS Route Catalogue
What	Revised version of the MID Region ATS Route Catalogue
Who	MSG/6
When	Dec 2018

DRAFT CONCLUSION 4/4:   MID REGION ATS ROUTE CATALOGUE

That,

a) *the MID Region ATS Route Catalogue at **Appendix B** is endorsed and to be published on the ICAO MID and IATA MENA websites; and*

b) *IATA is responsible to maintain the Catalogue up-to-date through the agreed process and the MID RDWG framework.*

2.12   Taking into consideration that several efforts are taking place to improve the ATS Route Network at national and cross-border levels, the ATM SG/4 meeting invited States to use the MID RDWG as a platform to facilitate coordination.

Contingency Planning

2.13   The ATM SG/4 meeting commended States and Stakeholders for their commitment and excellent cooperation that ensured the success of the CCT framework. The following challenges were highlighted:

- the MID Region ATM Contingency Plan was developed and has been implemented with very limited resources;

- coordination and sharing of information are carried out through emails, teleconferences, phone calls; etc.; an online tool/platform would be required; and

- budget and time constraints do not allow for required face-to-face meetings and in particular for the unplanned ones.

2.14   The ATM Sg/4 meeting noted that some of the world's largest carriers along with many international carriers operating within close proximity to each other at international hubs in the MID Region, during periods of disruption, including weather or ATC capacity limitations often lead to significant delays, diversion and unprecedented levels of airborne holding. This would require the development of a Demand Versus Capacity management program during periods of disruption to be published by States, as applicable.

2.15   The ATM SG/4 meeting recalled the ATM SG/3 meeting Draft Decision 3/4 related to the establishment of MID ATM Contingency Plan Action Group to carry out a comprehensive review of the MID Region ATM Contingency Plan (MID Doc 003), taking into consideration the experience gained, the latest developments, and to include in the revised version measures and procedures enabling the CCTs to deal with airports and airspace disruptions due to weather or other factors in a timely and effective manner. The meeting agreed that the Action Group be composed of the ATM SG Chairpersons (Bahrain and Qatar), experts from Iran, Iraq, Kuwait, Saudi Arabia, UAE, AACO, IATA and ICAO.

2.16   Based on the above, the following Draft Decision is proposed for endorsement by the meeting replacing ATM SG/3 Decision 3/4

Why	To carry out a comprehensive review of the MID Region ATM Contingency Plan (MID Doc 003)
What	Establishment of the MID ATM Contingency Plan Action Group
Who	MSG/6
When	Dec 2018

Draft Decision 6/x: MID ATM Contingency Plan Action Group

That, the MID ATM Contingency Plan Action Group, composed of the ATM SG Chairpersons (Bahrain and Qatar), experts from Iran, Iraq, Kuwait, Saudi Arabia, UAE, AACO, IATA and ICAO, be established to carry out a comprehensive review of the MID Region ATM Contingency Plan (MID Doc 003).

2.17   Taking into consideration that the signature of contingency agreements is a regional requirement in the MID Region and it is not mandated in the adjacent Regions, the ATM SG/4 meeting agreed that the signature of the contingency agreements with ACCs of the States at the interfaces with the ICAO MID Region be considered as "recommended" and not mandatory. Therefore, the meeting agreed through ATM SG/4 Draft Conclusion 4/9 that the deficiencies reported against the States at the interfaces for non-signature of contingency agreements should be removed.

2.18   The meeting may wish to note that the above requirement should be reflected in the MID ANP, Volume II Part IV under Specific Regional Requirements. Accordingly, the meeting is invited to consider the following Draft Conclusion

Why	To amend the regional requirements for Contingency Agreements and the reported deficiencies in MANDD
What	Amend the MID ANP and MANDD
Who	ICAO MID Office/States
When	March2019

DRAFT CONCLUSION 6/X: DEFICIENCIES RELATED TO THE NON-SIGNATURE OF CONTINGENCY AGREEMENTS WITH STATES AT THE INTERFACE WITH ICAO MID REGION

That,

a) *the MID ANP Volume II-Part IV (ATM) be amended to reflect the regional requirements related to the signature of ATM Contingency Agreements; and*

b) *the deficiencies related to the non-signature of contingency agreements with the States at the interfaces with the ICAO MID Region be removed.*

2.19   Based on the above, the status of signed contingency agreements between adjacent ACCs is reflected in the **Graph** below:

Status of ATM Contingency Agreements Overall 67%
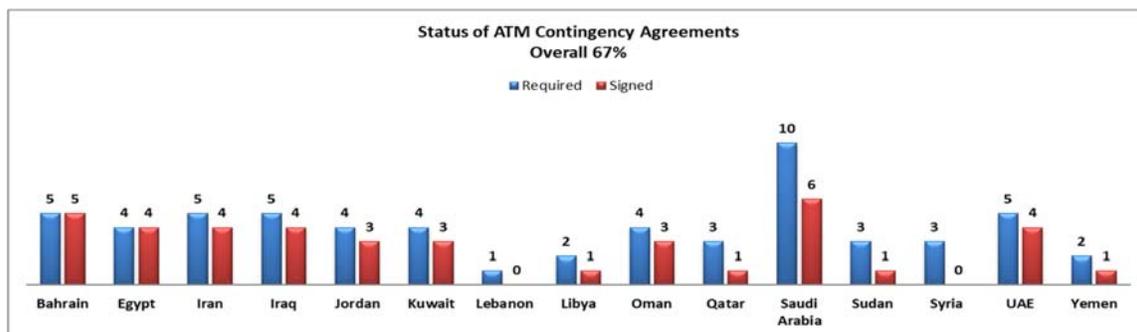
AIDC/OLDI

2.20   The ATM SG/4 meeting reviewed the status of implementation of AIDC/OLDI in the MID Region and noted with concern that the level of implementation is still far beyond the acceptable level.

2.21   The ICAO MID Office circulated a Questionnaire to identify the challenges impeding the implementation. Based on the received replies, the following challenges have been identified:

- adjacent State(s) not ready to implement AIDC/OLDI;
- no response from adjacent State(s);
- ATM system does not support AIDC/OLDI as reported by two (2) States; and
- technical problems; and
- No common protocol supported by all ATM systems in the MID Region (Incompatibilities issues)

2.22   The ATM SG/4 meeting noted that, based on above challenges, the CNS SG/8 meeting agreed to the following actions/recommendations:

- ICAO MID Office to coordinate with Paris Office regarding Beirut – Nicosia and Cairo– Nicosia OLDI connections;
- States that do not have AIDC/OLDI capability are urged to plan for an upgrade of their systems as soon as possible; and
- States that need assistance (Jordan, Lebanon and Yemen) are invited to visit Muscat Centre (including Simulator) on 3-4 September 2018, as Oman offered to share their AIDC/OLDI experience with other States;

2.23   In connection with the above, Oman organized 2-day AIDC/OLDI familiarization workshop, from 4 to 5 September 2018 to assist Jordan establishing AIDC/OLDI connections.

2.24   It was recognized that the implementation of AIDC/OLDI would improve significantly the coordination process and would reduce the amount of coordination failures between ACCs, which has been identified as a major long-standing issue by the MIDRMA Board. Consequently, the implementation of AIDC/OLDI would enhance safety and reduce ATC workload.

2.25   The ATM SG/4 meeting noted with appreciation that Bahrain and UAE implemented OLDI on 2 July 2017 and Muscat and UAE on 12 March 2018. Bahrain and UAE shared their experience highlighting the advantages and the benefits gained from the OLDI connections. UAE informed the meeting that a reduction in coordination failures by 60% between 2010 and 2017 was achieved which directly contributes to the enhancement of safety.

2.26   The ATM SG/4 meeting urged States to initiate communication for AIDC/OLDI connections taking into consideration other States' experiences and use the guidance provided in the MID Doc 006 available on the ICAO MID Website.

2.27   Based on the above, the ATM SG/4 meeting discussed the Secretariat's proposal to mandate the implementation of AIDC/OLDI through the inclusion of the requirement in the MID ANP Volume II Part IV-ATM under Specific Regional Requirements, based on a phased approach taking into consideration the situation in some States (Applicability area should be defined). Moreover, the meeting agreed in principal with the proposal to amend the Indicator and Supporting Metric of the ASBU B0-FICE related to AIDC/OLDI. Accordingly, the meeting requested the Secretariat in consultation with the ATM SG Chairpersons to present the required changes to the ANSIG/3 meeting (Cairo, Egypt, 3-5 July 2018).

2.28   The ANSIG/3 meeting noted that, based on the recommendation from the ATM SG/4 meeting, the applicability area for the AIDC/OLDI has been defined as at **Appendix C**. The meeting agreed that a requirement for AIDC/OLDI implementation (priority 1 interconnections) should be included in the MID eANP Volume II Part IV-ATM, under Specific Regional Requirements.

2.29   Based on the above, the ANSIG/3 meeting agreed to following Draft Conclusion:

Why	To mandate AIDC/OLDI implementation as per applicability area (priority 1 interconnections)
What	PfA to the MID ANP Volume II - Part IV
Who	ICAO MID Office/States
When	March2019

MSG/6-WP/10

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DRAFT CONCLUSION 3/6:   PFA TO THE MID eANP VOLUME II– ATM PART

That, a Proposal for Amendment to the MID eANP Volumes II – Part IV-ATM related to the requirement for AIDC/OLDI implementation (priority 1 interconnections) be processed in accordance with the standard procedure for amendment.

SSR Codes Issues at the EUR/MID Interface

2.30   The meeting may wish to recall that the Secondary Surveillance Radar (SSR) Code in the MID Region are managed through the MID SSR Code Management Plan (CMP), which was developed based on the study carried out by EUROCONTROL on the MID Regional traffic patterns for the month of June 2009. The meeting recognized the need to review the initial study from 2009 in the future, taking into consideration the expected traffic growth.

2.31   The ATM SG/3 meeting noted that the ICAO Paris Office and EUROCONTROL approached ICAO MID Office concerning the interference of SSR Codes used by States at the interface between the ICAO EUR and MID Regions, in particular the Codes Series used by Greece, Libya and Malta.

2.32   In order to resolve the issue, the meeting agreed to change the Transit SSR Series allocated to Libya from A2001-2077 to A7100-7177. The meeting also agreed to allocate the Domestic Code Series 2300-2377 to Qatar.

2.33   Based on the above, the meeting is invited to consider the following Draft Conclusion emanating from the ATM SG/3:

Why	To resolve SSR Codes interference at the interface with Europe
What	PfA to the MID ANP Volume II - Part IV and Revised version of the SSR CMP
Who	ICAO MID Office/States
When	March2019 (PfA) / Dec 2018 (SSR CMP)

DRAFT CONCLUSION 6/8:   AMENDMENT OF THE MID SSR CMP AND MID ANP VOLUME II –TABLE ATM II-MID-2

That,

a) *ICAO process a Proposal for Amendment of the MID ANP Volume II-Table ATM II-MID-2 — MID SSR Code Allocation List, to reflect the changes at* **Appendix D***; and*

b) *the revised version of MID SSR CMP (MID Doc 005) at* **Appendix E** *is endorsed.*

3.   ACTION BY THE MEETING

3.1   The meeting is invited to endorse the proposed Draft Decisions and Conclusions.

APPENDIX A

MID RDWG Scope, Terms of Reference, Composition, and Working Procedures

SCOPE:

The MID Route Development Working Group (RDWG) works on matters related to ATS route planning and implementation in the Middle East Region.

In order to achieve its mandate, The RDWG builds on previous work aiming at enhancing the regional ATS route network, including but not limited to: MIDRAR, CNS/ATM study, work of the Advanced Inter-regional ATS Routes Development Task Force (AIRARD TF), work of the Middle East ATM Enhancement Programme (MAEP), work of ICAO ARN Task Force, etc.

TERMS OF REFERENCE:

1. Based on airspace users' needs and in coordination with stakeholders (States, Regional and International Organizations, and other ICAO Regions), identify requirements and improvements for achieving and maintaining an efficient ATS route network in the MID Region.

2. Recommend measures and support the ATM SG in the development and maintenance of working procedures to plan and implement requirements/improvements to the MID ATS route network.

3. Facilitate the implementation of agreed ATS routes by engaging concerned parties including the Military Authorities.

4. In coordination with the MIDRMA, carry out safety assessment of the proposed changes to the ATS route network.

5. Support the implementation of the approved amendments to the ATS route network and MID ANP;

6. Coordinate and support implementation of the ATS routes over the high seas;

7. Address inter-regional ATS routes improvements with adjacent ICAO Regions, through the AIRARD Task Force, RDGE, AAMA SCM etc.

8. Report, regularly, to the ATM Sub Group and to MAEP Board the work progress of the RDWG.

COMPOSITION:

The RDWG will be composed of:

        a)   experts nominated by Middle East States from both Civil Aviation and Military Authorities;

        b)   Concerned Regional and International Organizations; and

        c)   Other representatives from adjacent States and Organizations as required.

In addition, the RDWG will have a core team composed of AACO, IATA and ICAO. The core team will be responsible for developing the activities of the RDWG through effective coordination between airspace users and RDWG members.

WORKING PROCEDURES:

The RDWG will meet as required and under the format of Task Forces gathering concerned States and stakeholders to carry its work, with the following work procedures:

- The Core Team will coordinate users' requirements based on trunk routes and city-pair priorities.

- For each set of requirements, concerned airspace users will submit proposals which will be communicated to the concerned States for review.

- Coordination will be carried out with concerned State(s) through correspondence and teleconferences and, if required, face-to-face meetings with stakeholders on case-by-case basis.

- The Core Team will continue to follow up with concerned States to ensure implementation of the agreed proposals and their migration to the MID ANP.

- The Core Team will follow-up with the concerned State(s) and air operators the conduct of post implementation review of the implemented ATS route improvements, to assess the impact and estimate the benefit accrued from the implementation.

International Civil Aviation Organization
Middle East Region

Route Catalogue

Edition May 2018

I.   Introduction

1. The Middle East Route Catalogue was approved by MIDANPIRG/11 meeting (Cairo, Egypt 9-13 February 2009) developed within the context of the ARN TF, as an ATS route development/planning tool. It was agreed that the Catalogue should contain a list of ATS route proposals that have been agreed within the framework of the ATM SG that did not reach a level of maturity to be moved to the MID Air Navigation Plan.

2. The sixteenth meeting of the MID Air Navigation Planning and Implementation Regional Group (MIDANPIRG/16, Kuwait, 13-16 February 2016), under decision 16/17, established the ICAO MID ATS Route Development Working Group (RDWG) under the ICAO ATM Sub-Group. The RDWG mandate is to be a platform for all stakeholders to discuss and implement enhancements to the MID ATS Route Network.

3. Recognizing the value of a consolidated reference document for the regional ATS routes, the RDWG decided to maintain the Middle East Route Catalogue as the primary repository for proposals emanating from States and/or airspace users. The Route Catalogue will be maintained by IATA MENA in close collaboration with the RDWG Core Team.

4. Any State or airspace user which identifies a need for a new route requirement to be included in the catalogue or to change an existing route contained in the catalogue, may submit respectively an amendment proposal to the ICAO MID Office or IATA MENA. The RDWG will periodically survey concerned stakeholders for new/amended requirements to be added/amended in the Route Catalogue.

5. IATA MENA, will keep the Route Catalogue up-to date as proposals are added or amended. The Route Catalogue will be posted on IATA MENA and ICAO MID websites and presented to the ATM SG meeting or other relevant meetings.
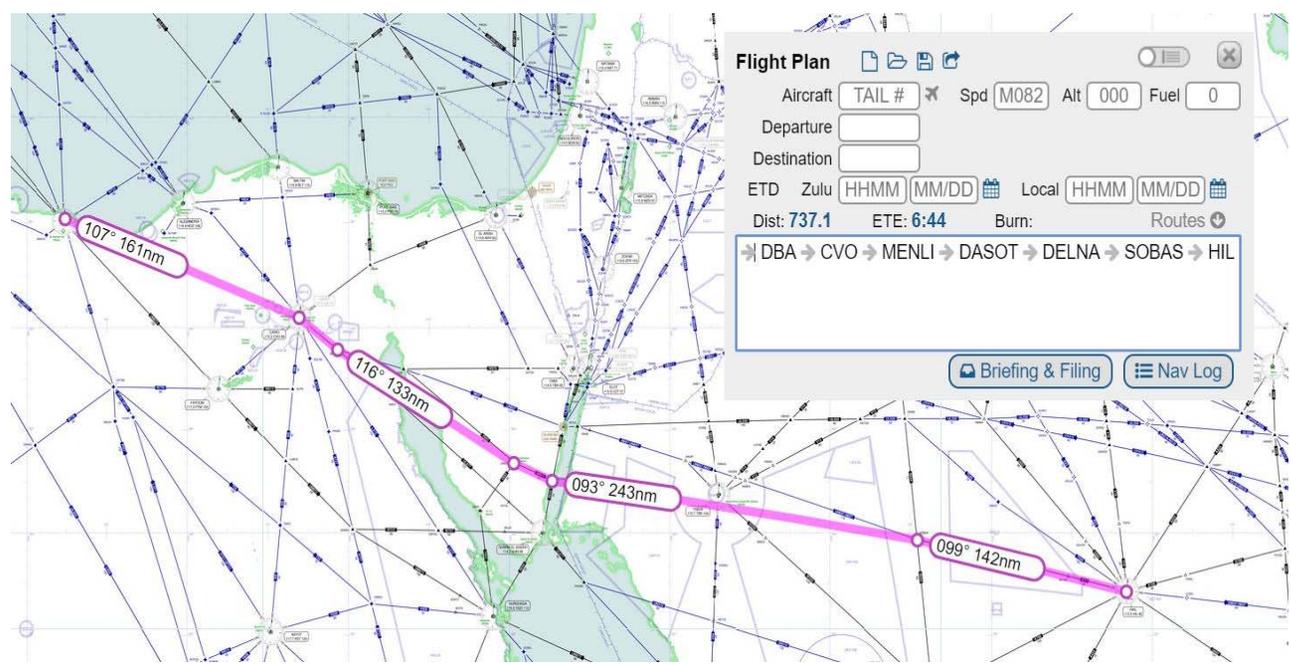
II.   Structure

6. The Catalogue is divided into 2 elements:

    1.   Current proposals for implementation

    2.   Proposals on hold due to regional limitations on implementation

III.   Processes

7. ICAO MID Office will send proposals included in the Catalogue to concerned States for their input:

- If a proposal is accepted by all concerned States, it shall be moved to the MID ANP for implementation through the processing of Proposal for Amendment.

- If any State has any comment on the proposal, a conference call or meeting (depending on the comments received) will be held with the concerned States and airspace users to reach a consensus on the proposal:

- If a compromise is reached, the amended proposal will be moved to the ANP for implementation.

- If a compromise was not possible, the proposal is returned to its originator for further study and removed from the Route Catalogue. The originator would then be able to review the proposal and submit a new one taking into consideration the limitations restricting the proposal from being implemented.

B-3

MID/RC-1	ATS Route Name: New Route	Inter-Regional Cross Reference if any	N/A	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
\multicolumn{2}{Route Description}	States Concerned	Implementation Status		MID ANP Status		Action Taken / Required		Expected time frame for each Action
DBA-CVO-MENLI-DASOT-DELNA-SOBAS **Flight Level Band:** Eastbound **Potential traffic flow**: North Africa and South Europe to MID Region and beyond	Egypt Saudi Arabia	Not Implemented		Not in the Plan		To be addressed with Egypt and Saudi Arabia		- Quarter 4-2017
Justification								
Benefits								
Remarks								

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MID/RC-2	ATS Route Name: New Route	Inter-Regional Cross Reference if any	N/A	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal

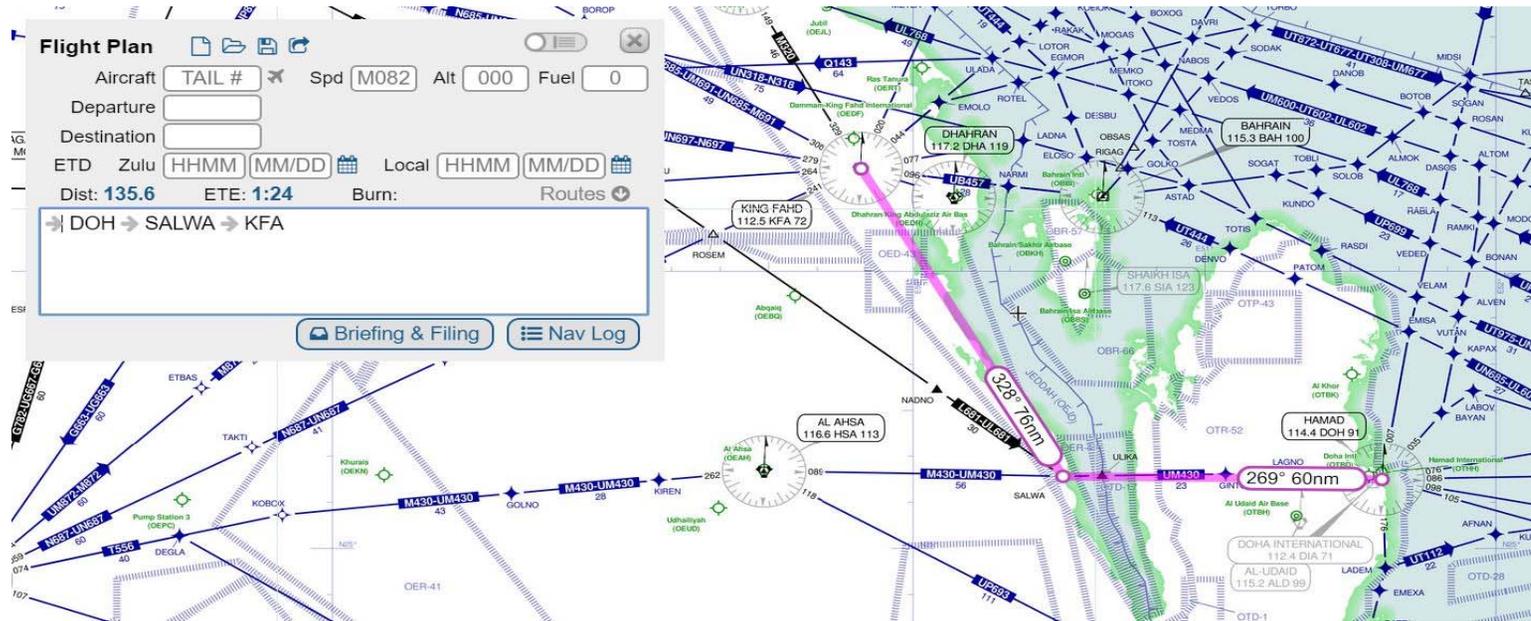| Route Description	States Concerned	Implementation Status	MID ANP Status	Action Taken / Required	Expected time frame for each Action
NWB-DATOK **Flight Level Band:** Westbound **Potential traffic flow**: Asia and Middle East traffic to Europe	Egypt	Not Implemented	Not in the Plan	To be addressed with Egypt	- Quarter 4-2017
Justification					
Benefits					
Remarks					

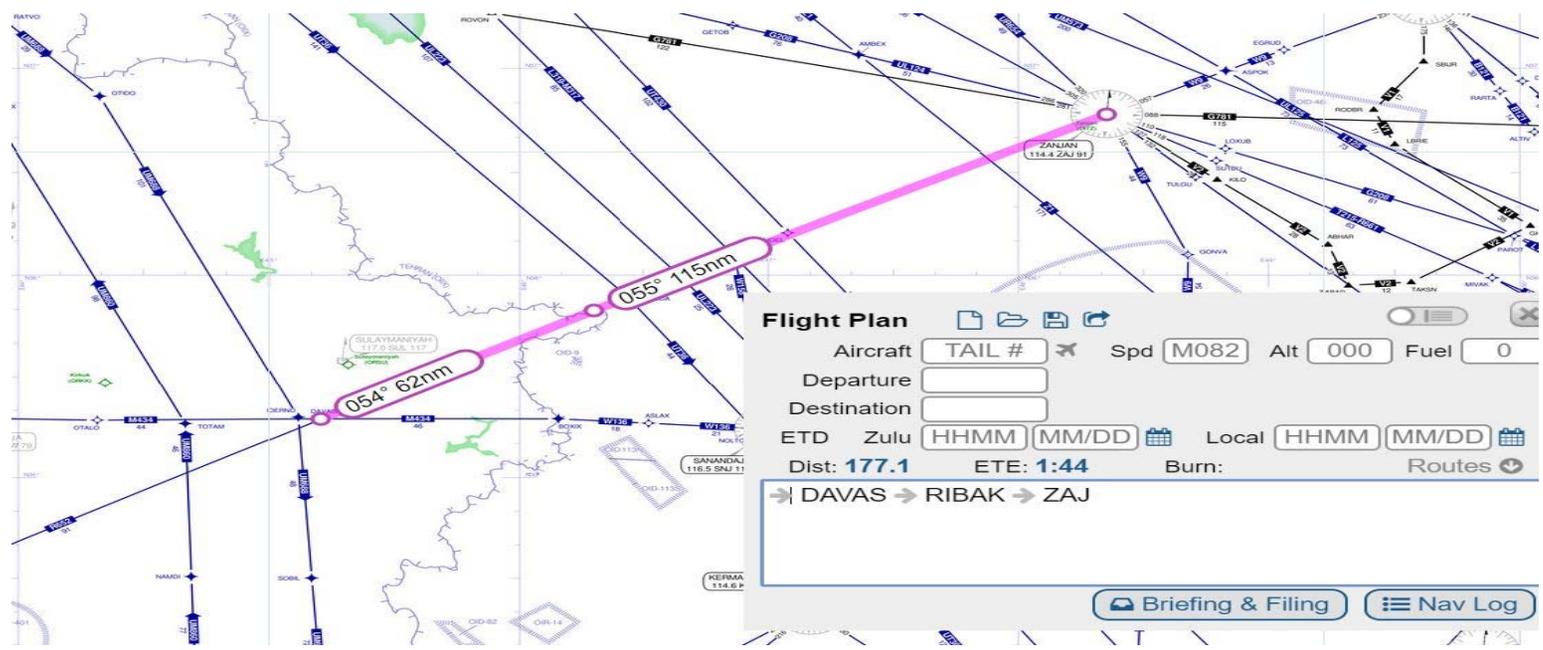| MID/RC-3	ATS Route Name: New Route	Inter-Regional Cross Reference if any	N/A	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		**States Concerned**	**Implementation Status**		**MID ANP Status**		**Action Taken / Required**		**Expected time frame for each Action**
DOH-SALWA (M430)-KFA **Flight Level Band:** Westbound **Potential traffic flow**: Doha Departures to North Africa and West Europe		Bahrain Qatar Saudi Arabia	Not Implemented		Not in the Plan		To be addressed with Bahrain, Qatar and Saudi Arabia		- Quarter 4-2017
Justification									
Benefits									
Remarks	ON HOLD								

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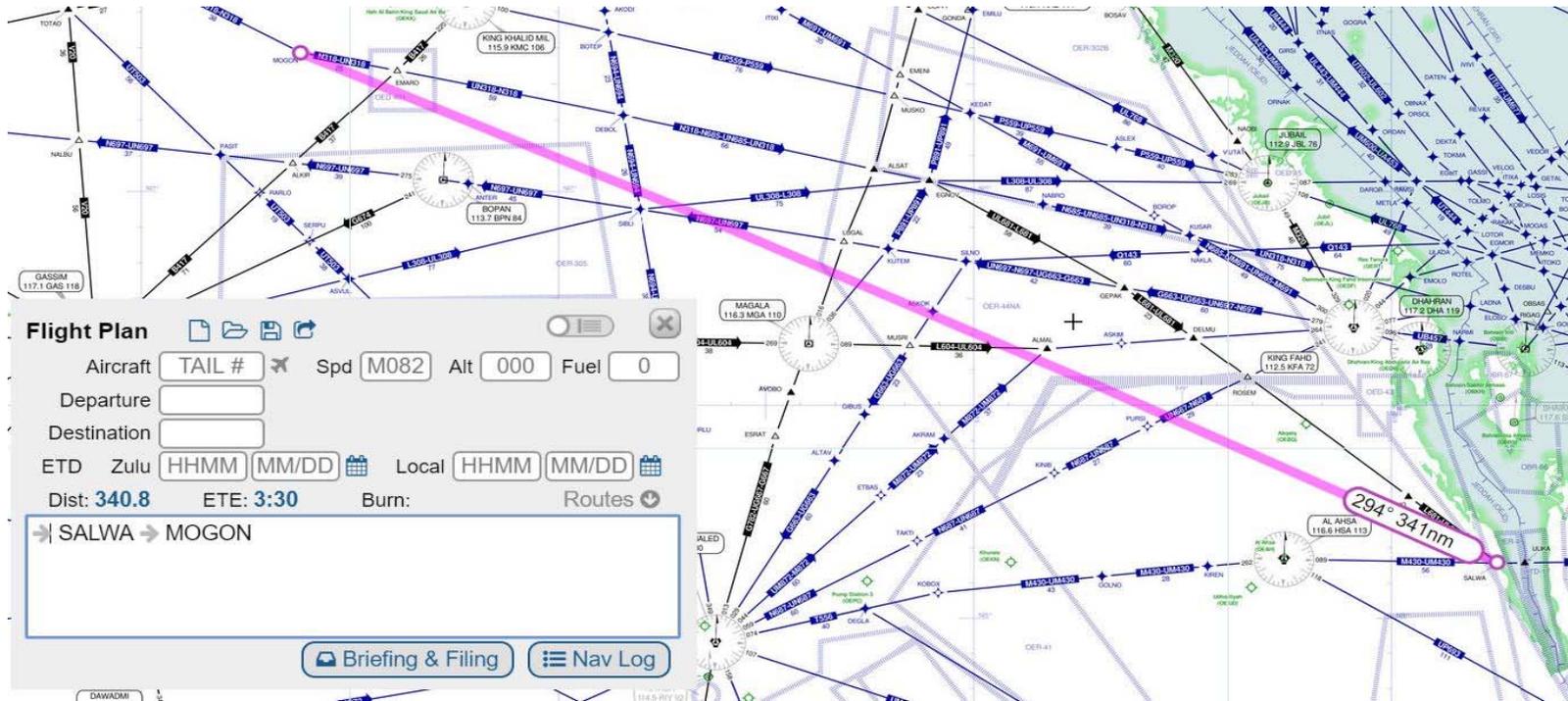| MID/RC-4	ATS Route Name: New Route	Inter-Regional Cross Reference if any	N/A	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		**States Concerned**	**Implementation Status**		**MID ANP Status**		**Action Taken / Required**		**Expected time frame for each Action**
DAVAS-RIBAK-ZANJAN (ZAJ) extension to R652		Iran Iraq	Not Implemented				To be addressed with Iran and Iraq		- Quarter 4-2017
Flight Level Band: Westbound					Not in the Plan				
Potential traffic flow: traffic to/from Tehran FIR through Amman and Baghdad FIRs									
Justification									
Benefits									
Remarks									

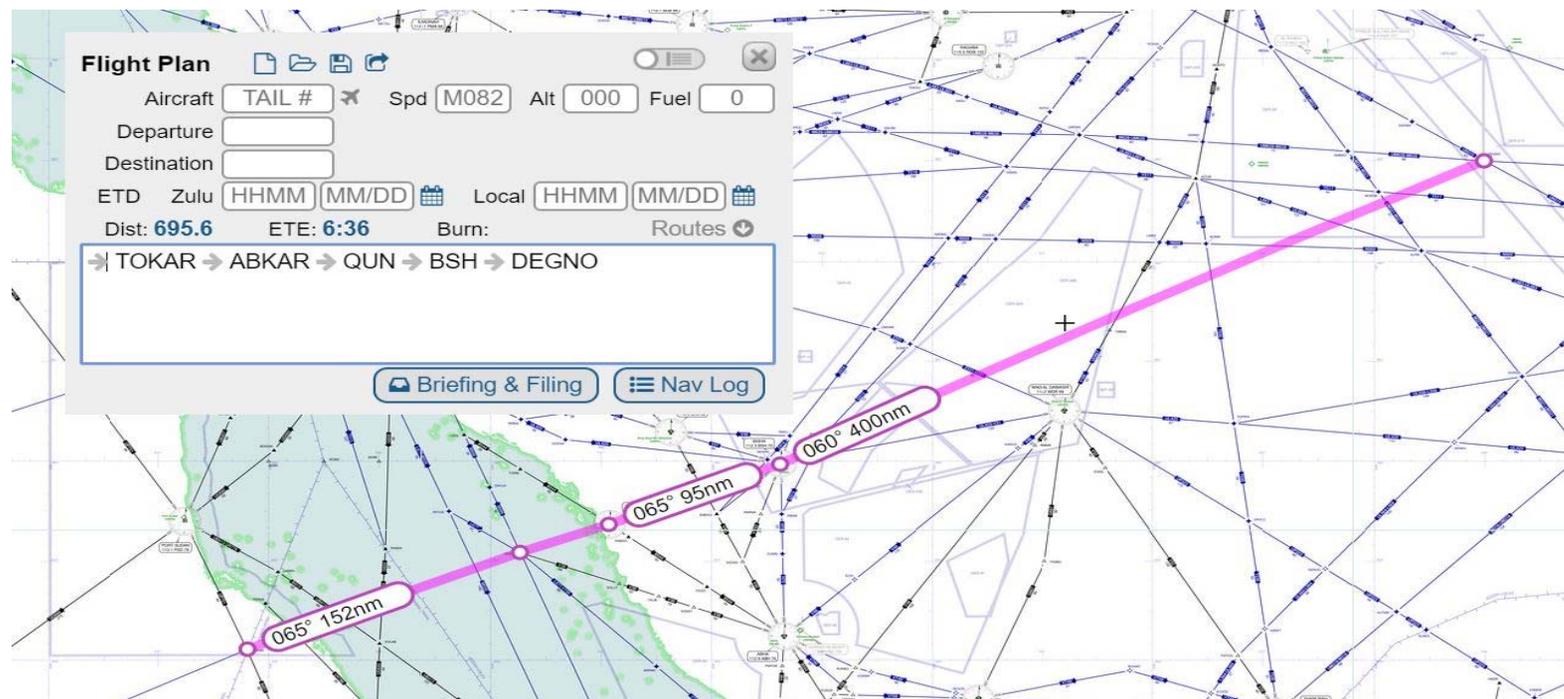| MID/RC-5	ATS Route Name: New Route	Inter-Regional Cross Reference if any	N/A	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		States Concerned	Implementation Status		MID ANP Status		Action Taken / Required		Expected time frame for each Action
SALWA-MOGON Flight Level Band: Westbound		Bahrain Qatar Saudi Arabia	Not Implemented		Not in the Plan		To be addressed with Bahrain, Qatar and Saudi Arabia		- Quarter 4-2017
Potential traffic flow:									
Justification									
Benefits									
Remarks	ON HOLD								

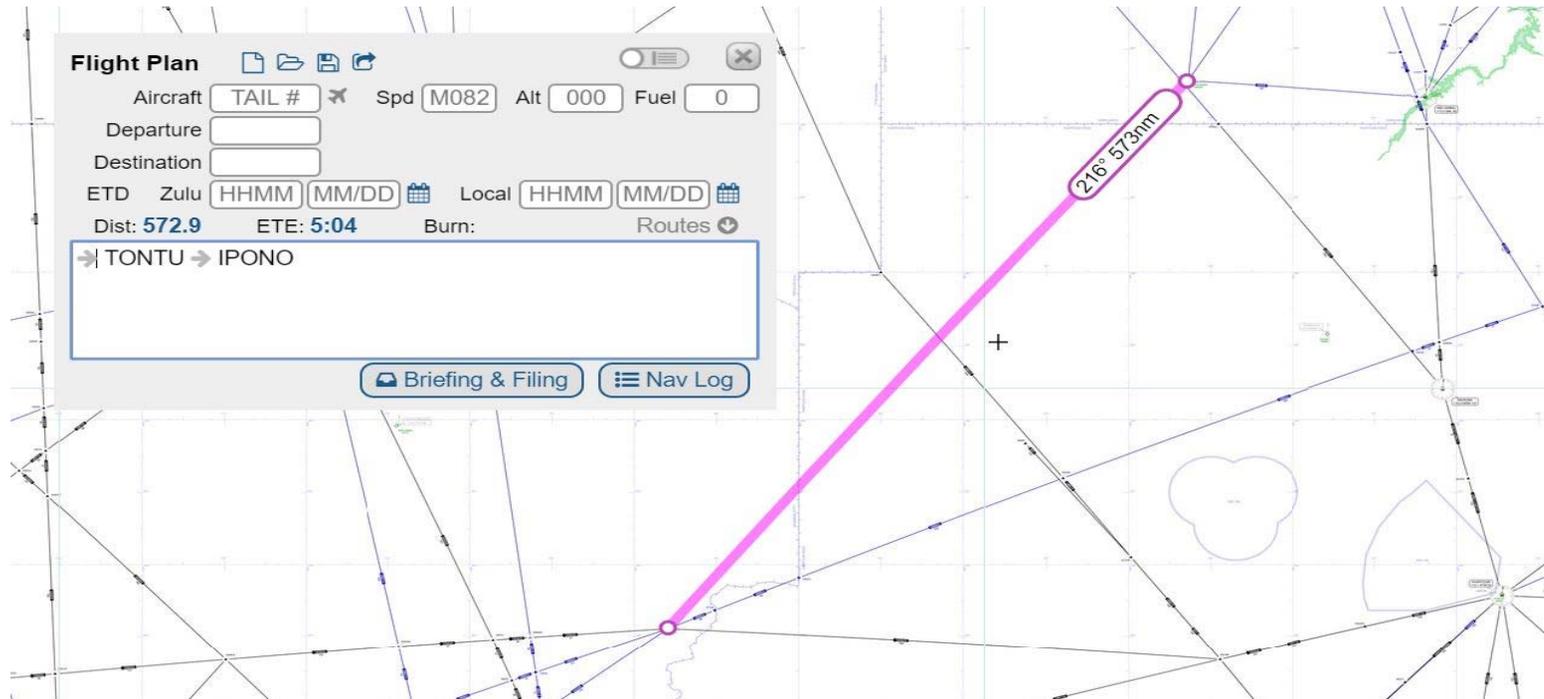| MID/RC-6	ATS Route Name: New Route	Inter-Regional Cross Reference if any	N/A	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		**States Concerned**	**Implementation Status**		**MID ANP Status**		**Action Taken / Required**		**Expected time frame for each Action**
TOKAR-ABKAR-QUN-BSH-DEGNO **Flight Level Band:** Bidirectional		Eretria Saudi Arabia	Not Implemented		Not in the Plan		To be addressed with Eretria and Saudi Arabia		- Quarter 4-2017
Potential traffic flow:									
Justification									
Benefits									
Remarks									

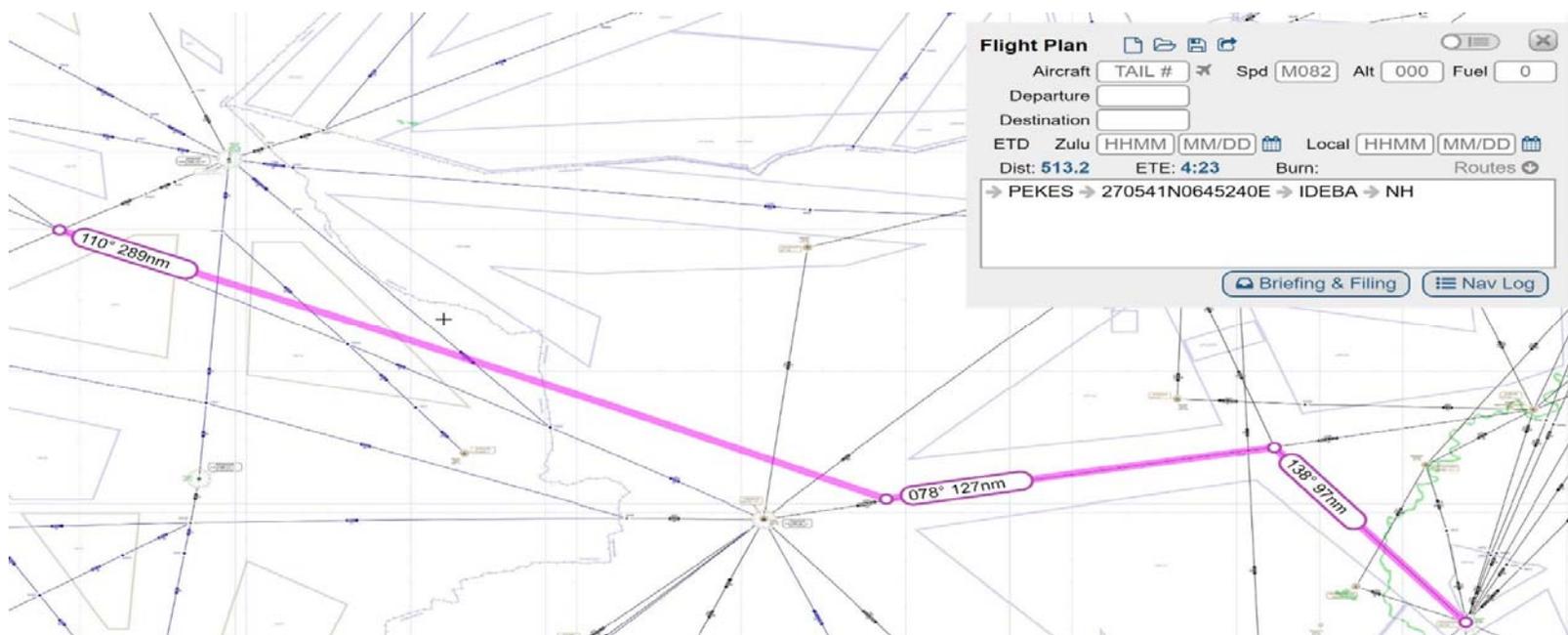| MID/RC-7	ATS Route Name: New Route	Inter-Regional Cross Reference if any	N/A	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		**States Concerned**	**Implementation Status**		**MID ANP Status**		**Action Taken / Required**		**Expected time frame for each Action**
TONTU-IPONO **Flight Level Band:** Bidirectional **Potential traffic flow**: from Egypt, Jordan and Lebanon, etc. to Chad and west/south Africa		Egypt Sudan	Not Implemented		Not in the Plan		To be addressed with Egypt and Sudan		- Quarter 4-2017
Justification									
Benefits									
Remarks									

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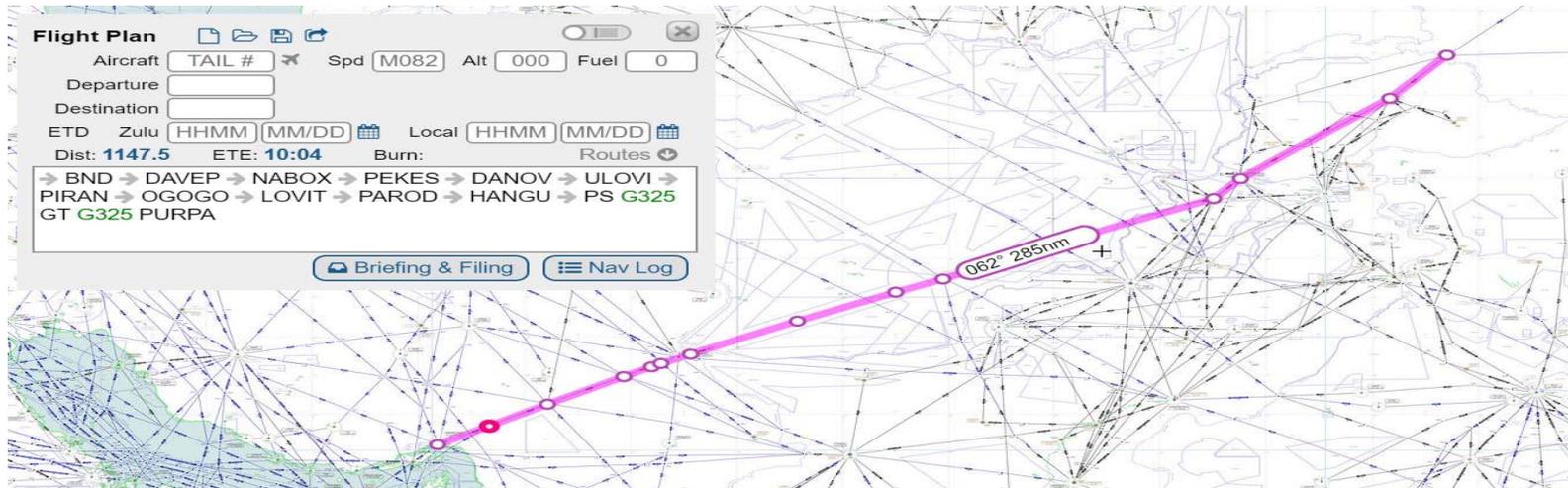| MID/RC-8	ATS Route Name: New Route	Inter-Regional Cross Reference if any	APAC	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		States Concerned	Implementation Status		MID ANP Status		Action Taken / Required		Expected time frame for each Action
PEKES-NH **Flight Level Band:** Bidirectional **Potential traffic flow**: Europe to East through Tehran FIR.		Iran Pakistan	Not Implemented		Not in the Plan		To be addressed with Iran and Pakistan To be addressed ta the AIRARD TF/2 meeting		- Quarter 4-2017
Justification	Agreed upon during the Afghanistan Contingency Coordination meeting								
Benefits									
Remarks									

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MID/RC-9a	ATS Route Name: New Route	Inter-Regional Cross Reference if any	APAC	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		**States Concerned**	**Implementation Status**		**MID ANP Status**		**Action Taken / Required**		**Expected time frame for each Action**
A453-PAROD-HANGU-G325-PURPA **Flight Level Band:** FLAS TBD		Afghanistan	Not Implemented		Not in the Plan		To be addressed with Afghanistan. To be addressed to AIRARD TF/2 meeting		- Quarter 4-2017
Potential traffic flow: Gulf Traffic from/to Fareast									
Justification									
Benefits									
Remarks	9a and 9b are high priority. However, in case only one option could be implemented 9a has preference								

MID/RC-9b	ATS Route Name: New Route	Inter-Regional Cross Reference if any	APAC	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		**States Concerned**	**Implementation Status**		**MID ANP Status**		**Action Taken / Required**		**Expected time frame for each Action**
A453-PAROD-DUDEG-PATOX-OKB-IMGES-SABAR then G206 to PURPA		Afghanistan	Not Implemented		Not in the Plan				- Quarter 4-2017

Flight Level Band: FLAS TBD				
Potential traffic flow: Gulf Traffic from/to Fareast				
Justification			To be addressed with Afghanistan. To be addressed to the AIRARD TF/2 meeting	
Benefits				
Remarks				

Flight Plan

Aircraft TAIL # ✈ Spd M082 Alt 000 Fuel 0

Departure

Destination

ETD Zulu HHMM MM/DD 📅 Local HHMM MM/DD 📅

Dist: **1146.6** ETE: **10:11** Burn: Routes ⬇

→ BND → DAVEP → NABOX → PEKES → DANOV → ULOVI →
PIRAN → OGOGO → LOVIT → PAROD → DUDEG → PATOX →
OKB → IMGES → SABAR → PURPA

🔊 Briefing & Filing   ≔ Nav Log

063° 205nm
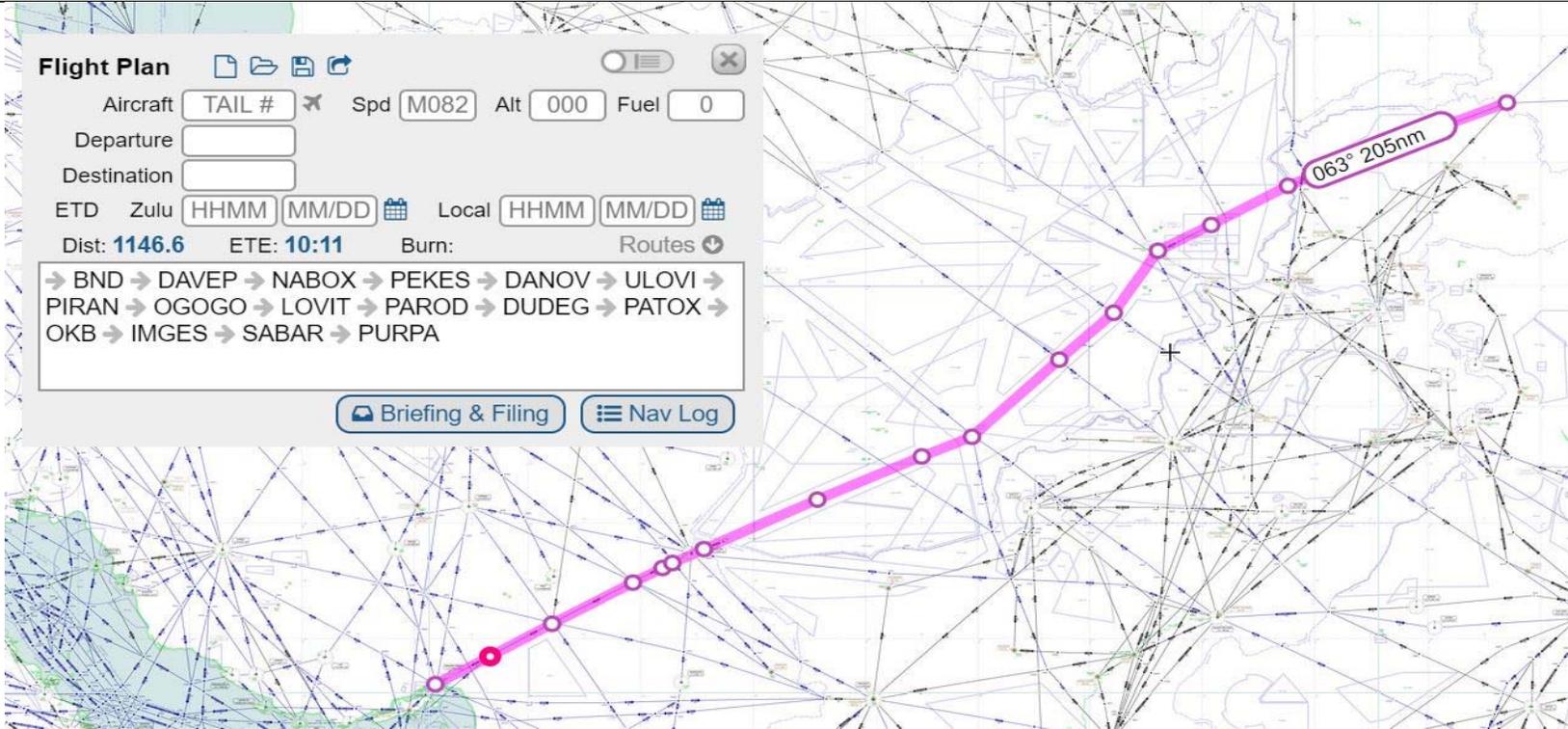
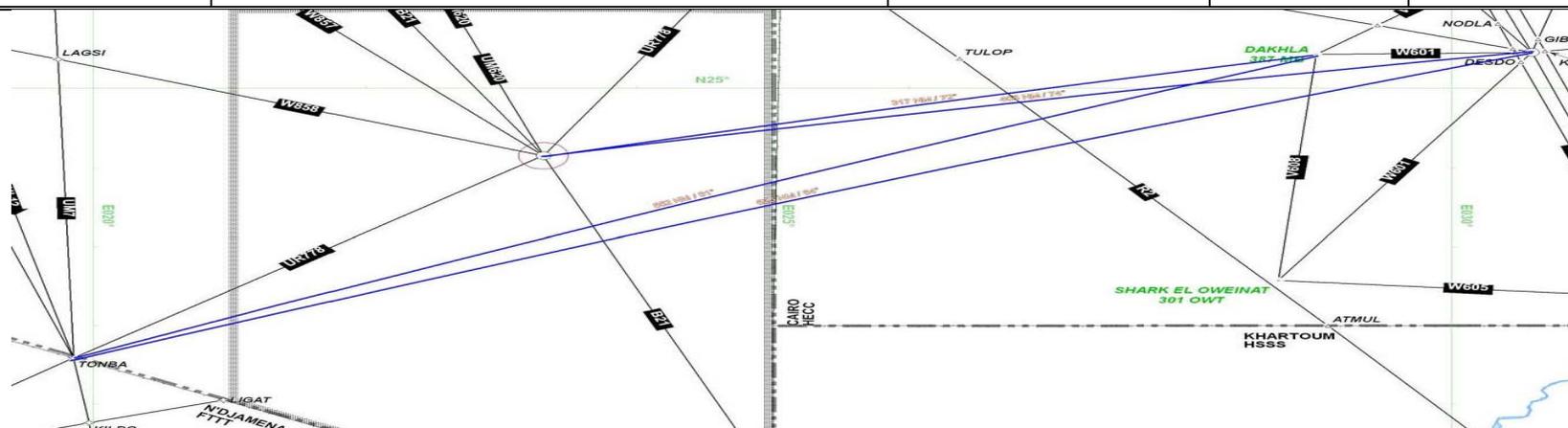| MID/RC-11	ATS Route Name: G669 New Route	Inter-Regional Cross Reference if any		Users Priority	MID	Originator/Date		Last updated	New Proposal
Route Description		States Concerned	Implementation Status		MID ANP Status		Action Taken / Required		Expected time frame for each Action
G669 between NISER and SOLAT **Flight Level Band:** FLAS TBD		Saudi Arabia Iraq and Kuwait	Not Implemented				To be addressed with Saudi, Iraq and Kuwait		- Quarter 2-2018
Potential traffic flow: Levant to/from North Gulf Levant to/from Iran/Far East					Not in the Plan				
Justification	Re-instate G669 as it used to be active for certain flows in certain periods of the year								
Benefits	Reduce track miles and air miles due to avoidance of seasonal jet-stream Enable optimum descents in Kuwait								
Remarks									

B-16
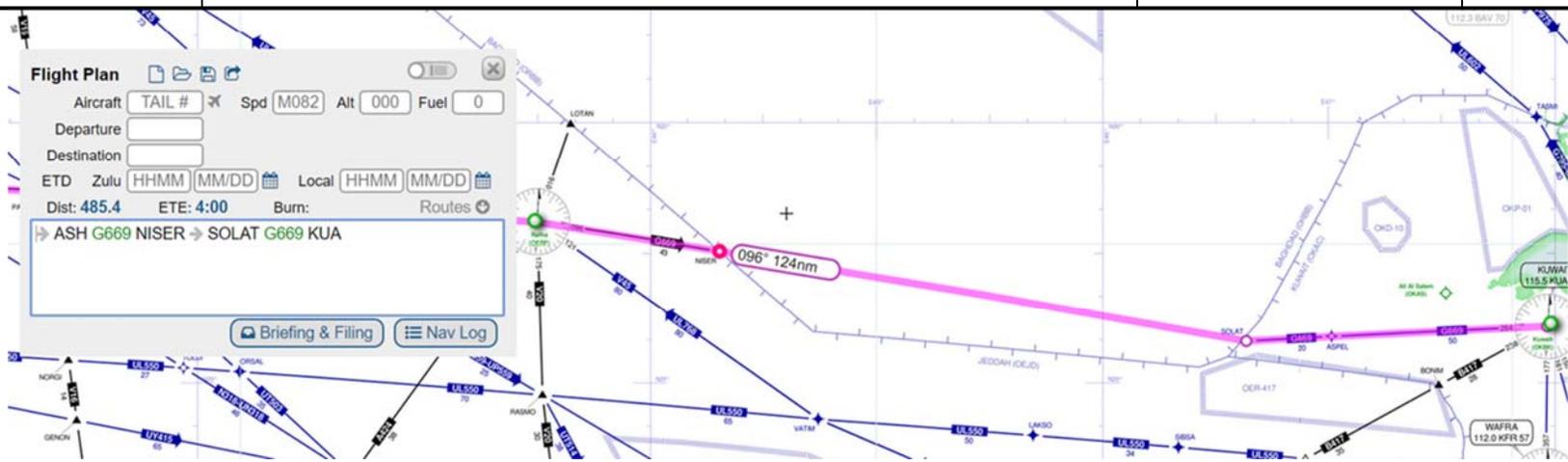
MID/RC-xx	ATS Route Name: New Route	Inter-Regional Cross Reference if any	APAC	Users Priority	High	Originator/Date	RDWG/1	Last updated	New Proposal
Route Description		**States Concerned**	**Implementation Status**		**MID ANP Status**		**Action Taken / Required**		**Expected time frame for each Action**
			Not Implemented		Not in the Plan		To be addressed with		- Quarter 4-2017
Flight Level Band: FLAS TBD									
Potential traffic flow: Gulf Traffic from/to Fareast									
Justification									
Benefits									
Remarks									

ATS Route proposals on hold

MID ATS ROUTES CATALOGUE

MID/RC-002 *(Option1,2 ,3)*	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	Hold	Originator of Proposal	IATA
							Date of Proposal	ARN TF/1

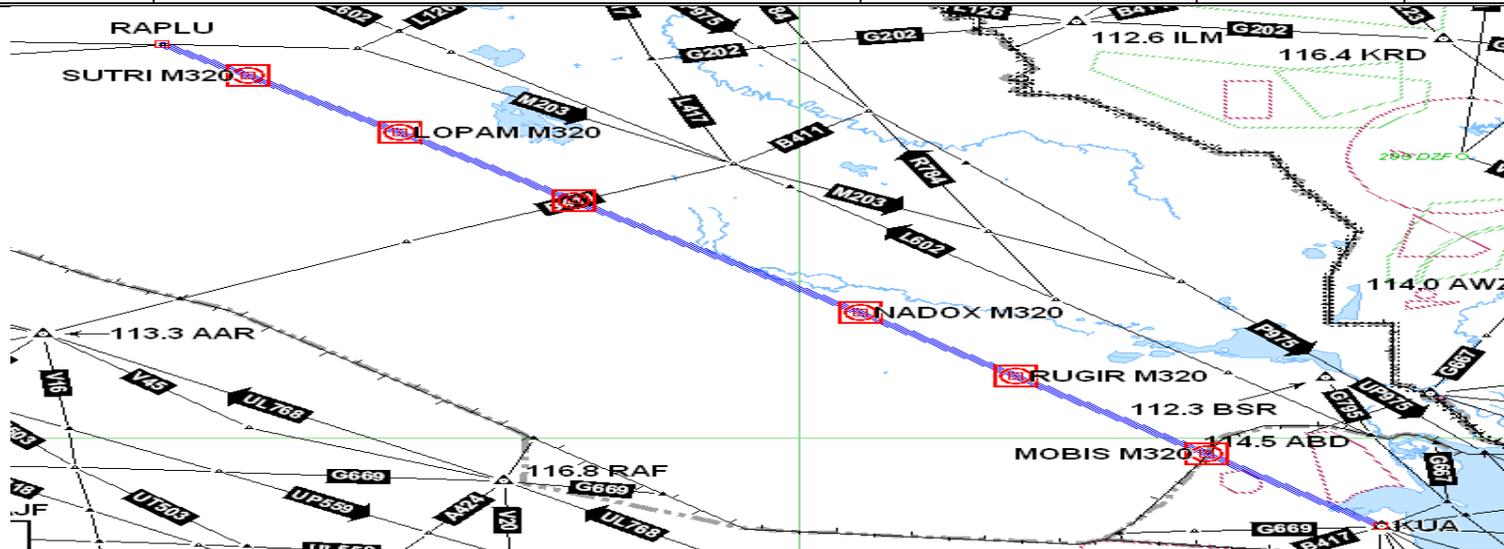| Route Description		States Concerned	Expected Impl. date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
(Opt 1) TONBA N2135.3 E01951.2 **KHG (N2526.9 E03035.4)** **(Opt 2) TONBA (N21 35.3 E 0-19 51.2) MB (N25 25.2 E029 00.1)** **(Opt 3) KFR (N24 09.2 E023 18.5)** **MB (N25 25.2 E029 00.1) Or** **KHG (N25 26.9 E030 35.4)**		Libya Egypt		No Progress reported.		- 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	**ON HOLD-RDWG-1**					**Last updated**	ATM SG/1 June 2014

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 Impl. date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
SEB HORUJ DAYFA DANAD IMRAD ALMAL		Libya Egypt Saudi Arabia		No progress reported	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 **ON HOLD-RDWG-1**		**Last updated**	ATM SG/1 June 2014

3.   **MID/RC-081-on hold**

ID/RC-083	ATS Route Name: New Route UQ598 Westbound	Entry-Exit: DITAR – AST	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 Impl. date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
AST DITAR 26 59 03N 025 00 00E	Libya Egypt					Important Segment HGD-PASAM move d to ANP	TBD
Flight Level Band:						Egypt advised that DITAR-AST not possible currently.	
Potential City Pairs:							

Conclusions/Remarks	**ON HOLD-RDWG-1**		Last updated	ATM SG/1 June 2014

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)

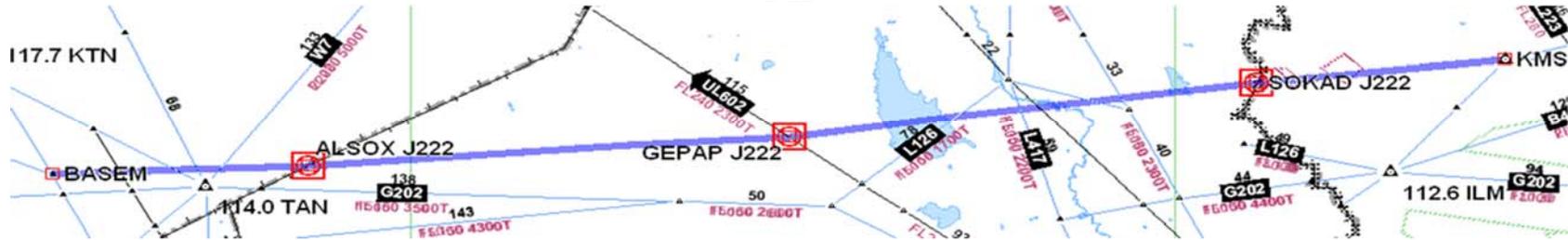| Route Description		States Concerned	Expected Impl. date	Implementation Status	ANP Status	Action Taken / Required	Deadline for each Action
KUA MOBIS 295109N 0470457E RUGIR 303219N 0460618E NADOX 310505N 0451851E ELODI 320256N 0435126E LOPAM 323757N 0425806E SUTRI 330701N 0421128E RAPLU 332300N 0414530E		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	Not supported by Kuwait at present. Needs further studies. differed for the future KUA – RAPLU needs to be implemented	March 2010
Flight Level Band: FL200-FL410							
Potential City Pairs:							
Conclusions/Remarks	**ON HOLD-RDWG-1**					Last updated	ATM SG/1 June 2014

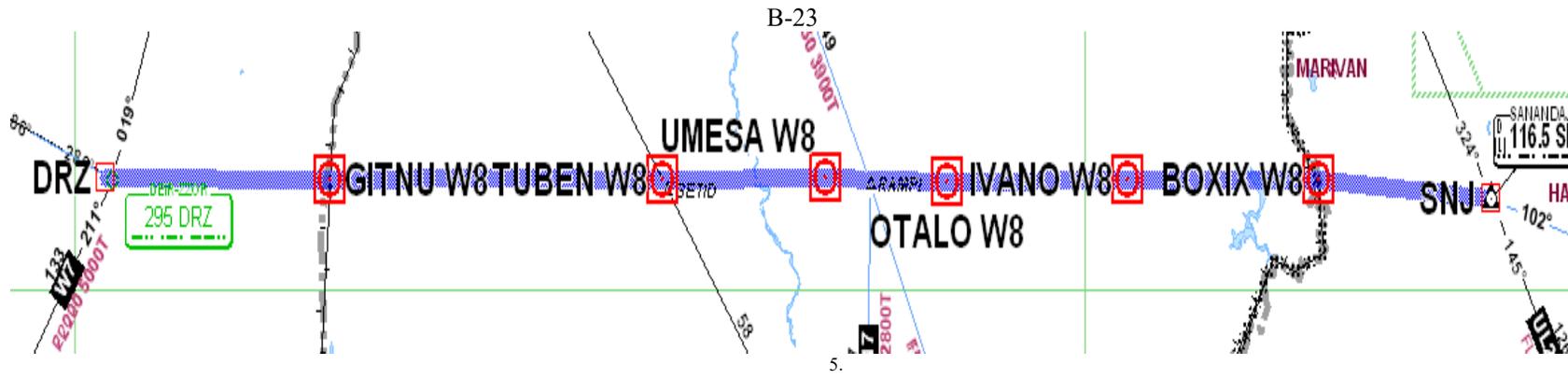4. **MID/RC-027-hold**

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 Impl, 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				No progress reported			
Potential City Pairs:							

| Conclusions/Remarks	**ON HOLD-RDWG-1**		Last updated	ATM SG/1 June 2014

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 Impl. 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** **DAVAS 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				No progress reported			
Potential City Pairs:							

Conclusions/Remarks	**ON HOLD-RDWG-1**		Last updated	ATM SG/1 June 2014

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5.

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:					No progress reported			
Potential City Pairs:								

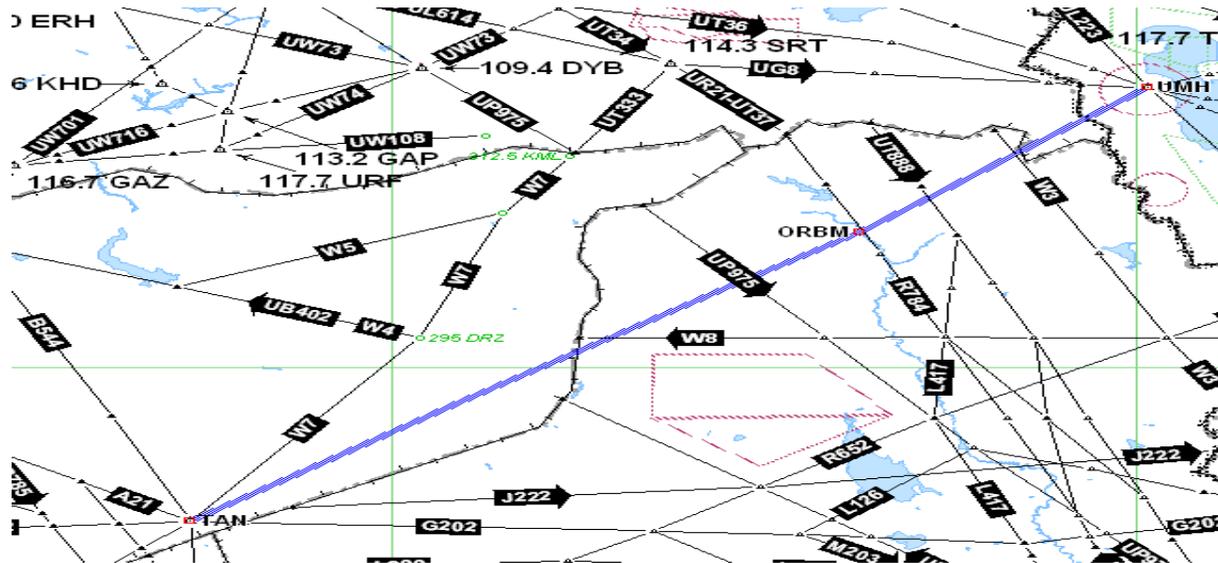| Conclusions/Remarks	Segment GAZIANTEP-ALEPPO implemented (B544) **ON HOLD-RDWG-1**		Last updated	ATM SG/1 June 2014

B-24

6.
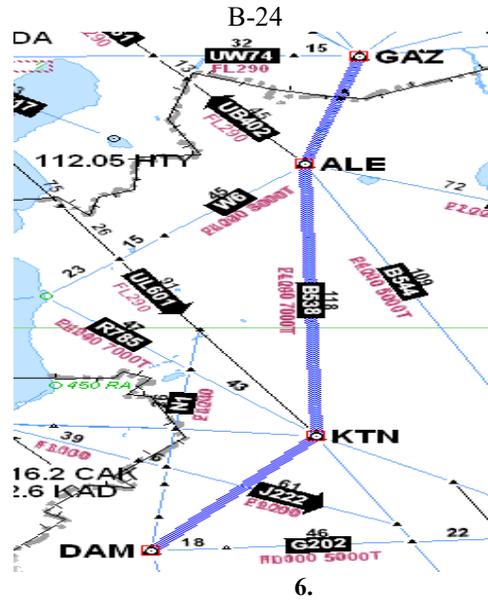
MID/RC-063 (ex B545)	ATS Route Name: New Route	Entry-Exit: BALMA-AMMAN	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA
							Date of Proposal	MIDANPIRG/10

Route Description		States Concerned	Expected Impl. date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
KHALDEH AMMAN		Jordan Lebanon Syria		MUT – BALMA – KAHLDE Implemented as **(UB15/UL620)** KHALDE – AMMAN not implemented		Not feasible currently	
Flight Level Band:				No progress reported			
Potential City Pairs:							
Conclusions/Remarks	**ON HOLD-RDWG-1**					**Last updated**	ATM SG/1 June 2014

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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 Impl. date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
TANF MOSUL UMH			Syria Iraq Iran		No progress reported		No update	
Flight Level Band:								
Potential City Pairs:								

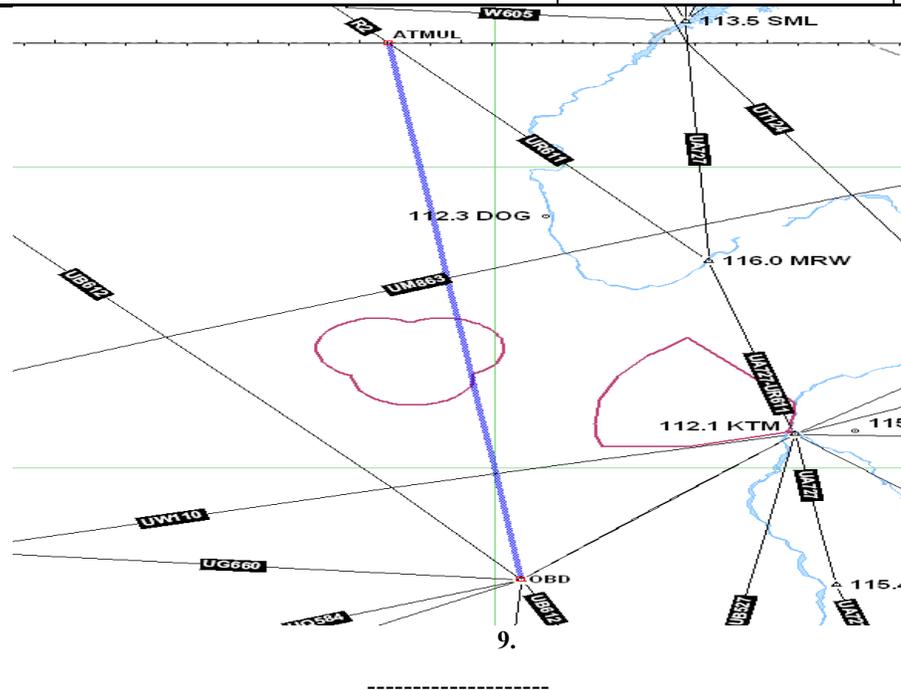| Conclusions/Remarks	**ON HOLD-RDWG-1**		Last updated	ATM SG/1 June 2014

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 Impl. date	Implementation Status		ANP Status	Action Taken/Required	Deadline for each Action
BINKO **RASNO** **LOSUL**			Egypt Lybia Malta					Egypt has no objection to establish the route as Uni-directional	
Flight Level Band: Upper Airspace					No progress reported				
Potential City Pairs:									

Conclusions/Remarks	**ON HOLD-RDWG-1**		Last updated	ATM SG/1 June 2014

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 Implemen- tation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
BUSRA 322000N 0363700E KARIATAIN (KTN)		Syria		No progress reported		State letter to be sent to Syria for input. Awaiting final approval for implementation	
Flight Level Band:					Not in ANP		
Potential City Pairs: HEGN - UUDD							

Conclusions/Remarks	Shortens the distance by 85NM. **ON HOLD-RDWG-1**			Last updated	ATM SG/1 June 2014

7.

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8.

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 Impl. date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
DUDRI 190000N 0520000E TANSU 224136N 0542828E		Bahrain UAE		No progress reported		Level Restriction FL300/320	TBD
Flight Level Band:							
Potential City Pairs:							
Conclusions/Remarks	**ON HOLD-RDWG-1**					**Last updated**	ATM SG/1 June 2014

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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 Implemen-tation date	Implementation Status	ANP Status	Action Taken/Required	Deadline for each Action
ATMUL **OBD**		Egypt Sudan			No progress reported		ATS Route Segment from point ATMUL to OBD in the Khartoum FIR	TBD
Flight Level Band:								
Potential City Pairs:							Sudan has no objection	

Conclusions/Remarks	**ON HOLD-RDWG-1**		Last updated	ATM SG/1 June 2014

9.

APPENDIX C

MID Region AIDC/OLDI Applicability Area (Priority 1 and 2 for Implementation)
As of July 2018

ACC	Adjacent ACCs					
Amman	Cairo (1)	Baghdad (2)	Damascus (2)	Jeddah (1)	Tel Aviv (2)	
Baghdad	Amman (2)	Ankara (1)	Damascus (2)	Jeddah (2)	Tehran (2)	Kuwait (1)
Bahrain	Doha (1)	Emirates (1)	Jeddah (1)	Kuwait (1)	Riyadh (1)	Tehran (2) AFTN MSG	Dammam(2)
Beirut	Damascus (2)		Nicosia (1)			
Cairo	Amman (1)	Athena (2)	Jeddah (1)	Khartoum (1)	Nicosia (1)	Tel Aviv (2)	Tripoli (2)
Damascus	Amman (2)	Ankara (2)	Bagdad (2)	Beirut (2)	Nicosia (2)	
Doha*	Bahrain (1)	Emirates (1)	Jeddah (2)	Riyadh (2)		
Emirates	Bahrain (1)	Doha (1)	Jeddah (1)	Muscat (1)	Tehran (2) AFTN MSG	
Jeddah	Amman (1)	Asmara (2)	Baghdad (2)	Bahrain (1)	Cairo (1)	Doha (2)	Emirates (1)
	Khartoum (1)	Kuwait (2)	Muscat (1)	Riyadh (1)		Sana'a (2)	
Riyadh	Bahrain (1)	Doha (2)	Kuwait (2)	Jeddah (1)		
Khartoum	Addis (1)	Asmara (2)	Brazzaville (2)	Cairo (1)	Entebbe (2)	Jeddah (1)	Juba (1)
	Kinshasa (2)	N'Djamena (2)	Nairobi (2)	Tripoli (2)			
Kuwait	Baghdad (1)	Bahrain (1)	Jeddah (2)	Tehran (2)		
Muscat	Emirates (1)	Jeddah (1)	Karachi (2)	Mumbai (1)	Sana'a (2)	Tehran (1)
Sana'a	Djibouti (Addis Ababa) (2)	Asmara (2)	Jeddah (2)	Mogadishu (2)	Mumbai (2)	Muscat (2)
Tehran	Ankara (1)	Ashgabat (2)	Baghdad (2)	Bahrain (1)	Baku (2)	Emirates (2) AFTN MSG	Kabul (2)
	Karachi (1)	Kuwait (2)	Muscat (1)	Yerevan (2)			
Tripoli	Algiers (2)	Cairo (2)	Khartoum (2)	Malta (2)	N'Djamena (2)	Niamey (2)	Tunis (2)

(1) = Priority 1 for implementation based on the number of traffic movements and/or operational needs (Green color means already implemented)

(2) = Priority 2 for implementation based on the number of traffic movements or if other solution is in place such as exchange of information via AFTN

APPENDIX D

MID Region SSR Codes Allocation

Code	AMMAN	BAGHDAD	BAHRAIN	BEIRUT	CAIRO	DAMASCUS	DOHA TMA	EMIRATES	JEDDAH	KHARTOUM	KUWAIT	MUSCAT	SANA'A	TEHRAN	TRIPOLI
0001-0077²															
0101-0177¹										T					
0200-0277¹									D						
0300-0377²															
0400-0477²	D							D							
0500-0577¹								T							
0600-0677¹					D			D			D				
0700-0777¹	T														
1001-1077¹		T													
1101-1177¹	D							D						D	
1200-1277¹			D							D					
1300-1377¹		D						D							D
1400-1477¹												T			
1500-1577¹														D	
1600-1677¹					T										
1700-1777¹								T							
2001-2077³															
2100-2177¹			D												
2200-2277¹			T												
2300-2377¹					D		D								
2400-2477¹	D														
2500-2577¹				D					D						
2600-2677¹			T												
2700-2777¹			D		D										
3000-3077¹						D			D						
3100-3177¹									T						
3200-3277¹			T												
3300-3377¹					T										
3400-3477¹									T						
3500-3577¹									D						
3600-3677¹														T	
3700-3777¹											D		D		
4000-4077¹												T			
4100-4177¹									D					D	
4200-4277¹									T						

Code	AMMAN	BAGHDAD	BAHRAIN	BEIRUT	CAIRO	DAMASCUS	DOHA TMA	EMIRATES	JEDDAH	KHARTOUM	KUWAIT	MUSCAT	SANA'A	TEHRAN	TRIPOLI
4300-4377¹				T											
4400-4477¹			T												
4500-4577¹									T						
4600-4677¹										D		D			
4700-4777¹												T			
5000-5077¹									D						
5100-5177¹														T	
5200-5277¹									T						
5300-5377³															
5400-5477¹														T	
5500-5577³															
5600-5677¹									D					D	
5700-5777¹						T									
6000-6077¹								D		D					
6100-6177¹								D					D		
6200-6277¹								T							
6300-6377¹									D					D	
6400-6477³															
6500-6577¹												D			
6600-6677¹												D			
6700-6777²															
7001-7077¹													T		
7100-7177²															T
7200-7277¹		T													
7300-7377¹				T											
7400-7477¹		D													
7501-7577²															
7613-7677²															
7701-7775²															

T: codes allocated for Transit use

D: codes allocated for Domestic use

¹ Series allocated to the MID Region and Assigned to MID States

² MID Region SSR Reserve List for Domestic use

³ MID Region SSR Reserve List for Transit use

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (MIDANPIRG)

MIDDLE EAST SECONDARY SURVEILLANCE RADAR CODE MANAGEMENT PLAN (SSR CMP)

EDITION ~~JUNE~~DECEMBER, 201~~5~~8

TABLE OF CONTENTS

1   SCOPE

1.1   RELATIONSHIP TO MID AIR NAVIGATION PLAN (DOC 9708)

1.1.1   The *Middle East Secondary Surveillance Radar Code Management Plan* has been produced on behalf of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG).

1.1.2   The purpose of MID CMP is to detail the requirements to be met by the ~~MID~~ States ~~of the ICAO Middle East (MID) Region in order~~ to comply with the provisions of the *Middle East ~~Basic~~ Air Navigation Plan* (MID ANP) (ICAO Doc 9708~~, Volume I~~) ~~and the *Middle East Facilities and Services Implementation Document* (MID FASID) (Doc 9708, Volume II)~~ as ~~they~~ it pertains the management of Secondary Surveillance Radar (SSR) codes in the ICAO MID Region. ~~This document incorporates text that currently comprises **Attachment B** to the MID FASID along with new material to document the management of the regional SSR Code pool.~~

1.1.3   The technical requirements and associated procedures may also be adopted by States in adjoining ICAO Regions which elect to participate in the Originating Region Code Assignment Methodology (ORCAM) for the management of SSR codes.

1.1.4   All references to SSR Codes are confined to Mode 3/A.

2   DEFINITIONS AND ABBREVIATIONS

2.1   DEFINITIONS

Assigned Secondary Surveillance Radar code (ASSR)	The SSR code assigned by an ATS Unit (ATSU) to a departing aircraft or to an aircraft entering the airspace of the ATSU. *Note: In cases where the Previous Secondary Surveillance Radar code (PSSR) can be retained, PSSR and ASSR can be the same code*
(SSR) Code	The number assigned to a particular multiple pulse reply signal transmitted by a transponder in Mode A or Mode C.
Code allocation	The distribution of SSR Codes to a State, unit or service.
Code assignment	The distribution of SSR codes to aircraft.
Code block	A continuous series of four-digit codes from the same code series.
Code series	A group of 64 four-digit codes having the same first two digits.
Direction of flight	The direction shall be defined as a combination of one or more: a) exit points or receiving Areas of Responsibility (AOR); and b) destinations (defined by the first, the first two, the first three or all four letters of an ICAO location indicator).
Directional assignment	Assignment of an SSR code based on the direction of the flight.
Discrete code	A four-digit code with the last two digits not being "00".
Domestic code	A code allocated to a specific AOR for use by designated ATC unit(s) within that AOR or, subject to certain conditions, across AOR boundaries.
Expectation window	A window of variable size around a 4D position, defined by flight plan information, at which a flight is expected to enter the AOR.
Four-digit code	An SSR identity code containing combinations of A, B, C and D pulses (any reply generated by a 4096-code transponder where the digits fall in the range 0-7).
Geographical correlation	Correlation of a flight with its flight plan using the geographical position of the flight by means of "Expectation Windows" in cases where the SSR code is already in use by one or more other flights within the same AOR.
Mode S Conspicuity Code	In order to maximise SSR code savings through Mode S Elementary Surveillance (ELS), all aircraft identified via the down linked Aircraft Identification (ACID) use the same SSR code, the Mode S Conspicuity Code A1000.
Octal block	A block of 8 four-digit codes from the Same Series and having the first three digits common. They may be identified by indicating their third digit when referring to the Code Series e.g. Codes 0010-0017 may be referred to as Codes 00(1).
Participating area (PA)	An area of specified dimensions comprising the areas of ATS unit responsibility of one or more States.
Previous Secondary Surveillance Radar code (PSSR)	The SSR code transmitted by an aircraft when entering the airspace of an ATSU or when being transferred by the transferring unit. *Note: In cases where the PSSR can be retained, PSSR and ASSR can be the same code.*

Simultaneous code use	Assignment of an SSR code, which is already in use within the same AOR, to an aircraft in accordance with procedures which ensure that the two aircraft will be exiting the AOR in opposite or nearly opposite directions.
Retention of an SSR code	Accepting an aircraft from the transferring unit without changing the SSR code. A code can be retained if no other aircraft within the AOR uses the same code and if the retention of the code is in accordance with the Code Allocation List (CAL).
Transit code	A code allocated to a State for a specified ACC for assignment to an aircraft engaged in transit flights within the originating PA or, subject to certain conditions, to specified locations in succeeding PAs.

2.2 ABBREVIATIONS

ABI	Advance Boundary Information
ACID	Aircraft Identification
ADEP	Aerodrome of Departure
ADES	Aerodrome of Destination
AOR	Area of Responsibility
ASSR	Assigned Secondary Surveillance Radar code
ATC	Air Traffic Control
ATS	Air Traffic Services
ATSU	Air Traffic Services Unit
CAL	Code Allocation List for the Middle East Region
CMP	Code Management Plan
COD	SSR Code Assignment Message
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group
ELS	Elementary Surveillance
FDPS	Flight Data Processing System
FIR	Flight Information Region
NM	Nautical Mile
ORCAM	Originating Region Code Assignment Method
PA	Participating Area
PSSR	Previous Secondary Surveillance Radar code
RDPS	Radar Data Processing System
SSR	Secondary Surveillance Radar
VSP	Variable System Parameter

3   INTRODUCTION

3.1   OBJECTIVES OF THE MIDDLE EAST SSR CODE MANAGEMENT PLAN

3.1.1   The Middle East SSR Code Management Plan (MID SSR CMP) has been established to provide States in the ICAO MID Region with means to coordinate the use of SSR codes based on the principles of the Originating Region Code Assignment Method (ORCAM), which provides for the most efficient and economical use of codes.

3.1.2   The MID SSR CMP will foster the implementation of ORCAM which will ultimately allow for an assigned discrete code which would, whenever possible, be retained throughout the flight.

3.1.3   For the development of automated SSR code assignment systems, reference should be made to Paragraph 6~~6~~ below.

3.1.4   On the basis of the above, a detailed Code Allocation List (CAL) for the MID Region Participating Area (PA) and certain adjacent areas was developed. The CAL is maintained by the ICAO MID Regional Office as a Supplement to MID Doc 9708.

3.1.5   The agreed allocation of SSR codes to States and ATS units are documented in Part A of the CAL. The detailed listing of codes serving both transit and domestic purposes is shown in Part B of the CAL. The CAL is ~~at **Attachment B**~~included in ~~to~~ the MID ~~FASID~~eANP, Part IV~~.~~.~~

3.2   GENERAL PRINCIPLES TO MEET THE OBJECTIVES

3.2.1   The detailed principles governing the use of SSR codes in the MID Region are based on the following general principles which are provided by or are complementary to the worldwide provisions detailed in *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444), Chapter 8:

a)   codes shall be allocated to States in accordance with regional air navigation agreements, taking into account overlapping radar coverage over adjacent airspace;

b)   codes are allocated to Air Traffic Services Units (ATSU) on the basis of duly justified operational requirements; their number is primarily established by taking into account the number of aircraft to be handled simultaneously and the system capabilities;

c)   the appropriate ATS authority shall establish a plan and procedures for the allocation of codes to ATSUs;

d)   the plan and procedures for the allocation of codes to ATSUs shall be compatible with those practised in adjacent States;

e)   codes shall be assigned to aircraft in accordance with the plan and procedures laid down by the appropriate ATS authority;

f)   whenever there is a need for individual aircraft identification, each aircraft shall be assigned a discrete code which should, whenever possible, be retained throughout the flight;

g)   the assignment of a code should preclude the use of this code for any other function within the area of coverage of the same SSR for a prescribed time period; and

h)   to reduce pilot/controller workload and the need for communications, the number of code changes required shall be kept to the minimum.

3.2.2   SSR codes should be used for ATS purposes only.

3.2.3   Code allocations are expressed in terms of complete code series or specified parts thereof. In special cases, such requirements may even cover designated discrete codes.

3.2.4   Codes intended to be used for transit purposes are allocated to States for use by specified ATSUs within the MID PA. Where provided for in the *Middle East SSR Code Management Plan* and under clearly defined circumstances, such codes may also be designated for use across PA boundaries.

3.2.5   Codes intended to be used for domestic purposes are allocated to States for use by specified ATSUs requiring limited geographical protection for such codes. Where provided for in the MID SSR CMP and under clearly defined circumstances, such codes may also be designated for use across national boundaries.

3.3   MONITORING OF THE PLAN

3.3.1   Provisions regarding the progressive implementation and monitoring of the MID SSR CMP have been agreed by MIDANPIRG. In this connection, the management of the MID SSR CMP is exercised by the ICAO MID Regional Office. States expecting to introduce or change SSR facilities are requested to advise the ICAO MID Regional Office at least six months in advance, in order to provide sufficient time to carry out any necessary coordination.

3.3.2   To be effective, the MID SSR CMP must be kept up to date. While its contents will be reviewed regularly, it is the responsibility of all States to inform the ICAO MID Regional Office promptly of any variations proposed or considered necessary with respect to their code allocations, relevant to ATS infrastructure developments and/or the guidance material provided in the MID SSR CMP.

3.3.3   In order to serve their purposes it is imperative that the MID SSR CMP and the CAL are kept up to date. States are therefore required to inform the MID Office of ICAO promptly of any requests for changes, additions or deletions in regard to the use of specific codes, as follows:

ICAO MID Regional Office

Subject: SSR Code Management
E-mail:
icaomid@icao.int
Fax: +2 (02) 22674843

4   PERMANENT CODE DISTRIBUTION AND CATEGORIES

4.1   DISTRIBUTION OF CODES

4.1.1   Certain codes are reserved for special purposes on a worldwide scale or have been put in a common pool for use in the MID Region. The remaining code series for use in the ICAO MID Region are divided into two distinct types: transit codes and domestic codes. Both domestic and transit codes may be used as directionally assigned codes beyond their normal application under clearly defined and published circumstances, and appropriately coordinated through ORCAM.

4.1.2   The number of codes used for transit purposes has to take account of the extended geographical protection required, in order to reduce to a minimum the chances of confusion between the identities of two different aircraft assigned with the same discrete code. The MIDANPIRG has agreed that the retention time should normally be two hours.

4.1.3   The number of codes used for domestic purposes can be kept relatively small as they may be repeated within the same State or they can be used by other States provided a buffer is established. In some cases, by agreement, they can be used across national boundaries.

4.1.4   Furthermore, the allocation possibilities can be increased significantly by dividing specific code series into smaller contiguous codes. When this method is used for transit flights bilateral agreement may be required.

4.2   SPECIAL PURPOSE CODES

4.2.1   Specific codes in certain series are reserved for special purposes as follows:

Series 00	**Code 0000 is available as a general purpose code for domestic use by any of the following States:** **Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.**
Series 10	Code 1000 reserved for use as a conspicuity code for Mode S
Series 20	Code 2000 shall be used by flight crews in the absence of any Air Traffic Control (ATC) instructions or regional agreements unless the conditions for the use of codes: 7000,7500, 7600 and 7700 apply.
Series 70	Code 7000 shall be used by flight crews not receiving ATS service in order to improve detection of suitably equipped aircraft in areas specified by States, unless otherwise instructed by ATS.
Series 75	Code 7500 is reserved for use in the event of unlawful interference.
Series 76	Code 7600 is reserved for use in the event of radio communications failure.
Series 77	Code 7700 is reserved for use in the event of emergencies and interception[*]. Code 7776 and Code 7777 are reserved for SSR ground transponder monitoring.
Codes 7601-7612	Are reserved for humanitarian flights.
Common SSR Code Pool	The following code blocks have been reserved for tactical allocation to States on a temporary basis to support large scale activities:

4.2.2   Discrete codes in the series 00 are allocated to States for use for domestic purposes. States in the MID Region are generally allocated two octal blocks of four-digit codes per State in such a manner that code duplication is avoided at FIR boundaries. The allocation of octal blocks is shown in the CAL.

[*]*Note.— The word "interception" in this context does not include intercept and escort service provided, on request, to an aircraft in distress, in accordance with Volumes II and III of the* International Aeronautical and Maritime Search and Rescue Manual *(Doc 9731).*

4.3   TRANSIT CODES

4.3.1   Transit codes are allocated for assignment to transit flights. Aircraft will retain the assigned code within the geographical limits of the MID PA or, in the case of an agreement between States concerned, across the PA boundary.

4.3.2   The allocation of transit codes in the MID Region is based on one PA[1] which has been determined on the basis of the flow of air traffic in the region. It is shown on the Chart at **Appendix A** and includes the following States:

   PA MID   Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Sudan, Syria, United Arab Emirates and Yemen.

4.3.3   Transit codes shall be assigned in accordance with the following principles:

   a)   when an aircraft enters the MID PA (either on departure or in flight), it will be assigned a discrete code by the first ATSU concerned at a Variable System Parameter (VSP) of not less than 30 minutes prior to activation of the flight entering the MID PA or when departing, upon ATC clearance delivery or at start up, whichever is later;

   b)   each aircraft will keep the original code assigned on entering the MID PA for the entire flight within the PA. Appropriate code protection criteria have to be applied in order to avoid duplication by too early reassignment of the same code. Efforts should be made to reduce the "protection period" while retaining adequate protection. It has been agreed that the normal retention value shall be two hours; and

   c)   a code change will be required at the time an aircraft crosses the MID PA boundary, unless special provision has been made for retention beyond the PA boundary.

4.3.4   In establishing the number and series of transit codes for both omni-directional and directional application, account is taken of the following factors:

   a)   the air traffic flows and main sources of transit traffic in the MID Region and likely trends;

   b)   the requirement for code series for a given ATC Unit. This requirement is derived from the total number of aircraft requiring assignment of a specific code during the busiest period of activity of that ATC Unit, taking into account a "protection period" after which any specific code assigned to an aircraft by an ATC Unit is normally available for reuse; and

   c)   the assignment of a specific code to an aircraft is ideally made, as late as possible before take-off, normally on start up or upon ATC clearance delivery, whichever is later or, when an aircraft in flight is imminently due to come under control, normally a VSP value of not less than 30 minutes.

4.3.5   The distribution of the available code series for transit purposes is shown in the CAL.

4.3.6   Specific arrangements are required to ensure that no conflicting situations will arise in border areas.

4.4   DOMESTIC CODES

4.4.1   Domestic codes are allocated for use by aircraft remaining within the boundaries of the agreed Area Of Responsibility (AOR) (normally within one State) or, in the case of agreement between States concerned, across agreed AORs. Domestic codes can also be used

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[1]   The actual number of PAs to be established will depend on the results of the Secretariat study.

for transit aircraft entering the MID PA and landing at an aerodrome within the AOR of the ATSU that has assigned the SSR code. The relevant code series for domestic purposes are shown in the CAL.

4.4.2   Domestic codes should be used so that utmost economy in the number of codes required is achieved. Domestic codes used for terminal purposes or within specified portions of the airspace (sectors) or across national boundaries will be assured protection in these functions from other uses of the same code through suitable systematic or procedural methods.

4.4.3   More detailed information concerning the procedures to be used for SSR code assignment can be found in **Appendix B**.

5   ORCAM

5.1   OUTLINE OF ORCAM OBJECTIVES

5.1.1   The objectives of ORCAM are:

    a)   to ensure safety by uniqueness and continuity;

    b)   enhance safety;

    c)   reduce workload;

    d)   improve system capacity; and

    e)   increase efficiency.

5.1.2   Uniqueness and continuity criteria are intended to provide permanent perceptibility and identification of aircraft with a minimum of errors and interruptions.

5.1.3   *Uniqueness*. Depending on system functionality, only one aircraft should respond using a given code in any particular area and at any given time. This provides an unambiguous code/callsign correlation and consequently an easy identification of aircraft.

5.1.4   *Continuity*. A code assigned to an aircraft should, whenever possible, be retained throughout the flight. This secures permanent display of aircraft identification.

5.1.5   The uniqueness and continuity criteria of ORCAM enhance safety by limiting the likelihood of identification errors. They also assist traffic flows since radar identification and all aspects connected with transfers are facilitated. This results in a reduction of workload (radiotelephony, identification monitoring, etc.) and substantially improves the overall system capacity.

5.1.6   In some areas the number of flights could exceed the number of SSR codes available. Some rationalization according to the nature of the flight (short-, medium- or long-haul, domestic, international or transit) and of the capabilities of the system is necessary for the most intensive possible use of codes.

5.1.7   Permanent code assignments and allocations based on the aircraft callsign, control position or any other systematic distinguishing features cannot be accepted because of the wasteful effects on the efficiency in use of codes required.

6   ORCAM SYSTEM REQUIREMENTS

6.1   INTRODUCTION

6.1.1   Middle East States are relying on the extensive use of SSR in automated ATC ground systems to ensure uninterrupted aircraft identification and maintenance of radar/flight plan correlation.

6.1.2   They have recognized the common availability of specified capabilities in automated ATC ground systems as being essential for:

    a)   participation of individual automated ATC units in a cooperative environment;

    b)   application of a common SSR Code assignment method in accordance with the ICAO principles;

    c)   efficient utilization of codes in automated ATC ground systems.

6.1.3   This "Statement of essential common capabilities for automated ATC ground systems in relation to the use of SSR" shown in paragraph 6.3~~6.3~~ below, lists the capabilities concerned. It should be used by States as the basis to determine the minimum operational specifications for automated ground systems.

6.2   GENERAL SYSTEM CONSIDERATIONS

6.2.1   The application of automatic data processing in ATC ground systems allows for great freedom in the definition of system capabilities. This freedom should be exploited to:

    a)   provide for all essential capabilities related to the use of SSR in the ~~most simple~~simplest manner having due regard to operational requirements; and

    b)   enable individual automated ATC ground systems to function as part of an inter-operable environment and to comply with agreed conventions facilitating such cooperation (e.g. principles and basic rules for code assignment, code assignment methods etc.).

6.2.2   Individual automated ATC ground systems should, as part of an inter-operable environment, be capable of making the maximum use of codes previously assigned by other units controlling the aircraft concerned; i.e. they should not introduce any code changes or if this is impossible in some circumstances, require only the minimum of changes.

6.2.3   Taking into account inter-operability of ATC ground systems within the MID Region with others outside that area and the range of codes which may be utilized under such arrangements, automated ATC ground systems should be capable of performing all system functions related to the use of SSR for any 4-digit identity code.

6.2.4   Automated ATC ground systems should be designed to allow the use of a minimum number of codes. The application of sophisticated code correlation methods may reduce the number of codes needed in comparison with those required when simpler methods are used.

6.2.5   The processing of SSR data in automated ATC ground systems should be aimed at reducing the need for controller intervention.

6.2.6   **Appendix C** and **Appendix D** provide greater detail regarding the implications for automation and the development of automated SSR code assignment systems respectively.

6.3   ESSENTIAL CAPABILITIES FOR AUTOMATED ATC GROUND SYSTEMS

6.3.1   It is essential that automated ATC ground systems be designed to have certain capabilities in common, based on the assumption that:

a)   the maximum use will be made of previously assigned codes;

b)   only where continuing use of previously assigned codes would give rise to ambiguity, new codes will be assigned in accordance with a suitable common SSR code assignment method;

c)   the prime use of codes will be to facilitate automatic identification, automatic tracking and automatic radar/flight plan data correlation; and

d)   the differentiation of aircraft essential for the execution of these functions can be achieved through the use of a single, adequately protected code per aircraft.

6.3.2   In detail, automated ATC ground systems should be capable of automatic:

a)   *Exchange of codes:* in particular of timely transmission to adjacent centres concerned of information on the code previously assigned to flights to be transferred.

b)   *Assignment of codes:* in all instances where no previous code assignment has been made or where previous assignments are found to be unsuitable.

c)   *Processing of SSR code information, including:*

   i)   initiation of automatic tracking of SSR responses;
   Note.— This does not exclude tracking on the basis of primary radar returns in areas where adequate primary coverage is available;

   ii)   determination for each code whether it meets the criteria to be established for unambiguous correlation;

   iii)   recognition of any code duplications affecting correlation;

   iv)   proposing action to controllers to resolve code duplications affecting correlation;

   v)   establishment of initial correlation between real-time radar information and current flight plan information on the basis of decoded SSR replies (including Mode C information). Correlation should be achieved sufficiently in advance of the time at which an aircraft enters the area of responsibility of a centre;

   vi)   maintenance of correlation between real-time radar information and current flight plan information on the basis of decoded SSR replies and/or coincidence of flight plan information (route, heading, altitude) or other distinguishing criteria and radar information;

   vii)   storage of code information until a VSP time at which its activation and protection is desired; and

   viii)   activation of stored information for correlation at a given VSP time and/or within a given airspace.

d) *Display of information including:*

 i) presentation in a suitable manner of decoded SSR replies and/or correlated flight plan information;

 ii) filtering of information to be displayed on the basis of SSR-derived data (Mode A/C); and

 iii) indication of code duplications.

e) *Special codes:* immediate recognition of special codes, as specified on a regional or world-wide basis, as well as maintenance of tracking and correlation of aircraft using these codes.

f) *Recovery from ground system degradation:* in cases of ground system degradation (excluding display component failure) to the extent that essential SSR-derived information is not displayed, automated ATC ground systems should be capable of restoring all essential information within the shortest possible time. Until full serviceability can be restored, the above aim may necessitate suppression of functions of secondary importance.

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APPENDIX A -   PARTICIPATING AREAS
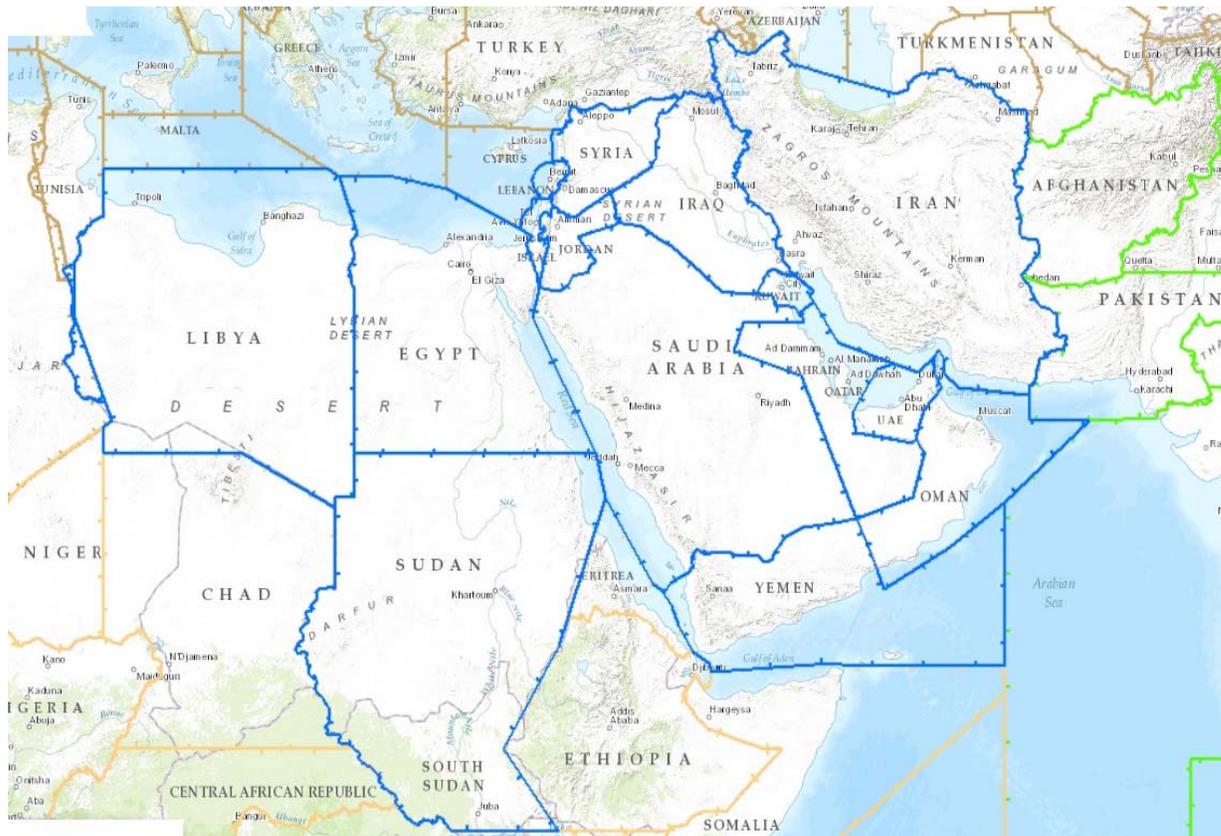
SSR Code Allocation List

STATE FIR	Domestic Code	Domestic Code	Transit Code	Transit Code
Amman	0400 – 0477 1101 – 1177	2400 – 2477	0700 – 0777	
Baghdad	1300 – 1377	7400 – 7477	1001 – 1077	7200 – 7277
Bahrain	1200 – 1277 2100 – 2177	2700 – 2777	2200 – 2277 2600 – 2677	3200 – 3277 4400 – 4477
Beirut	2500 – 2577		4300 – 4377	
Cairo	0600 – 0677 2300 – 2377	2700 – 2777	1600 – 1677 3300 – 3377	7300 – 7377
Damascus	3000 – 3077		5700 – 5777	
Emirates	0400 – 0477 0600 – 0677 1101 – 1177	1300 – 1377 6000 – 6077 6100 – 6177	0500 – 0577 1700 – 1777	3400 – 3477 6200 – 6277
Jeddah	0200 – 0277 2500 – 2577 3000 – 3077 3500 – 3577	4100 – 4177 5000 – 5077 5600 – 5677 6300 – 6377	3100 – 3177 4200 – 4277	4500 – 4577 5200 – 5277
Khartoum	1200 – 1277 4600 – 4677	6000 – 6077	0100 – 0177	
Kuwait	0600 – 0677	3700 – 3777	1400 – 1477	
Muscat	4600 – 4677 6500 – 6577	6600 – 6677	4000 – 4077	4700 – 4777
Sana'a	3700 – 3777	6100 – 6177	7001 – 7077	
Tehran	1101 – 1177 1500 – 1577 4100 – 4177	5600 – 5677 6300 – 6377	3600 – 3677 5100 – 5477	5400 – 5177
Tripoli	1300 – 1377		2001 – 2077	

SSR Code Reserve list

Domestic	Transit
0001 – 0077	5300 – 5377
0300 – 0377	5500 – 5577
6700 – 6777	6400 – 6477
7100 – 7177	
7501 – 7577	
7601 – 7612 Red Cross/humanitarian	
7613 – 7677	
7701 – 7777	

STATE FIR	Domestic Code	Domestic Code	Transit Code	Transit Code
Amman	0400 – 0477 1101 – 1177	2400 – 2477	0700 – 0777	
Baghdad	7400 – 7477	1300 – 1377	1001 – 1077	7200 – 7277
Bahrain	2100 – 2177 2700 – 2777	1200 – 1277	2200 – 2277 4400 – 4477	2600 – 2677 3200 – 3277
Beirut	2500 – 2577		4300 – 4377	
Cairo	0600 – 0677 2700 – 2777	2300 – 2377	1600 – 1677 7300 – 7377	3300 – 3377
Damascus	3000 – 3077		5700 – 5777	
Doha TMA	2300 – 2377			
Emirates	0400 – 0477 6000 – 6077	0600 – 0677 6100 – 6177	0500 – 0577 3400 – 3477	1700 – 1777 6200 – 6277
Jeddah	0100 – 0177 3500 – 3577 3000 – 3077	0200 – 0277 5000 – 5077 4100 – 4177	3100 – 3177 5200 – 5277	4500 – 4577 4200 – 4277
Khartoum	1200 – 1277 5200 – 5277	5300 – 5377	0100 – 0177	
Kuwait	0600 – 0677		1400 – 1477	
Muscat	6600 – 6677 4600 – 4677	6500 – 6577	4000 – 4077	4700 – 4777
Sana'a	3700 – 3777		7001 – 7077	
Tehran	1101 – 1177 1500 – 1577 5600 – 5677	4100 – 4177 6300 – 6377	3600 – 3677 5400 – 5477	5100 – 5177
Tripoli	1300 – 1377		4000 – 4077	

SSR Code Reserve list

Domestic	Transit
0001 – 0077	2001 – 2077
0300 – 0377	5300 – 5377
6700 – 6777	5500 – 5577
7100 – 7177	6400 – 6477
7501 – 7577	
7601 – 7612	
7613 – 7677	
7701 – 7777	

APPENDIX B - GENERAL PROCEDURES FOR SSR CODE ASSIGNMENT

B.1 Retention of previous code

B.1.1 Every endeavour shall be made to retain the code already assigned to the aircraft. This assumes that the code is known at the time of coordination (either by voice coordination or by transmission of an Air Traffic Services (ATS) Interfacility Data Communications (AIDC) message, or an On- Line Data-Interchange (OLDI) or via the pilot) and input into the system if automated. If a code is not already being used by another aircraft flying in an unprotected area and if the code assigned to the aircraft is acceptable for the flight category[2], the code shall be retained.

Note.— This should apply if the aircraft comes from an ATSU belonging to the same PA or a unit in another PA, but it may be retained in an area which has no conflicts with the other units in the area.

B.2 Code assignment or re-assignment

B.2.1 The following rules will be applied to departing aircraft within the area of the control unit, or to aircraft whose previously assigned code failed to comply with the rules stated in B.1.1 above and consequently could not be retained:

B.2.2 <u>Where an aircraft remains inside a defined area of the AOR</u>

Directional assignment of a domestic code - Code C1 can be assigned simultaneously to aircraft A1A2 and A3A4. C1 is protected for zone 1 and zone 2:
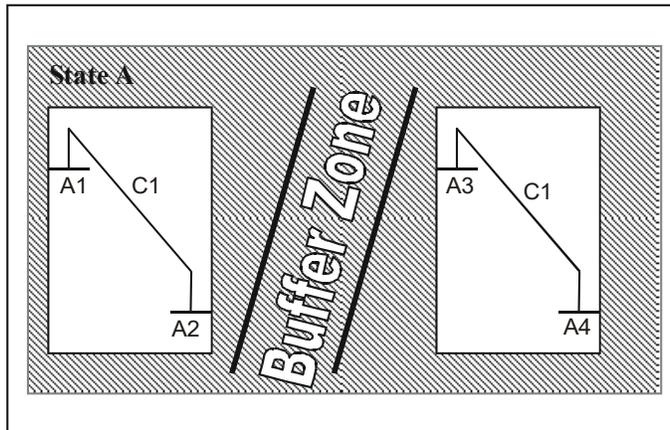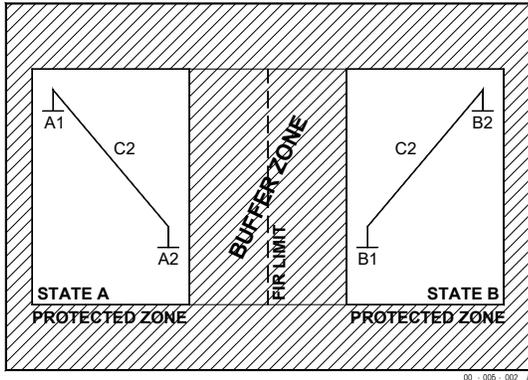

Note.— Domestic code allocation may be protected by buffer zones of at least 60 NM or separated by another unit. This rule is applicable within States, and also by arrangement between adjacent States. In order to make economic use of this type of allocation the same codes should preferably be disseminated (at most every 120 NM) in different small areas instead of having recourse to allocating codes belonging to an excessive number of different series.

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[2]   Flight category refers to transit, domestic or common pool codes.

B.2.3   <u>Where an aircraft remains inside a State</u>

Code C2 can be assigned simultaneously to aircraft A1A2 and B1B2 from different States A and B. C2 is protected for State A and State B:


Note.— Domestic code allocation must be protected by buffer zones. Even more than in the case of B.2.2 above; consultation between adjacent States will be necessary to ensure such protection and rationalize excessive domestic code utilization as far as possible.

B.2.4   <u>For an aircraft leaving a State</u>

Transit codes are allocated by the Middle East SSR Code Management Plan to the various States for assignment to this flight category. Transit codes should be retained for the remainder of the flight in all States in the same PA and, if possible, other successive PAs, as agreed and reflected in Part B of the CAL. Transit codes received from a previous unit are maintained provided that they satisfy the assignment criteria.

*B.2.4.1   Omni-directional assignment of a transit code*
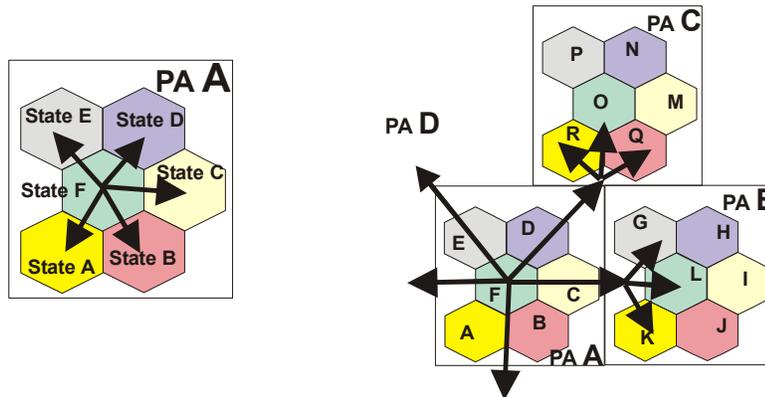
B.2.4.2   *Directional assignment of a transit code*

Allocated by the Middle East SSR Code Management Plan to the various States for assignment to aircraft under specific conditions: to specific destinations in the same PA or in different PAs; to specific directions of aircraft and/or via specific areas.   Special attention shall be given in ensuring that when applying directional assignment of a transit code, no code conflict could occur.
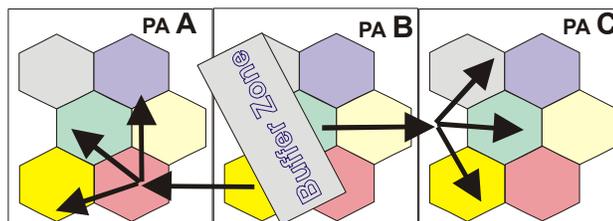
B.2.4.3   *Close to PA border, retention of transit codes of other PA*

Codes C1, C2 and C3, which belong to R2 transit series are retained until landing at an airport A1 near the border between the two PAs, which is located in a protection area for the codes in question.
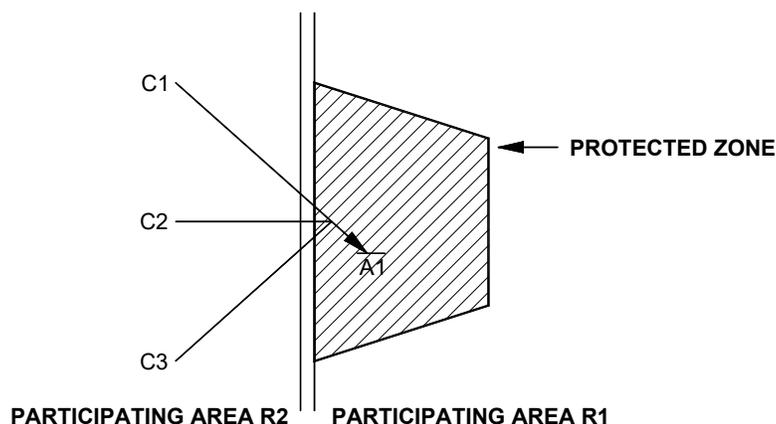
00 - 005 - 005 A

B.3   Code occupancy times

B.3.1   In order to ensure uniqueness of the code in the systems concerned by an aircraft, the ICAO MID Regional Office based its calculations on a "protection period" of approximately two hours, when establishing the number and series of transit codes (please see paragraph 4.3.4~~4.3.4~~). At the same time, the protection period should be reduced when possible, while providing adequate protection (please see paragraph 4.3.3~~4.3.3~~ b)~~b)~~). Certain suggestions along these lines will be found below.

B.3.2   Point of time for code assignment to aircraft

In order to economize codes as much as possible, it is recommended that codes be assigned to flights which will be performed in the very near future (when ready for departure, or in flight, about to come under control).

Note.— The ideal moment is the flight activation point in the case of automated systems.

B.3.3   Assignment procedures

Codes are normally assigned according to the earliest time of release (a VSP). However, in units assigning codes manually such sophistication may be cumbersome.   When sophisticated systems are not available, cyclical assignment of the codes released should be preferred instead of a systematic return to the beginning of the category.

B.3.4   Release of a code by an aircraft

When a system records an aircraft landing or passing a distant MID PA exit point, the code assigned to the aircraft may be regarded as released and be re-used. In the case of distant MID PA exit point, an additional VSP waiting time, normally thirty minutes, shall be added before re-use. In the event that a code has been assigned to flight that has been cancelled or which will not take place, the code assigned should be released for immediate re-use.

B.3.5   Saturation

When the traffic load is such that no code is available for a given flight category it may be necessary to assign codes in accordance with relaxed rules:

a)   reduced protection times –
         (see B.3.4);

b)   using a different code category –
         using an omni-directional assignment if no more codes for directional assignment

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APPENDIX C -   IMPLICATIONS FOR AUTOMATION

C.1   As stated in Appendix B, B.1.1, retention of the code assigned by the previous unit requires foreknowledge, implying capture of the data by the system in the event of automated assignment (direct capture by an AIDC or OLDI message, or indirect by manual input on coordination).

C.2   Assignment according to flight category implies that the system is capable of analysing the origin and destination of flights. If not, capture of units transferring and accepting, where applicable, may be used. For some cases one may need to process all four data items.

C.3   As in the case of any problem involving the "queuing management", it is abundantly clear in the light of the previous remarks that the more centralized the allocation-assignment system, the more economical it will be. In other words, the less call there will be for allotment type solutions (provision of sub-banks to decentralized units), and the greater the use made of central assignment in accordance with overall criteria the more economical the system will be.

C.4   Likewise it has been seen that proper management of the assignment system presupposes knowledge of the actual traffic situation (entry into the system, route, exit from the system-landing etc.). Consequently, it is desirable that the assignment machinery should be linked with the real-time system.

C.5   A number of examples given in Appendix B show that despite the uniqueness by zone criterion, two codes may be found to be in use simultaneously in the same system (radar range is greater than the 60 NM buffer zone). Accordingly, the correlation systems should at least be capable of accommodating and unambiguously identifying two aircraft responding on the same code separated at the time of correlation by a designated geographical distance which will be a function of the automated system.

> *Note.— A geographical correlation filter should exist such that correlation will not be achieved if the calculated distance between the flight plan derived position based on estimate information and the SSR response corresponding to the SSR code in the flight plan is more than 30 NM.*

C.6   Illustrative diagram for general code allocation and assignment
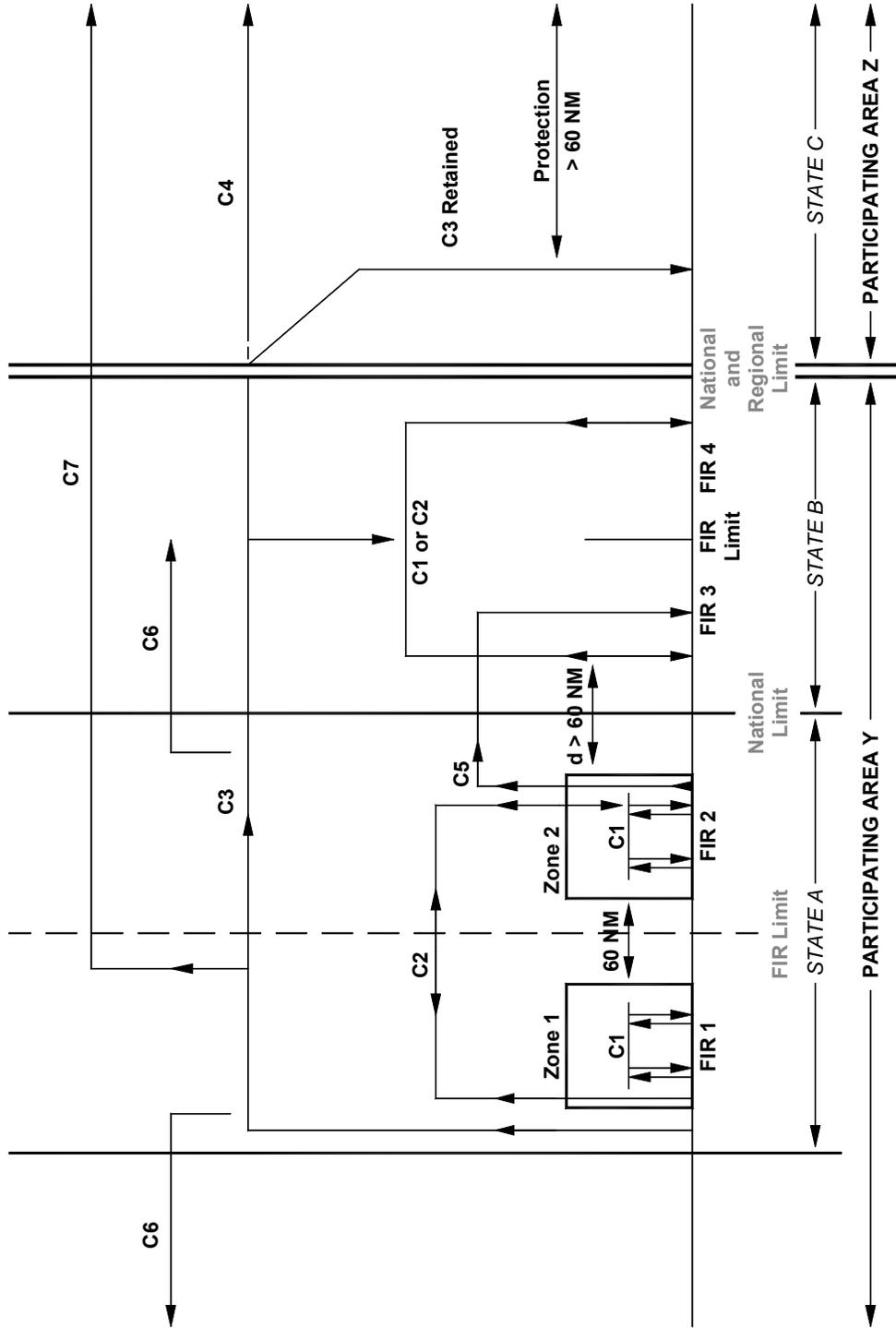
The following notes relate to the diagram:

Code C1: Domestic code for PA Y (Domestic in STATE A Domestic in STATE B)

These codes can be used inside zone 1, inside zone 2, inside other zones of STATE B, and even inside the whole territory of STATE B if a buffer zone of 60 NM or a FIR separates them.

These codes could be used in PA Z under the same condition of protection against the allocation in STATE B.

Code C2: Domestic code for PA Y (Domestic in STATE A and STATE B)

Condition: a 60 NM buffer zone should be provided between these two assignments.

Code C3: Transit code for PA Y (STATE A)

In general such a code should be assigned to any aircraft originated in STATE A and leaving its boundaries, for overflying STATE B or landing in B.

In general this code may be changed at the entry in PA Z, but it could be retained for an arrival at an aerodrome close to the border and having a protection area of at least 60 NM against any other use in PA Z.

If C3 is planned for transit use from PA Y to PA Z it could be retained inside the whole PA Z.

Code C4: Transit code for PA Z (STATE C)

Such a code will be assigned to any flight whose code cannot be retained and overflying STATE C for a further destination in PA Z.

Code C5: Directional transit code between STATE A FIR2 and STATE B FIR3

C5 should be simultaneously protected in the two FIRs though domestic for PA Y. Such an allocation has the advantage of avoiding assignment of a transit code for such short middle-range flights.

Code C6: Transit code for PA Y

The example given with C6 is a duplication where the directional assignment by STATE A gives a guarantee of no conflicts occurring with the following units.

**Code C7**: Transit code for use for PA Y (STATE A) and PA Z

C7 which is at least transit in PA Y and having no domestic use in PA Z will be retained in the two areas.

Management of the code baskets for STATE A:

General:	Domestic basket			: C1, C2
	Transit basket			: C3, C6

Special:	Domestic State A	FIR 2	—	State B FIR 3	: C5
	Transit State A		—	PA Z	: C7
	Directional assignment	FIR 2	—	State B	
		FIR 1	—	Other State of PA Y	: C6

C.7   Flow Chart

The following chart outlines the retention/assignment procedures described above:
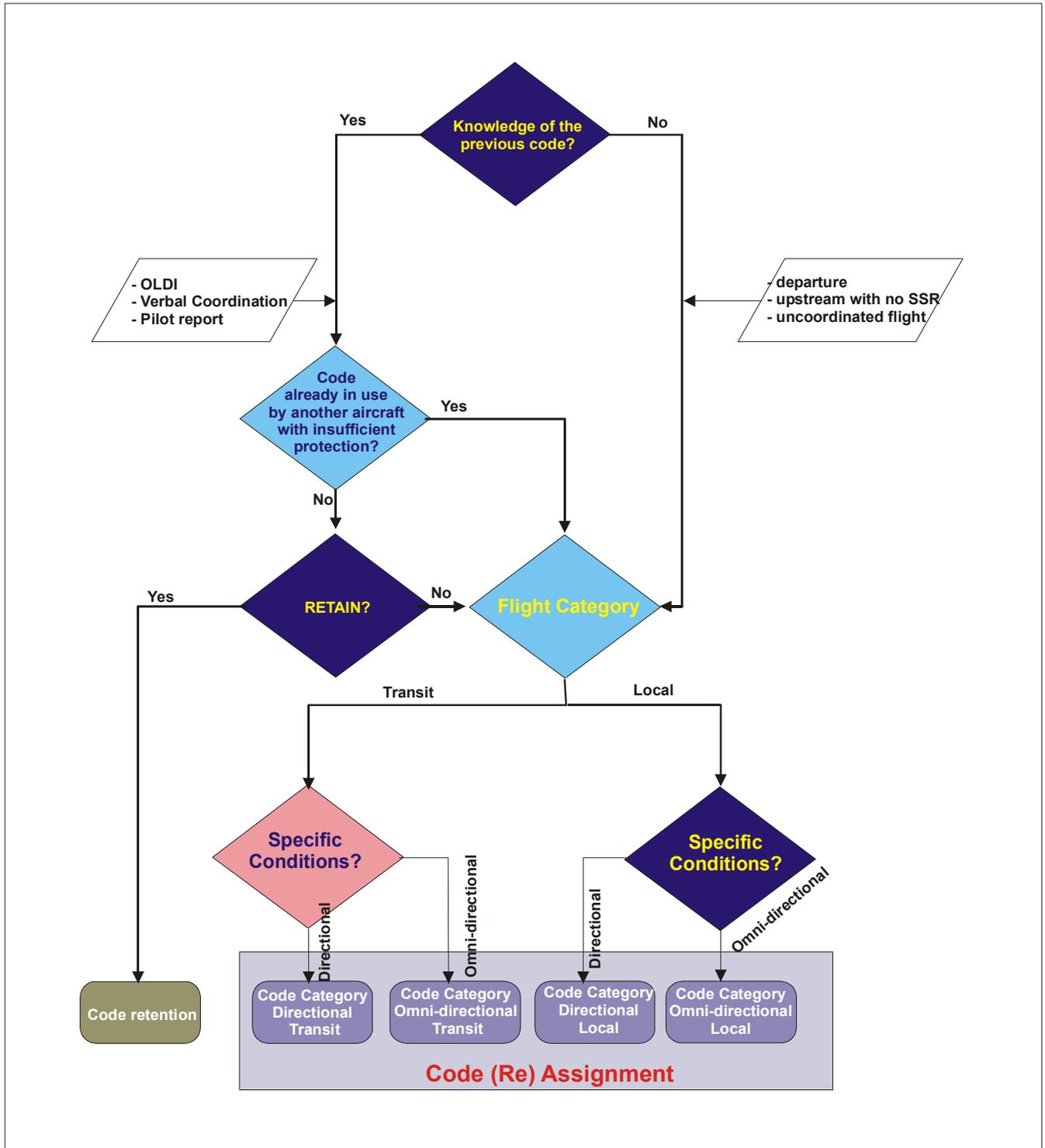
APPENDIX D -   DEVELOPMENT OF AUTOMATED SSR CODE ASSIGNEMENT SYSTEMS

D.1   As computer capabilities could be a limiting factor in code assignment and thus reflect on the code allocation, the following principles for the development of automated SSR code assignment systems should be observed:

a) automated systems shall be capable of using code blocks (part of a code series) without getting confused if, in a neighbouring system, other blocks of the same code series (with the same first and second digits) are used;

b) automated equipment shall be capable of coping with a limited number of code conflicts rather than preventing code duplications by means of more complicated and less economical code allocation and assignment methods;

Note.— It is expected that this feature will become even more important as traffic increases.

c) automated systems shall be capable of assigning codes with reference to the category of a flight, i.e. transit codes shall be assigned to an aircraft engaged in transit flights and domestic codes to an aircraft confined within the smaller area of use reserved for such codes;

d) automated systems shall permit the addition of a sophisticated capability of assigning codes with reference to the routing or special code protection required for specific aircraft, especially when this will permit economies in the number of codes required;

e) the code assignment logic of an automated system shall not impose any restriction on the free choice of any specific additional codes if this is required to satisfy new requirements;

f) automated code assignment systems shall be designed to conform to international cooperative principles and essential capabilities described in this Document.

- END -