International Civil Aviation Organization

MIDANPIRG Air Traffic Management Sub-Group

Eighth Meeting (ATM SG/8)
(Amman, Jordan, 7 – 10 November 2022)

Agenda Item 4: Planning and Implementation subject related to ATM/SAR

MID DOC 004: HIGH LEVEL AIRSPACE CONCEPT (HLAC)

(Presented by the Secretariat)

SUMMARY

This paper presents the progress of the development of the MID High Level Airspace Concept (HLAC) Version 2.

Action by the meeting is at paragraph 3.

REFERENCE(S)

- MID Doc 004 - MID High Level Airspace Concept V1.0 (Edition 2015)
- MIDANPIRG/19 and RASG-MID/9 Meetings Report (Riyadh, Saudi Arabia, 14 – 17 February 2022)

1. INTRODUCTION

1.1 The objective of the High Level Airspace Concept is to consolidate the ATM operational requirements agreed upon by MIDANPIRG, in order to provide a generic set of characteristics to be applied by States, which would support the harmonization of the ATM operations in the MID Region.

1.2 To review and prepare a revised version of the document. MIDANPIRG/18 meeting, through Decision 18/32, established an Action Group to review and prepare a revised version of the MID Doc 004.

1.3 The MIDANPIRG/19 meeting noted the limited inputs and comments received from the Action Group members. Accordingly, the meeting agreed to the following Decision, to replace and supersede the MIDANPIRG Decision 18/32:

MIDANPIRG DECISION 19/20: HIGH LEVEL AIRSPACE CONCEPT ACTION GROUP (HLAC AG)

That, the High Level Airspace Concept Action Group (HLAC AG), composed of the ATM Focal Points from Bahrain, Egypt, Jordan, Oman, Saudi Arabia, UAE, IATA and ICAO MID, be established to review and prepare a revised version of the MID Region High Level Airspace Concept (MID Doc 004), by 30 September 2022, for presentation to the ATM SG/8 meeting and endorsement by the MIDANPIRG/20 meeting.

2. DISCUSSION

2.1 The inputs and comments received from the Action Group members are consolidated in **Appendix A.**

2.2 Based on the above, the meeting is invited to review and agree on the following Draft Conclusion:

DRAFT CONCLUSION 8/X: MID HIGH LEVEL AIRSPACE CONCEPT (V2.0)

*That, the MID High Level Airspace Concept (V2.0) at **Appendix A** is endorsed and be published as the MID High Level Airspace Concept (V2.0).*

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the progress achieved for the development of MID Doc. 004 (V2.0) at **Appendix A**; and

b) agree on the Draft Conclusion in para 2.2.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

~~INTERNATIONAL CIVIL AVIATION ORGANIZATION~~

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

MID REGION
HIGH LEVEL AIRSPACE CONCEPT

~~EDITION JUNE, 2015~~ ~~2020~~Version 2.0 (Draft) Oct 202~~1~~2

This concept was developed by the ICAO MID ATM SG.

Approved by MIDANPIRG/~~xx~~20 and published by the ICAO MID Office, Cairo

APPENDIX A

RECORD OF AMENDMENTS ~~AMENDMENTS~~

The MID Region High Level Airspace Concept should be reviewed and updated by the ATM Sub-Group and presented to MIDANPIRG for endorsement.

The table below provides a means to record all amendments.
An ~~up-to-date~~up-to-date electronic version of the Plan will be available on the ICAO MID Regional Office website.

~~Amendment Number~~	~~Effective Date~~	~~Initiated by~~	~~Impacted pages~~	~~Remarks~~

Edition Date	Description	Pages Affected
October 2022	Second edition	All pages

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1. GLOSSARY

1.1 Abbreviations and Acronyms

ACC	Area Control Centre
ADS-B	Automatic Dependent Surveillance-Broadcast
AFTN	Aeronautical Fixed Telecommunications Network
AIDC	ATS Inter-facility Data Communications
AIM	Aeronautical Information Management
ASBU	Aviation System Block Upgrade
ATC	Air Traffic Control
ATFCM	Air Traffic Flow and Capacity Management
ATFM	Air Traffic Flow Management
AU	Airspace User
CCO	Continuous Climb Operations
CDM	Cooperative Decision Making
CDO	Continuous Descent Operations
CDR	Conditional Route
CNS	Communication, Navigation and Surveillance
FIR	Flight Information Region
FUA	Flexible Use Airspace
GANP	Global Air Navigation Plan
GAT	General Air Traffic
GNSS	Global Navigation Satellite System
LOA	Letter of Agreement
MIDANPIRG	MID Air Navigation Planning and Implementation Regional Group
OAT	Operational Air Traffic
OLDI	On-Line Data Interchange
PBN	Performance-based Navigation
RNAV	Area Navigation
RVSM	Reduced Vertical Separation Minimum

1.2 Terminology and Definition

Airspace management (ASM). The process by which airspace options are selected and applied to meet the needs of the air traffic management community in the following levels:

a) *Level 1 - Strategic ASM.* Is the act of defining and reviewing, as required, the national airspace policy taking into account national and international airspace requirements.

b) *Level 2 - Pre-Tactical ASM.* Is the act of conducting operational management within the framework of pre-determined existing ATM structure and procedures defined in ASM Level 1 and of reaching specific agreement between civil and military authorities involved.

c) *Level 3 - Tactical ASM.* Is the act, on the day of operation, of activating, deactivating or real time reallocating of airspace allocated in ASM Level 2, and of solving specific airspace problems and/or of individual OAT/GAT traffic situations in real time between civil and military ATS units and/or controlling military units and/or controllers, as appropriate. This coordination can take place either in active or passive mode with or without action by the controller.

Air traffic flow management (ATFM). A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority.

Air traffic management (ATM). The dynamic, integrated management of air traffic and airspace (including air traffic services, airspace management and air traffic flow management) — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.

Air traffic management system. A system that provides ATM through the collaborative integration of humans, information, technology, facilities, and services, supported by air and ground- and/or space-based communications, navigation and surveillance.

Civil/Military Coordination. is the communication between civil and military elements (human and/or technical) necessary to ensure safe, efficient and harmonious use of the airspace.

Conditional route (CDR). A non-permanent ATS route or portion thereof which can be planned and used under specified conditions.

A Conditional Route may have more than one category, and those categories may change at specified times:

a) *Category One - Permanently Plannable CDR:* CDR1 routes are in general available for flight planning during times published in the relevant national Aeronautical Information Publication (AIP). Updated information on the availability in accordance with conditions published daily AUP notification.

b) *Category Two - Non-Permanently Plannable CDR:* CDR2 routes may be available for flight planning. Flights may only be planned on a CDR2 in accordance with conditions published daily AUP notification, and

c) *Category Three - Not Plannable CDR:* CDR3 routes are not available for flight planning; however, ATC Units may issue tactical clearances on such route segments.

Flexible use of airspace (FUA). An airspace management concept based on the principle that airspace should not be designated purely as civil or military, but rather as a continuum in which all user requirements are accommodated to the greatest possible extent.

Global navigation satellite system (GNSS). A worldwide position and time determination system that includes one or more satellite constellations, aircraft receivers and system integrity monitoring, augmented as necessary to support the required navigation performance for the intended operation.

Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

Regional ATS route. An ATS route shall be considered as the MID regional ATS route network provided that:

a) Cross-bordered (at least initiate/terminate from FIR boundary);

b) Route designator shall be assigned in accordance with Annex 11, Appendix 1 and the ICAO Codes and Routes Database (ICARD) requirement; and

c) Published in ICAO Air Navigation Plan (ANP)- Middle East Region (Doc 9708), Volume II, Table ATM II-MID-1 MID Region ATS Route Network.

Segregated airspace. Airspace of specified dimensions allocated for exclusive use to a specific user(s), with operations that are not able to be safely integrated with other airspace users.

CHAPTER 1

INTRODUCTION

1.1 An airspace concept provides the outline and intended framework of operations within an airspace. Airspace concepts are developed to satisfy explicit and implicit strategic objectives such as improved safety, increased air traffic capacity and mitigation of environmental impact, etc. Airspace concepts ~~can~~ include details of the practical organization of the airspace and its ~~users~~ operations based on particular CNS/ATM assumptions, ~~e.g.~~e.g., ATS route structure, separation minima, route spacing, CNS equipment coverage and obstacle clearance.

1.2 The airspace concept constitutes a master plan of the intended airspace design and its operations. It should satisfy the following:

- provides a detailed description of the planned airspace organization and its operations.
- addresses all the strategic objectives identified for the airspace project.
- addresses all CNS/ATM enablers.
- identifies operational and technical assumptions.

1.3 The objective of the High level Airspace Concept is to consolidate the requirements on airspace operations, navigation applications and CNS/ATM ~~operational requirements~~enablers agreed on by MIDANPIRG, in order to provide a generic set of characteristics to be applied by States, which would support the harmonization of the airspace operations ~~the ATM operations~~ in the MID Region.

1.4 MID airspace Principles

Principle 1 - Safety

Safety shall be maintained and enhanced. Thus, airspace structures accompany related agreements and procedures shall be subject to a safety assessment.

Principle 2 - Operational Performance

Capacity requirements and environmental impact are to be mitigated through design and use of airspace without prejudice to Safety. In developing and applying Airspace Configurations, trade-offs may be required between capacity, flight efficiency and environmental mitigation without compromising safety. In order to improve the environmental performance of the climb and descent phases, airspace design should enable optimised CCO and CDO, to top of climb and from top of descent respectively, to the extent possible.

Principle 3 - Airspace Continuum

This means that there is no intended division within en-route airspace or between en-route and terminal airspace. However, the different attributes are required.

Principle 4 – Increase airspace capacity

MID ATS airspace should offer a level of adaptability matching the demands of airspace users to the extent possible whilst maintaining cost effectiveness and optimising overall efficiency. This allows for the most effective balance between capacity, mission effectiveness and flight efficiency, whilst reducing environmental impact, where possible.

Principle 5 – Collaborative Decision-Making process

Any airspace re-structuring project and/or ATS Route Network changes consolidation is achieved through the cooperative decision-making process of the States at regional level.

Principle 6 - Ensure close relationship between airspace structure, ASM and ATFCM

In ATS route structure, main traffic flows are to be given priority over minor flows and efficient connectivity must be assured between ATS routes and other airspaces.

Principle 7 – Continuous Development of MID Airspace

Airspace are to be developed in consultation with all operational stakeholders. Appropriate co-ordination with ASM, ATFCM, ATS, AUs and Airports is required.

1.5 ~~The f~~Fundamentals of the MID Region High Level Airspace Concept ~~are as follows:~~

a) ~~The use of~~Implementation of Minimum Standard Separation application ~~Reduced Vertical Separation Minima (RVSM) between FLs 290 and FL410.~~

b) ~~To the most extent possible implementation of~~ Implementation of PBN conceptparallel ATS route network, ~~when possible, based on two navigation applications RNAV 5 or RNAV 1, across the MID Region.Implementation of RNAV 5 area application in the level band between FL160 - FL460 (inclusive) for en-route navigation.~~

~~c) A system of linked ATS route network supported by routes based mainly on RNAV applications and connected to RNAV or Conventional SIDs and STARs starting at the nominal TMA boundary.~~

~~d) R~~Route ~~oute~~ spacing ~~used for for RNAV 5 ATS routes based on a standard of 16.5 NM for same-direction traffic and 18 NM for opposite-direction traffic in a radar environment.should not be less than 16.5 NM for unidirectional and 18 NM for bi-direction tracks.~~

~~e) Route spacing used for RNAV 1 ATS routes based on a standard should not be less than a 7 NM in a high density demand en-route systemenvironment providing that required CNS infrastructure is available.~~

~~f) Implementation of 20 NM Reduced radar surveillance longitudinal separation, which could be further reduced to 10 NM, where appropriate.~~

~~g)~~c) Implementation of Global Air Navigation Plan (GANP) ~~ASBU Modules threads as enablers~~ in accordance with the ICAO MID Air Navigation Strategy (ICAO MID Doc 002)~~, where applicable.~~ .

~~h)~~d) Implementation of the Airspace Management~~"Flexible Use of Airspace" concept~~.

~~i) Implementation of AIDC/OLDI between all ACCs, according to applicability table (reference to MID Doc xxx).~~

e) Implementation of Continuous Climb Operations (CCO) and Continuous Descent Operations CDO~~, where appropriate as basis for the operations within TMAs~~.

f) Implementation of Regional Air Traffic Flow Management (ATFM)

g) Communication, Navigation and Surveillance requirements

~~Implementation of Bilateral, Sub-regional or regional ATFM services~~

~~The MID Region High Level Airspace Concept will be evolving in accordance with the global and regional developments/requirements to include use of RNP specifications such as, such as, to include the use of Advanced RNP in enroute and terminal operations, and RNP APCH on for the instrument Approachapproach..~~

CHAPTER 2

AIRSPACE CONFIGURATIONS, DESIGNATORS AND CHANGES

Configuration of MID ATS route network

2.1 The strategic planning and design of "packages" of ATS routes of the MID region, Terminal Routes, airspace reservations and ATC sectors responding to requirements stemming from different strategic objectives represents one of the solutions for meeting the safety, capacity, flight efficiency, cost effectiveness and environmental requirements of the MID airspace network. These packages are called Airspace Configurations.

2.2 To meet the diversity of user requirements, there is a need for an effective and dynamic management of airspace configurations through a highly flexible and integrated Cooperative Decision-Making (CDM) process at network, regional, national and local level.

2.3 The main feature of MID region ATS routes network is the ability to offer more routing options even during contingency situation to accommodate airspace users demand in the safe and efficient manner. These ATS routes will be based on the principles of regional and intra-regional ATS route network design, independent from national boundaries, adapted to main traffic flows and endorsed by MIDANPIRG in ICAO Air Navigation Plan (ANP)- Middle East Region (Doc 9708), Volume II, Table ATM II-MID-1 MID Region ATS Route Network.

MID ATS route designators and 5LNCs

2.4 Basic regional ATS route designators shall be assigned in accordance with the following principles.

a) The same basic designator shall be assigned to a main trunk route throughout its entire length, irrespective of terminal control areas, States or regions traversed.
b) Where two or more trunk routes have a common segment, the segment in question shall be assigned each of the designators of the routes concerned, except where this would present difficulties in the provision of air traffic service, in which case, by common agreement, one designator only shall be assigned.
c) A basic designator assigned to one route shall not be assigned to any other route.
d) States' requirements for designators shall be notified to the ICAO MID Offices for coordination through ICARD platform.

2.5 MID regional ATS Route Designators including "A, B, G and R (Regional, Conventional)" and "L, M, N and P (Regional, RNAV)" have been distributed by the Air Navigation Bureau according to the following table:

MID	A	B	G	R	L	M	N	P
Number Blocks	400-424 775-799	400-424 525-549	650-674 775-799	650-674 775-799	300-324 550-574 700-724	300-324 550-574 700-724	300-324 550-574 700-724	300-324 550-574 700-724

2.6 The 5LNC shall be easily recognizable in voice communications and shall be free of ambiguity with those used for other significant points in the same general area.

2.7 The unique 5LNC pronounceable name-code designator assigned to a significant point shall not be assigned to any other significant point. When there is a need to relocate a significant point, a new name-code designator shall be chosen. In cases when a State wishes to keep the allocation of specific name-codes for reuse at a different location, such name-codes shall not be used until after a period of at least six months.

2.8 States' requirements for unique five-letter pronounceable name-code (5LNC) designators shall be notified to the ICAO MID Regional Office for coordination through ICARD

system.

2.9 ICAO HQ compiled a full list of global 5LNC duplication in 2018. There were 3905 duplicated 5LNCs worldwide, in which 113 were in MID region. ICAO and States/Administrations need to work together to resolve this issue on a case-by-case basis and take into consideration of common rules for replacement of duplicated 5LNCS available at ***Appendix A***.

Change in MID ATS route network

2.10 Any changes to ANP- Middle East Region (Doc 9708), Volume II, Table ATM II-MID-1 MID Region ATS Route Network need to consider the following procedure:

a) Update: This modification includes minor changes in the content of the table e.g., add/deletion/rename of reporting points and coordination. This update should be requested by the relevant state(s), reviewed by ATM SG and endorsed by MIDANPIRG.

b) Significant changes: This modification is mainly related to removal of the existing ATS route form the table, add new regional ATS route to the table or change in condition (as defined by notes). These sorts of changes also should be requested by the relevant state(s) and followed standard PfA processes.

CHAPTER ~~2~~3

~~Fundamentals of the MID region High Level Airspace Concept~~ **MINIMUM STANDARD SEPARATION APPLICATION**

Reduced Vertical Separation Minima (RVSM)

3.1 The Use of Reduced Vertical Separation Minima (RVSM) between ~~Flight Levels~~FL ~~-~~290 and FL410, inclusive. The implementation of RVSM in the MID Region started on 27 November 2003. Currently RVSM is successfully implemented in all the MID Region Flight Information Regions (FIRs).

3.2 The provisions for RVSM approval and the monitoring of the height keeping performance are contained in Annex 6. The general requirements for RVSM implementation are contained in the ICAO, Doc 9754 (Manual on a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive). ~~However, and t~~The Operating Procedures and Practices for Regional Monitoring Agencies in relation to ~~the use of a 300 m (1 000 ft) Vertical Separation Minimum between FL 290 and FL 410 inclusive,~~ RVSM are provided in ICAO~~,~~ Doc 9937.

3.3 Monitoring of aircraft height-keeping performance was one of the underlying assumptions of the safety studies on which RVSM was based. In all regions where RVSM has been implemented, Regional Monitoring Agencies (RMAs) have been established by the appropriate Planning and Implementation Regional Groups (PIRGs) to carry out this function. The RVSM safety objectives for the implementation of RVSM in the MID Region are set out by MIDANPIRG through MIDANPIRG/12 Conclusion, as follows:

CONCLUSION 12/16: MID RVSM SAFETY OBJECTIVES

That, the safety assessment of RVSM operations in the MID Region be based on the following safety objectives:

a) ***Safety Objective 1****: The risk of collision in the MID RVSM airspace due solely to technical height-keeping performance meets the ICAO Target Level of Safety (TLS) of* ***2.5 x 10^{-9}*** *fatal accidents per flight hour;*

b) ***Safety Objective 2****: The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in MID RVSM airspace meets the ICAO overall TLS of* ***5 x 10^{-9}*** *fatal accidents per flight hour; and*

c) ***Safety Objective 3****: address any safety-related issues raised in the SMR by recommending improved procedures and practices; and propose safety level improvements to ensure that any identified serious or risk-bearing situations do not increase and, where possible, that they decrease. This should set the basis for a continuous assurance that the operation of RVSM will not adversely affect the risk of en-route mid-air collision over the years.*

2.1 ~~The implementation of RVSM in the MID Region started on 27 November 2003. Currently RVSM is successfully implemented in all the MID Region Flight Information Regions (FIRs)~~

~~and the ICAO TLS for technical, and overall risks are met~~.

3.4 The MIDRMA and the ICAO Secretariat developed the MIDRMA Manual to provide, for easy reference of interested parties, a consolidation of material related to the administrative management, membership, funding mechanism of the MIDRMA, as well as its activities related to the sustained RVSM safety assessment and associated requirements for the provision of data. It contains the Terms of Reference (TOR) of the MIDRMA Board and a number of other provisions approved by the MIDRMA Board and MIDANPIRG.

3.5 The MIDRMA Manual, in addition to the reports and information related to RVSM implementation in the MID Region are available on the MIDRMA website (http://midrma.com).

3.6 In order to standardize and improve the reporting of required data to the MIDRMA, the MIDANPIRG/14 meeting agreed to the following Conclusion which replaces and supersedes the MIDANPIRG/13 Conclusion 13/65:

CONCLUSION 14/35: PROVISION OF REQUIRED DATA TO THE MIDRMA

That, considering the on-going requirement for RVSM safety monitoring in the MID Region:

a) States provide the required data to the MIDRMA on a regular basis and in a timely manner. The data is to include, but is not necessarily limited to:

i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);

ii) Large Height Deviations (LHD) (on monthly basis);

iii) traffic data (as requested by the MIDRMA Board);

iv) radar data as, when and where required; and

v) airway structure (above FL 290) and waypoints.

b) States not providing the required data to the MIDRMA on a regular basis and in a timely manner:

i) be included in the MIDANPIRG list of air navigation deficiencies; and
ii) might not be covered by the MID RVSM Safety Monitoring Report (SMR).

3.7 The MIDRMA developed the LHD Online Reporting Tool to be used by the States, as the only mean, for the submission of their LHD reports to the MIDRMA.

3.8 With a view to address the LHDs in an effective manner with the ATS Units concerned and to analyze the LHDs prior to presentation to the MIDRMA Board or ATM SG meetings for validation, the meeting agreed that the MIDRMA should conduct bilateral teleconferences with the adjacent ATS Units to analyze the relevant LHDs and present a consolidated report to the MIDRMA Board or the ATM SG meetings for validation in order to finalize the SMR for endorsement by MIDANPIRG. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 17/2: ANALYSIS OF LHDS
That, as part of the MIDRMA Scrutiny Group activities, the MIDRMA conduct bilateral teleconferences with the MIDRMA ATC focal points to analyze the relevant

LHDs and present a consolidated report to the MIDRMA Board or the ATM SG meetings for validation in order to finalize the SMR for endorsement by MIDANPIRG.

3.9 The MIDANPRIG meeting noted with concern that an important number of non-RVSM approved aircraft are still operating within the RVSM airspace (filing "W" in the FPL), and agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 18/6: PREVENTING NON-RVSM APPROVED AIRCRAFT FROM OPERATING WITHIN MID RVSM AIRSPACE

That, in order to prevent the Non-RVSM approved aircraft from operating within the MID RVSM airspace:

a) the MIDRMA:

i. develop a search engine of updated "Global RVSM Approval Database" under the MIDRMA website, which can help MID ATCUs to check the RVSM approval status of any aircraft entering their area of responsibility; and

ii. in order to increase the awareness on the subject, the MIDRMA issue a Bulletin which includes the list of the non-RVSM approved aircraft observed operating within the RVSM airspace and circulate it to all MIDRMA Member States on monthly basis; and

b) the MID States/ATCUs:

i. ensure that the non-RVSM approved aircraft listed in the MIDRMA Bulletin are not allowed to operate within the RVSM airspace; and

ii. report to MIDRMA any case of violation, including the cases of aircraft transferred from adjacent Regions/FIRs.

3.10 The MIDANPIRG meeting reviewed and agreed to the procedure at Appendix C for the follow-up with States and the issuance of warning related to RVSM approved aircraft without valid height-keeping performance monitoring results. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 17/3: PROCEDURE FOR THE FOLLOW-UP WITH STATES AND THE ISSUANCE OF WARNING RELATED TO RVSM APPROVED AIRCRAFT WITHOUT VALID HEIGHT-KEEPING PERFORMANCE MONITORING RESULTS

*That, the Procedure at **Appendix C** for the follow-up with States and the issuance of warning related to RVSM approved aircraft without valid height-keeping performance monitoring results, is endorsed.*

3.11 The MIDANPIRG meeting noted that the ICAO provisions do not address the initial process of granting RVSM approval for new aircraft type not previously part of the operator fleet and there is no procedure to guide the responsible Authority. Accordingly, and due to the increased enquiries received recently from several airworthiness inspectors, the meeting reviewed the procedure, developed by the MIDRMA, on granting Temporary RVSM Approvals, and agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 18/2: PROCEDURE FOR TEMPORARY RVSM

APPROVAL

*That, the procedure for granting Temporary RVSM Approvals at **Appendix B**, is endorsed.*

~~2.2 Sates are requested to comply with the above provisions.~~

3.12 States are ~~requested~~ encouraged to consult to provide the required data and to ~~consult~~ liaise with~~the~~ MIDRMA when carrying safety assessment for the implementation of ATS Routes in the MID RVSM Airspace.

Reduced surveillance longitudinal separation

3.14 MIDANPIRG/13 meeting, through Conclusion 13/5, encouraged MID States to implement 20NM surveillance longitudinal separation and develop plans for further reduction of longitudinal separation from 20NM to 10NM:

CONCLUSION 13/5: IMPLEMENTATION OF REDUCED RADAR LONGITUDINAL SEPARATION IN THE MID REGION

That,

a) States, that have not yet done so;

i) be urged to implement the 20 NM radar longitudinal separation;
ii) be encouraged to further reduce the radar longitudinal separation within the MID Region to 10 NM, where appropriate; and
~~i)~~iii) be invited to agree with their neighbouring FIRs/States on the date of implementation and updating of the LoAs;

3.15 ASBU SNET-B0/1 (Short-Term conflict alert), ASUR-B0/1 (ADS-B), ASUR-B0/2 (MLAT) and ASUR-B0/3 (SSR-DAPS) are considered as priority one (1) for implementation in the MID Region and are included in the MID AIR Navigation Strategy Doc 002.

CHAPTER 4

AIRSPACE MANAGEMENT

Performance Based Navigation (PBN) Implementation

~~To the most extent possible i~~Implementation of parallel ATS route network, based on RNAV 5 ~~or RNAV 1, across in the MID Region~~

4.1 Implementation of PBN concept in enroute phase based on RNAV 1 & RNAV 5 will enhance establishment of trunk routes and extend parallel ATS route network to connect RNAV/conventional SIDs and STARs to/from the TMA/CTR boundaries across the MID Region and at interfaces with adjacent regions.

4.2 As part of the implementation of an airspace concept, States in consultation with the Airspace users should establish an efficient ATS route structure~~/ network connected~~network connected in an efficient manner to the terminal airspace structure, preferably, starting at the Terminal Control Area (TMA) boundary.

4.3 Based on operational requirements, States may choose to ~~implement~~ establish RNAV~~-~~1 and RNAV-5 routes to ~~enhance~~ utilize ~~efficiency and~~ capacity and efficiency of airspace ~~usages and support closer~~by reducing route spacing, providing that appropriate communication and surveillance coverages are available. Details of these requirements are provided in the PBN manual (Doc 9613) and PANS-ATM (Doc 4444) ~~reference to parallel xxx~~.

4.4 The MIDANPIRG meeting noted that some States have not yet updated their AIPs to change RNP 5 to RNAV 5 and the RNAV 5 applicable area is implemented in MID FIR's/States with a different base Flight Level (FL150, FL195, FL245, FL280). Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 12/9: RNAV 5 IMPLEMENTATION IN THE MID REGION

That, States that have not yet done so, be urged to:

a) update their AIP to change RNP 5 to RNAV 5; and

b) take necessary measures to implement RNAV 5 area in the level band FL160 - FL460 (inclusive).

4.5 Establishment of parallel ATS routes in the MID region should consider the below minimum route spacing and availability of the required CNS infrastructure details in Doc 9613:

a) ~~In the MID Region~~for RNAV 5 ATS Routes should be spaced at least by a lateral distance of 16.5NM for unidirectional and 18NM for bi-directional tracks ~~with appropriate ATS surveillance to be considered as independant from each other~~.

~~a)~~b) ~~Route spacing used~~ for RNAV ~~-~~1 ATS routes ~~-~~based on a standard a 7 NM in a high density en-route system ~~providing should not be less than 7 NM providing that required CNS infrastructure is available~~

Note: the route spacing needs to be increased at turning points because of the variability of aircraft turn performance. The extent of the increase depends on the turn angle.

4.54.6 Route spacing of 7 NM for straight and turning tracks (with turns not exceeding 90 degrees) in a high density continental en route system, using ATS radar surveillance, has been derived by independent collision risk analyses undertaken by Eurocontrol. (Ref: ICAO PBN manual Volume II. Implementing RNAV and RNP Operations – Attachment B page 8).

4.64.7 The ICAO Manual, Doc 9992, provides step-by-step guidance on the Use of Performance-based Navigation (PBN) in Airspace Design.

4.8 The MID Region PBN Implementation Plan (ICAO MID Doc 007) offers appropriate guidance for air navigation service providers, airspace operators and users, regulating agencies, and international/regional organizations, on the evolution of navigation applications, as one of the key systems enablers supporting air traffic management, and which describes the RNAV and RNP navigation applicationstypes that should be implemented in the short, medium and long term in the MID Region. The Plan is endorsed by MIDANPIRG and available on the ICAO MID Regional Office Website (http://icao.int/mid) under eDocuments tabg.

4.9 ASBU APTA-B0/1 (PBN Approaches (with basic capabilities)) and APTA-B0/2 (PBN SID and STAR procedures (with basic capabilities)) are considered as priority one (1) for implementation in the MID Region and are included in the MID AIR Navigation Strategy Doc 002.

1. **Implementation of RNAV 5 area in the level band between FL160 - FL460 (inclusive)**

2. **A system of ATS route network supported linked routes based mainly onby RNAV applications and connected to RNAV or Conventional terminal procedures (SIDs and STARs) starting at the nominal TMA boundary**

5. AS PART OF THE IMPLEMENTATION OF AN AIRSPACE CONCEPT, SATES STATES IN CONSULTATION WITH THE AIRSPACE USERS SHOULD ESTABLISH AN EFFICIENT ATS ROUTE STRUCTURE AND/ NETWORK AT IN THE UPPER AIRSPACE CONNECTED IN AN EFFICIENT MANNER TO THE LOWER TERMINAL AIRSPACE STRUCTURE, PREFERABLY, STARTING AT THE NOMINAL TERMINAL CONTROL AREA (TMA) BOUNDARY.

6. THE ICAO MANUAL, DOC 9992, PROVIDES STEP-BY-STEP GUIDANCE ON THE USE OF PERFORMANCE-BASED NAVIGATION (PBN) IN AIRSPACE DESIGN COVERING THE STRUCTURE, ATS ROUTES AND INSTRUMENT FLIGHT PROCEDURES.

3. **Route spacing used for RNAV 5 ATS routes** based on a standard of 16.5 NM for same-direction traffic and 18 NM for opposite direction traffic with appropriate ATS surveillance.**should not be less than 16.5 NM for unidirectional and 18 NM for bi-direction tracks**

7. IN THE MID REGION RNAV 5 ATS ROUTES SHOULD BE SPACED AT LEAST BY A LATERAL DISTANCE OF 16.5NM FOR UNIDIRECTIONAL AND 18NM FOR BI-DIRECTIONAL TRACKS WITH APPROPRIATE ATS SURVEILLANCE..TO BE CONSIDERED AS INDEPENDANT FROM EACH OTHER.

8. THE PROVISIONS FOR ATS ROUTES SPACING ARE PROVIDED MAINLY IN PANS-ATM DOC 4444, AND THE PBN MANUAL 9613.

Note: route Route spacing needs to be increased at turning pointsin turns because of the variability/spread of aircraft turn performance. The extent of the increase depends the track change (on the turn angle)..

4. Route spacing used for RNAV 1 ATS routes based on a standard a 7 NM in a high density en-route system providing should not be less than 7 NM providing that required CNS infrastructure is available

9. IN THE MID REGION RNAV 1 ATS ROUTES SHOULD BE SPACED AT LEAST BY A LATERAL DISTANCE OF 7NM IN A HIGH DENSITY EN-ROUTE SYSTEM, TO BE CONSIDERED AS INDEPENDENT FROM EACH OTHER, PROVIDING THAT REQUIRED CNS INFRASTRUCTURE IS AVAILABLE.

10. ROUTE SPACING OF 7 NM FOR STRAIGHT AND TURNING TRACKS (WITH TURNS NOT EXCEEDING 90 DEGREES) IN A HIGH DENSITY CONTINENTAL EN-ROUTE SYSTEM, USING ATS RADAR SURVEILLANCE, HAS BEEN DERIVED BY INDEPENDENT COLLISION RISK ANALYSES UNDERTAKEN BY EUROCONTROL. (REF: ICAO PBN MANUAL VOLUME II. IMPLEMENTING RNAV AND RNP OPERATIONS – ATTACHMENT B – PAGE 8).

5. Implementation of 20 NM Reduced Radar Longitudinal Separation, which could be further reduced to 10 NM, where appropriateapplicable

11. MIDANPIRG/13 MEETING, THROUGH CONCLUSION 13/5 BELOW, ENCOURAGED MID STATES TO IMPLEMENT 20 NM LONGITUDINAL SEPARATION AND DEVELOP PLANS FOR FURTHER REDUCTION OF LONGITUDINAL SEPARATION FROM 20 NM TO 10 NM:

CONCLUSION 13/5: IMPLEMENTATION OF REDUCED RADAR LONGITUDINAL SEPARATION IN THE MID REGION

That,

a) States, that have not yet done so;

ii) be urged to implement the 20 NM radar longitudinal separation;
iii) be encouraged to further reduce the radar longitudinal separation within the MID Region to 10 NM, where appropriate; and
iv) be invited to agree with their neighbouring FIRs/States on the date of implementation and updating of the LoAs;

Continuous Climb Operation (CCO) and Continuous Descend Operation (CDO)

~~12.~~4.10 Continuous climb operation (CCO) is an operation, enabled by airspace design, procedure design and ATC operational procedures, in which a departing aircraft climbs continuously, to the greatest possible extent, by employing optimum climb engine thrust and climb speeds until reaching the cruise flight level.

~~12.1~~4.11 Continuous descent operation (CDO) is an operation, enabled by airspace design, procedure design and ATC operational procedures, in which an arriving aircraft descends continuously, to the greatest possible extent, by employing minimum engine thrust, ideally in a low drag configuration, prior to the final approach fix/final approach point.

4.12 Implementation of Continuous Climb Operations (CCO) and Continuous Descent Operations CDO, as basis for the operations within TMAs. States are encouraged to implement CCO and CDO, where applicable.

~~12.2~~4.13 ASBU APTA-B0/4 (CDO ~~(B~~basic) and APTA-B0/5 (CCO basic) ~~B0 Modules CCO and CDO~~ are considered as priority one (1) for implementation in the MID Region and are included in the MID AIR Navigation Strategy Doc 002.

Civil-Military cooperation and implementation of Flexible Use of Airspace

~~12.3~~4.14 The airspace is a common resource to both civil and military aviation activities. The growing civil air traffic and mission-oriented military air traffic would benefit greatly from a more flexible use of airspace used for military purposes and that satisfactory solutions to the problem of cooperative access to airspace have not evolved in all areas.

~~12.4~~4.15 The ICAO Global ATM Operational Concept emphasized that all airspace should be a usable resource, any restriction on the use of any particular volume of airspace should be considered transitory, and all airspace should be managed flexibly.

~~12.5~~4.16 The flexible use of airspace by both civil and military air traffic may be regarded as the ultimate goal, improvement in civil/military coordination and cooperation offers an immediate approach towards more effective airspace management.

4.17 An ATS route network allows operators to choose from several strategically designed ATS routes. Improvements in the strategic design, planning and management of ATS routes increase the predictability of the route options and reduce the need for tactical re-routing by ATCOs. This flexibility is based on the Flexible Use of Airspace Concept principles.

4.18 GAT and OAT requirements have to be accommodated by integrating them in the strategic developments process. Consequently, deviations from developments shall be kept to a minimum.

4.19 As regards temporary reserved and segregated airspace, it is envisaged, under certain Airspace Configurations, to have them activated and de-activated closer to real time. Such airspace may vary in size, geographic location and time (to accommodate airspace user requirements). This includes requirements for standardised rules for separation.

4.20 To increase efficiency, the shared use of both cross-border areas and temporary reserved segregated airspaces is expected to become more frequent. To improve vertical flight efficiency and environmental performance in the climb and descent phases, it is recommended that due consideration is given to enabling optimised CCO and CDO in the airspace design process, to the extent possible.

4.21 MIDANPIRG/14 through Conclusions 14/12 and 14/13 urged States to take necessary measures to foster the implementation of Civil/Military Cooperation and to implement the Flexible Use of Airspace (FUA) concept through strategic Civil/Military Coordination, collaboration and dynamic interaction, in order to open up segregated airspace when it is not being used for its originally-intended purpose and allow for better airspace management and access for all users.

4.22 The MIDANPIRG meeting noted the identified challenges related to CMC/FUA implementation in the Region, and the need to raise awareness on different subjects, including:

a) State aircraft operations under Due Regard in particular over the high seas,

b) CMC/FUA implementation,

c) Drones-Airspace management applications,

d) GNSS/GPS interference,

e) NMAC reports between Civil and Military aircraft.

4.23 Accordingly, the meeting based on ICAO Doc 10088, agreed to the following MIDANPIRG Decision, to replace and supersede the MIDANPIRG Decision 18/31:

MIDANPIRG DECISION 19/19: MID CMC/FUA ACTION GROUP

That,

a) the MID CMC/FUA Action Group develop region specific complementary procedures for ICAO Doc. 10088, in order to ensure that the regional requirements related to Civil Military Cooperation and implementation of FUA Concept are addressed, including State aircraft operations under Due Regard in particular over the high seas, are covered;

b) the outcome of the MID CMC/FUA AG, be presented to ATM SG/8 meeting, for review.

4.24 ASBU FRTO-B0/2 (Airspace planning and Flexible Use of Airspace (FUA), Level 1 Strategic and Airspace planning and Flexible Use of Airspace (FUA)) and FRTO-B0/4 (Basic conflict detection and conformance monitoring) are considered as priority one (1) for implementation in the MID Region and are included in the MID Air Navigation Strategy Doc 002.

Remotely Piloted Aircraft System (RPAS) and Unmanned Aircraft Systems (UAS)

4.25 developments related to RPAS, and take necessary measures for the establishment of the required legislative and regulatory framework to ensure safe integration of the RPA into the non-segregated airspace. The MIDANPIRG & RASG-MID meeting urged States to report any safety occurrence related to RPA operations to the ICAO MID Regional Office on regular basis; and encouraged States to use the guidance material related to RPAS provided in the ICAO Doc 10019 and the information available on the RPAS webpage: https://www4.icao.int/rpas.

4.26 The MIDANPIRG & RASG-MID meeting noted that due to the use of advanced technologies, these vehicles make use of new types of flight profiles and capabilities and generally operate at much lower altitudes, which current airspace and air traffic management systems were not designed to accommodate. It is therefore required to address these shortfalls in design and system performance as well as to enhance structures and systems to support and manage the new demands for airspace monitoring and management by means of an Unmanned Traffic Management (UTM) System.

4.27 The meeting agreed that overall, the available guidance material for UTM implementation offers a basic starting point, while the rapid growth of RPAS creates an urgency for the States to plan and start the implementation of their UTM systems.

4.28 Based on the above, the meeting agreed to the establishment of an Action Group composed of the Chairpersons of the ATM SG, ASRG and SEIG, Bahrain, Egypt, Iran, Saudi Arabia, UAE, FAA, Boeing, IATA, CANSO and ICAO MID to strengthen the collaboration between States and stakeholders for an orderly growth of unmanned air traffic; and to provide necessary guidance to States related to Unmanned Traffic Management (UTM). Draft Terms of Reference (TOR) for the Action Group is at Appendix 3.2B, for further review and consideration by the Action Group. Accordingly, the meeting agreed to the following Decision:

PIRG/RASG MID DECISION 1: RPAS/UTM ACTION GROUP

That, the RPAS/UTM Action Group be:

a) established to support the development of UTM Capabilities in the MID Region, harmonize the integration of RPAS/UAS operation and provide feedback to the ATM SG, ASRG and SEIG; and

b) composed of the Chairpersons of the ATM SG, ASRG and SEIG; and representative of the aforementioned states and organization.

MID ATS route network, catalogue and RDWG

4.29 The MIDANPIRG meeting noted that the following ATS route network challenges have been identified and addressed in the AIM and ATM SGs:

a) Interruption of Regional ATS routes;

b) Use of non-regional designators for regional routes, and vice versa;

c) Consideration of non-regional routes as regional, and vice versa;

d) Lack of consideration of some regional routes in the MID ANP Vol II ATS table;

e) Duplication of Route designators; and

f) Missing bi-lateral coordination between adjacent States.

4.30 The MIDANPIRG meeting recognized that the main objective of the MID RDWG is to enhance the cooperative approach between States and stakeholders to avoid duplication of efforts related to the improvement of the ATS Route Network at National and cross-border levels. Accordingly, the meeting urged States and airspace users to use the MID RDWG as the main platform to facilitate bilateral and multilateral coordination related to the improvement of the ATS Route Network and airspace management in the MID Region.

4.31 The MIDANPIRG meeting noted that the MID Region ATS Route Catalogue (available on the ICAO MID Website https://icao.int/mid) includes the Airlines' ATS route proposals presented, in a prioritized manner with their associated benefits, for consideration by States to enhance the ATS Route Network.

4.32 Based on the above the MIDANPIRG meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 17/18: MID RDWG AND MID REGION ATS ROUTE CATALOGUE

That, States be urged to:

a) use the MID Route Development Working Group (MID RDWG) as the main platform to facilitate bilateral and multilateral coordination related to the improvement of the ATS Route Network and airspace management in the MID Region; and

b) review the MID Region ATS Route Catalogue and take actions related to the implementation of the ATS proposals relevant to their FIRs.

4.33 MIDANPIRG 19 urged States with the support of ICAO MID Office to take action to overcome/eliminate the remaining challenges including 5LNCs duplication.

4.34 MIDANPIRG 19 meeting reviewed and endorsed the proposal for amendment to the MID eANP VOL II, Table ATM II-MID-I, to remove prefix "U" and include MID contingency route network under "Note 5" (implementation possible only during specific periods (e.g., weekends, nights, etc., as published)).

Note: details of MID region Air Traffic Management (ATM) Contingency plan and its requirements are contained in ICAO MID Doc 003.

~~**13. STATES ARE ENCOURAGED TO IMPLEMENT CCO AND CDO, WHERE APPLICABLE.**~~

~~**6. Consider the iImplementation of Bilateral, Sub-regional or regional Multi-Nodal ATFM servicesconcept.**~~

Implementation of MID Air Traffic Flow Management (ATFM)

~~**14.**~~4.35 Air Traffic Flow Management (ATFM) is used to manage the flow of traffic in a way that minimizes delays and maximizes the use of the entire airspace. ATFM can regulate traffic flows involving departure slots, smooth flows and manage rates of entry into airspace along traffic axes, manage arrival time at waypoints or Flight Information Region (FIR)/sector boundaries and re-route traffic to avoid saturated areas. ATFM may also be used to address system disruptions including ~~a crisis caused by human or natural phenomena~~constrained airspace, severe meteorological conditions or any other phenomena or event affecting the normal flights operation.

~~**15.**~~4.36 ATFM and its applications should not be restricted to one State or FIR because of their far-reaching effects on the flow of traffic elsewhere. Doc 4444 - Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM) recognizes this important fact, stating that ATFM should be implemented on the basis of a Regional Air Navigation Agreement or, when appropriate, a Multilateral Agreement.

4.37 A MID Region ATFM service/system should be implemented to manage efficiently the traffic flows within and across the Region. Nevertheless, all initiatives to improve traffic flows and capacity should be exhausted before implementation of any ATFM measures in the MID Region. This approach should be capture as part of the airspace concept to be developed by ICAO MID States at their national level.

4.38 The MIDANPIRG 17 meeting agreed that the Multi-Nodal Concept should be applied for the MID Region as a first phase, which would be evolved to a centralized ATFM system in the future. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 17/22: MULTI-NODAL ATFM SOLUTION FOR THE MID REGION

That,

a) the Multi-Nodal Concept be implemented in the MID Region, as a first phase, which would be evolved to a centralized ATFM system in the future; and

b) the ATFM Task Force develop the ATFM Concept of Operations for MID Region, accordingly, including the minimum flight data that should be exchanged by ATFM Units.

4.39 MIDANPIRG 19 meeting reviewed the MID Doc 014 V.2.0 which incorporated the MID ATFM CONOPS, ATFM MID Region Framework and implementation guidance. The meeting agreed to rename the MID Doc 014 as MID Region ATFM Plan (V2.0) and to be published on the ICAO MID Website:

https://www.icao.int/MID/MIDANPIRG/Documents/eDocuments/MID%20DOC%20014%20-%20MID%20ATFM%20Plan%20V2.0.pdf.

4.40 Accordingly, MIDANPIRG 19 meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/14: MID ATFM PLAN (V2.0)

That, the MID Doc 014 renamed as MID Region Air Traffic Flow Management Plan (V2.0), is endorsed and be published on the ICAO MID website.

4.41 MID ATM/CDM data exchange process will also foster the exchange of operational data with the basic available tools, in order to support States and ANSPs to improved Airspace capacity/demand management.

4.42 To implement the MID region ATFM Plan Doc 014, Phase I, the following threads and elements are considered as priority one (1) in line with MID Air Navigation Strategy Doc 002:

a) NOPS-B0/1 (Initial integration of collaborative airspace management with air traffic flow management);

b) FICE-B0/1 (Automated basic inter facility data exchange (AIDC/OLDI));

c) FRTO-B0/2 (Airspace planning and Flexible Use of Airspace (FUA)) & FRTO-B0/4 (Basic conflict detection and conformance monitoring); and

d) ASUR-B0/1 (Automatic Dependent Surveillance – Broadcast (ADS-B)), ASUR-B0/2 (Multilateration cooperative surveillance systems (MLAT)) & ASUR-B0/3 (Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS).

CHAPTER 5

ASBU AND CNS REQUIREMENTS

~~**7. Implementation of ASBU Modules threads as enablers in accordance with the MID Air Navigation Strategy**~~

Implementation of Aviation System Block Upgrade (ASBU)

5.1 The MID Region air navigation objectives are set in line with the Global Air Navigation objectives as described in the Global Air Navigation Plan (GANP) and address specific air navigation operational improvements identified within the framework of the MIDANPIRG.

5.2 The MID Air Navigation Strategy MID Doc 002, endorsed by MIDANPIRG, includes the ASBU ~~Modules,~~Tthreads ~~–~~with their associated Elements, Area of Applicability, Performance Indicators and Targets, considered as priority for implementation in the MID Region. The ASBU threads and elements are considered enablers for the implementation of airspace concept.

5.3 States are urged to take into consideration the guidelines/requirements of the GANP, the MID Region Air Navigation Strategy and the MID ANP while planning for the improvement of their CNS/ATM systems, and provide on periodical basis ~~the~~their National Air Navigation Plan to the MID Office.

5.4 The monitoring of the implementation of the agreed ASBU ~~Modules~~ threads and elements will be performed through the MID ANP, Volume III, and reflected on the Annual MID Air Navigation Report.

5.5 The MIDANPIRG 18 meeting noted that the revised version of the Strategy included an initial list of Key Performance Indicators (KPIs) to be used for the monitoring of the air navigation system performance. The meeting agreed the month of June for KPIs 01 & 02 and the month of July for KPIs 13 & 14 will be used for the collection of required data for measuring the selected KPIs. Based on that, the meeting agreed to the following MIDANPIRG Conclusions:

MIDANPIRG CONCLUSION 18/11: ANS PERFORMANCE MONITORING

That, in order to optimize allocation and use of resources in the modernization of the air navigation system, States:

a) be urged to:

i. embrace a performance-based approach in line with the 6th Edition of the Global Air Navigation Plan and the six-step performance management process, as described in the Manual on Global Performance of the Air Navigation System (Doc 9883);

ii. follow-up a phased approach in the performance monitoring of their air navigation system using as an initial phase the list of KPIs at Appendix 5.2C; and

iii. provide ICAO with the results of the KPIs monitoring for the agreed period, as part of the data necessary for the development of the Annual Air Navigation Report, starting with the Report for 2021.

~~a)~~***b)*** *be encouraged to start as soon as possible, on an experimental basis, to establish the necessary processes, procedures and systems for the collection of necessary data to measure the selected KPIs.*

~~**8. Implementation of the "Flexible Use of Airspace" concept**~~

~~16. THE AIRSPACE IS A RESOURCE COMMON RESOURCE TO BOTH CIVIL AND MILITARY AVIATION ACTIVITES. THE GROWING CIVIL AIR TRAFFIC AND MISSION-ORIENTED MILITARY AIR TRAFFIC WOULD BENEFIT GREATLY FROM A MORE FLEXIBLE USE OF AIRSPACE USED FOR MILITARY PURPOSES AND THAT SATISFACTORY SOLUTIONS TO THE PROBLEM OF COOPERATIVE ACCESS TO AIRSPACE HAVE NOT EVOLVED IN ALL AREAS.~~

~~17. THE ICAO GLOBAL ATM OPERATIONAL CONCEPT EMPHASIZED THAT ALL AIRSPACE SHOULD BE A USABLE RESOURCE, ANY RESTRICTION ON THE USE OF ANY PARTICULAR VOLUME OF AIRSPACE SHOULD BE CONSIDERED TRANSITORY, AND ALL AIRSPACE SHOULD BE MANAGED FLEXIBLY.~~

~~18. THE FLEXIBLE USE OF AIRSPACE BY BOTH CIVIL AND MILITARY AIR TRAFFIC MAY BE REGARDED AS THE ULTIMATE GOAL, IMPROVEMENT IN CIVIL/MILITARY COORDINATION AND COOPERATION OFFERS AN IMMEDIATE APPROACH TOWARDS MORE EFFECTIVE AIRSPACE MANAGEMENT.~~

~~MIDANPIRG/14 THROUGH CONCLUSIONS 14/12 AND 14/13 URGED STATES TO TAKE NECESSARY MEASURES TO FOSTER THE IMPLEMENTATION OF CIVIL/MILITARY COOPERATION AND TO IMPLEMENT THE FLEXIBLE USE OF AIRSPACE (FUA) CONCEPT THROUGH STRATEGIC CIVIL/MILITARY COORDINATION, COLLABORATION AND DYNAMIC INTERACTION, IN ORDER TO OPEN UP SEGREGATED AIRSPACE WHEN IT IS NOT BEING USED FOR ITS ORIGINALLY-INTENDED PURPOSE AND ALLOW FOR BETTER AIRSPACE MANAGEMENT AND ACCESS FOR ALL USERS.~~

~~19. ASBU XXX ARE CONSIDERED AS PRIORITY 1 FOR IMPLEMENTATION IN THE MID REGION AND ARE INCLUDED IN THE MID AIR NAVIGATION STRATEGY.~~

~~9. Implementation of AIDC/OLDI between all ACCs~~

Implementation of AIDC/OLDI connectivity between concern ACCs

5.6 The use of ATS Interfacility Data Communication (AIDC), as defined in the ICAO, Doc 9694, Manual of Air Traffic Services Data Link Applications improves the coordination between air traffic service units (ATSUs). The transfer of communication in a data link environment improves the efficiency of this process and the overall air traffic coordination management-.

5.7 In accordance with the MID Air Navigation Strategy AIDC/OLDI should be implemented between all adjacent ACCs. This ~~consider~~considers as one of the main enabler for airspace concept according to the applicability table in MID Air Navigation Strategy Doc 002 Attachment A. ~~(ref CAO MID Doc xxx).~~

Performance Based Communication and Surveillance (PBCS).

5.8 The MIDANPIRG meeting recalled that the airspace users shall comply with RCP and RSP specifications prescribed for the communications and surveillance capabilities within specific airspace to meet the requirements for air traffic service provision. The RMAs were requested to monitor compliance with the set-out specifications and share information among each other's. The meeting was informed that there is no RCP/RSP specifications prescribed by MID States for the provision of ATS. However, a process should be put in place to ensure that information related to the aircraft registered in MID States and operating in airspace where RCP/RSP specifications are prescribed, are provided and shared with the MIDRMA. The meeting agreed that the subject should be addressed also by the RASG-

MID, ATM SG and CNS SG. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 18/3: PERFORMANCE BASED COMMUNICATION AND SURVEILLANCE (PBCS).

That,

a) States provide the MIDRMA on monthly basis with the information related to the list of registered aircraft (fleet) granted approvals to operate in PBCS airspaces where compliance with specific RCP/RSP are required;

b) the MIDRMA is authorized to coordinate and share information with other RMAs with respect to PBCS compliant aircraft and follow-up with MID States, as required;

c) the MIDRMA functions and responsibilities be amended accordingly; and

d) *the implementation of PBCS be addressed by the RASG-MID, ATM SG and CNS SG for appropriate actions.*

~~**10. Implementation of Continuous Climb Operations (CCO) and Continuous Descent Operations CDO,** as basis for the operations within TMAs**where appropriate**~~

~~**20. CONTINUOUS CLIMB OPERATION (CCO) IS AN OPERATION, ENABLED BY AIRSPACE DESIGN, PROCEDURE DESIGN AND ATC OPERATIONAL PROCEDURES, IN WHICH A DEPARTING AIRCRAFT CLIMBS CONTINUOUSLY, TO THE GREATEST POSSIBLE EXTENT, BY EMPLOYING OPTIMUM CLIMB ENGINE THRUST AND CLIMB SPEEDS UNTIL REACHING THE CRUISE FLIGHT LEVEL.**~~

~~**21. CONTINUOUS DESCENT OPERATION (CDO) IS AN OPERATION, ENABLED BY AIRSPACE DESIGN, PROCEDURE DESIGN AND ATC OPERATIONAL PROCEDURES, IN WHICH AN ARRIVING AIRCRAFT DESCENDS CONTINUOUSLY, TO THE GREATEST POSSIBLE EXTENT, BY EMPLOYING MINIMUM ENGINE THRUST, IDEALLY IN A LOW DRAG CONFIGURATION, PRIOR TO THE FINAL APPROACH FIX/FINAL APPROACH POINT.**~~

~~**22. ASBU APTA-B0/4 CDO (BASIC) AND APTA-B0/5 (CCO BASIC) B0 MODULES CCO AND CDO ARE CONSIDERED AS PRIORITY 1 FOR IMPLEMENTATION IN THE MID REGION AND ARE INCLUDED IN THE MID AIR NAVIGATION STRATEGY.**~~

~~**23. STATES ARE ENCOURAGED TO IMPLEMENT CCO AND CDO, WHERE APPLICABLE.**~~

~~**11. Consider the iImplementation of Bilateral, Sub-regional or regional Multi-Nodal ATFM servicesconcept.**~~

~~**24. AIR TRAFFIC FLOW MANAGEMENT (ATFM) IS USED TO MANAGE THE FLOW OF TRAFFIC IN A WAY THAT MINIMIZES DELAYS AND MAXIMIZES THE USE OF THE ENTIRE AIRSPACE. ATFM CAN REGULATE TRAFFIC FLOWS INVOLVING DEPARTURE SLOTS, SMOOTH FLOWS AND MANAGE RATES OF ENTRY INTO AIRSPACE ALONG TRAFFIC AXES, MANAGE ARRIVAL TIME AT WAYPOINTS OR FLIGHT INFORMATION REGION (FIR)/SECTOR BOUNDARIES AND RE-ROUTE TRAFFIC TO AVOID SATURATED AREAS. ATFM MAY ALSO BE USED TO ADDRESS SYSTEM DISRUPTIONS INCLUDING A CRISIS CAUSED BY HUMAN OR NATURAL PHENOMENACONSTRAINED AIRSPACE, SEVERE**~~

METEOROLOGICAL CONDITIONS OR ANY OTHER PHENOMENA OR EVENT AFFECTING THE FLIGHTS.

25. ATFM AND ITS APPLICATIONS SHOULD NOT BE RESTRICTED TO ONE STATE OR FIR BECAUSE OF THEIR FAR-REACHING EFFECTS ON THE FLOW OF TRAFFIC ELSEWHERE. DOC 4444 – *PROCEDURES FOR AIR NAVIGATION SERVICES — AIR TRAFFIC MANAGEMENT* (PANS-ATM) RECOGNIZES THIS IMPORTANT FACT, STATING THAT ATFM SHOULD BE IMPLEMENTED ON THE BASIS OF A REGIONAL AIR NAVIGATION AGREEMENT OR, WHEN APPROPRIATE, A MULTILATERAL AGREEMENT.

A MID REGION ATFM SERVICE/SYSTEM SHOULD BE IMPLEMENTED TO MANAGE EFFICIENTLY THE TRAFFIC FLOWS WITHIN AND ACROSS THE REGION. NEVERTHELESS, ALL INITIATIVES TO IMPROVE TRAFFIC FLOWS SHOULD BE EXHAUSTED BEFORE IMPLEMENTATION OF ANY ATFM MEASURES IN THE MID REGION. THIS APPROACH SHOULD BE CAPTURE AS PART OF THE AIRSPACE CONCEPT TO BE DEVELOPED BY ICAO MID STATES.

THE MID ATFM CONOPS WAS DEVELOPED CONSIDERING MANY INTERNATIONAL EXPERIENCES AND CURRENT REGIONAL CAPABILITIES, IN ORDER TO PROVIDE A REGIONAL FRAMEWORK TO MID STATES, AND COULD BE EVOLVED IN THE FUTURE TO A CENTRALIZED ATFM SOLUTION.

26. MID ATM/CDM data exchange process will also foster the exchange of operational data with the basic available tools, in order to support States and ANSPs to improved Airspace capacity/demand management.

- END –

APPENDIX A
COMMON RULES FOR REPLACEMENT OF DUPLICATED 5LNCS

2.1 Whenever possible Member States with 5LNCs of the same name but allocated to more than one physical location (duplicates, triplicates, quadruplicates, etc.) shall discuss the voluntary release of duplicated 5LNCs to allow one State to retain that 5LNC. If no resolution is agreed, the following 5LNC duplicate resolution rules will apply:

RULE 1. Priority is given to (a) 5LNC(s) which is (are) already allocated in ICARD. Duplicated 5LNCs that are not allocated in ICARD shall be replaced by new 5LNCs. If two or more 5LNCs of the same name are in ICARD, Rule 2 applies.

RULE 2. If two or more 5LNCs of the same name are allocated in ICARD:

a) Creation date (date when the 5LNC was allocated in ICARD for that State)

If there are two or more 5LNCs with a creation date, the earliest date will have priority. After verification that the State with the priority date is still using that 5LNC, (a) new 5LNC(s) shall be proposed by the Regional Office(s) to the other State(s) with the same duplicated 5LNC;

b) Creation date versus no creation date

A new 5LNC(s) shall be proposed to the State(s) with no ICARD creation date;

c) No creation date

If there are two or more 5LNCs of the same name without creation dates, Rule 3 applies.

RULE 3. If Rules 1 and 2 do not resolve the 5LNC duplication, the following characteristics will have priority:

a) 5LNCs used in both terminal airspace (SIDs/STARs) and En-route airspace;

Note: The amount of changes foreseen and publication required in AIP sections AD and ENR could be very large

b) 5LNCs used in high-density/high-complexity terminal airspace (e.g. SIDs/STARs, holdings, instrument approach procedures);

c) 5LNCs used in en-route airspace (e.g. crossovers between two or more ATS routes, transfer of control points, upper/lower airspace routes, etc). Priority shall be given to highest number of ATS routes crossings through the 5LNCs concerned;

d) 5LNCs used in low-density/low-complexity terminal airspace;

e) 5LNCs used in other routes (domestic, temporary, helicopter, etc.)

RULE 4. Resolving conflicts:

a) if any of the previous rules do not resolve 5LNC duplicates and if the 5LNC duplicates are within the area of accreditation of one Regional Office, that Regional Office will make the decision;

b) if the 5LNC duplicates are in different regions, the Regional Offices involved shall agree on a resolution;

c) if any of the previous rules do not resolve the 5LNC duplicates, ICAO Headquarters, in coordination with the relevant Regional Office(s), will make the final decision.

APPENDIX B
Temporary RVSM Approval Procedure

The Procedure below is for the issuance of Temporary RVSM approval by MIDRMA Member States Civil Aviation Airworthiness Authorities:

1. The responsible Airworthiness Authority must issue Airworthiness Approval first before granting the Temporary RVSM approval for the concerned operator aircraft type.

2. The responsible Airworthiness Authority must make sure the Temporary RVSM approval is granted for new aircraft type not previously operated by the airline operator, or for the remaining number of the same aircraft type if already approved one aircraft from the same type, and in case the operator is fully compliant for height monitoring and add aircraft type already in service then the authority might grant full RVSM approval valid for two years.

Note 1: Aircraft Category 1, operator required to height monitor two aircraft every two years.

Note 2: Aircraft Category 2, operator required to height monitor 60% of their fleet.

Note 3: Aircraft Category 3, Operators of aircraft types contained in this category shall have 100% of airframes monitored every 2 years.

3. The validity of the Temporary RVSM approval must not exceed 90 days; during this period the responsible airworthiness authority shall instruct the operator to contact the MIDRMA to conduct height monitoring.

Note 1: this period is not subject to extension unless the operator provide evidence to the responsible authority to justify their failure to comply.

Note 2: in case there is a need to extend the validity of the Temporary RVSM Approval, the extended validity must not exceed another 30 days, further failure will result in cancelling the RVSM Approval and withdrawal of the aircraft from the State official RVSM approval list.

4. The MIDRMA shall keep the responsible authority aware of the progress of height monitoring of aircraft granted Temporary RVSM approval and update the height monitoring compliance status once the monitoring is successfully completed with valid result.

APPENDIX C

MIDRMA PROCEDURE TO ENSURE THE COMPLIANCE OF RVSM APPROVED AIRCRAFT REGISTERED IN THE ICAO MIDDLE EAST REGION FOR HEIGHT MONITORING

a) The MIDRMA will notify the States concerned every 3 months about their aircraft non-compliance with ICAO RVSM Height Monitoring requirements;
b) States should take remedial actions to rectify the situation and ensure that their relevant aircraft are complying with ICAO RVSM Height Monitoring requirements in a timely manner, and notify the MIDRMA about their corrective action plans;
c) States should develop corrective action plans in coordination with the airlines concerned and MIDRMA, which includes a time frame to allow the concerned airline operator rectify this violation as early as possible, this period should not exceed 90 days to perform the height monitoring;
d) If no height monitoring would be conducted during the 90 days, the concerned States must withdraw the RVSM approval of the aircraft concerned and inform the MIDRMA;
e) The MIDRMA should issue a warning to all MID States and RMAs related to non-compliance aircraft registered in the MID Region;
f) The MIDRMA in coordination with the ICAO MID Office will continue working closely with the States concerned to resolve the issue; and
g) Once the issue would be resolved, a notification should be issued by MIDRMA to all MID States and RMAs.

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