



ICAO MID

MIDANPIRG/19

Nineteenth Meeting of the Middle East Air Navigation
Planning and Implementation Regional Group

&

RASG-MID/9

Ninth Meeting of the Regional Aviation
Safety Group-Middle East

Riyadh, Saudi Arabia, 14 - 17 February 2022

MIDANPIRG/19 & RASG-MID/9-REPORT



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**Report of the Nineteenth Meeting of the
Middle East Air Navigation Planning and Implementation Regional Group
and Ninth Meeting of the
Regional Aviation Safety Group-Middle East**

MIDANPIRG/19 & RASG-MID/9

(Riyadh, Saudi Arabia, 14 – 17 February 2022)

The views expressed in this Report should be taken as those of the Regional Planning and Implementation Group and not of the Organization. This Report will, however, be submitted to the ICAO Council and any formal action taken will be published in due course as a Supplement to the Report

Approved by the Meeting
and published by authority of the Secretary General

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ATTACHMENT

List of Participants	Attachment A
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PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Nineteenth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group and the Ninth Meeting of the Regional Aviation Safety Group-Middle East (MIDANPIRG/19 & RASG-MID/9) were successfully held in Riyadh, Saudi Arabia from 14 to 17 February 2022.

2. OPENING

2.1 Mr. Mohamed Abubaker Farea, Regional Director, ICAO Middle East (MID) Regional Office opened the meeting and welcomed all the participants to the Nineteenth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/19) and the Ninth Meeting of the Regional Aviation Safety Group-Middle East (RASG-MID/9). Mr. Farea thanked H.E. the President of the General Authority of Civil Aviation (GACA), Mr. Abdulaziz bin Abdullah Al-Duailej, for the generous hospitality. He extended ICAO's appreciation to all eminent colleagues in GACA for the warm welcome and excellent organization for these meetings.

2.2 Mr. Farea highlighted that in his capacity as the newly appointed Regional Director for the ICAO MID Region, assures his commitment to advance further and faster international air transport for the MID Region, with a vision to maintain the leading position of the Region and promote to the international aviation community current and future achievements and great ambitions that will be defined collaboratively with all Partners and Stakeholders.

2.3 Finally Mr. Farea reiterated that ICAO MID Regional Office will continue to play its important role to serve the Region and States at its best, aiming at firmly and quickly re-establishing international air transport to levels beyond those achieved prior to 2020; maintaining great work and safety performance, while greatly improving and promoting its recognition as a key driver of sustainable socio-economic development all over the world; and accompanying all stakeholders and Member States towards the new transformation and challenges, not limited to those defined in ICAO Strategic Objectives, also to address now and prepare the aviation of 2030 and beyond.

2.4 On behalf of H.E. Mr. Abdulaziz bin Abdullah Al-Duailej, the President of the GACA, Capt. Suliman S. Almuhamedi, Executive Vice President of Safety and Aviation Standards, welcomed all participants and thanked all delegates for their attendance. Capt. Almuhamedi reiterated Saudi Arabia's continuous commitment to support the implementation of ICAO's Strategic Objectives at the Global and Regional levels; and contribute to the enhancement of the civil aviation sector in the Region including the initiative of "No Country Left Behind" aiming to enhance safety, security, and efficiency of air navigation levels in countries where needed.

2.5 Finally, Capt. Almuhamedi wished all participants a pleasant stay in the city of Riyadh and successful meetings with productive and valuable deliverables that contribute to the development and improvement of the international and regional civil aviation sector.

3. ATTENDANCE

3.1 The meeting was attended by a total of One Hundred and Eighteen (118) participants who attended in person from ten (10) States (Bahrain, Egypt, Iran, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, and USA) and eight (8) International Organizations/Industries (ACAO, BOEING, CANSO, EUROCONTROL, GCC, IATA, IFALPA and IFATCA) in addition to the ICAO Secretariat. In addition to participants attending in person, Seventy Two (72) participants from ten (10) States (Bahrain, Egypt, Iran, Iraq, Jordan, Qatar, Saudi Arabia, Sudan, UAE & Yemen) and two (2) International Organizations/Industries (ACI & MIDRMA) attended online. The list of participants is at **Attachment A**.

OFFICERS AND SECRETARIAT

3.2 Mr. Adel Boresli, Chairperson of MIDANPIRG, and Mr. Jehad Faqir, Second-Vice Chairperson of RASG-MID chaired the meetings.

3.3 Mr. Mohamed Abubaker Farea, Regional Director, and Mr. Mohamed Smaoui, Deputy Regional Director acted as Secretaries of the meetings, supported by the following Regional/Technical Officers:

From the ICAO MID Office, Cairo:

Mr. Mashhor Alblowi	Regional Officer, Flight Safety
Ms. Muna Alnadaf	Regional Officer, Communication, Navigation and Surveillance
Mr. Mohamed Chakib	Regional Officer, Safety Implementation
Mr. Mohamed Iheb Hamdi	Regional Officer, Aerodromes and Ground Aids
Mr. Radhouan Aissaoui	Regional Officer, Information Management
Mr. Ahmad Amireh	Regional Officer, Air Traffic Management and Search and Rescue
Mr. Ahmad Kaveh	Regional Officer, Air Traffic Management

From the ICAO EUR/NAT Office, Paris:

Mr. Christopher Keohan	Regional Officer, Meteorology
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The meeting was also supported by the following team from ICAO Headquarters:

Mr. Martin Maurino	Technical Officer, Global Aviation Safety
Mr. Elie Elkhoury	Technical Officer, Airspace Management and Optimization
Mr. Ignancio Iglesia Figueroa	Head, Operations Unit, FOS, TCB
Ms. Rasha Haidar	Associate Administrative Officer, TCB
Mr. Herman Pretorius	Technical Officer, Safety ANB/SAF/PCI (attended virtually)

4. LANGUAGE

4.1 The discussions were conducted in English. Documentation was issued in English.

5. AGENDA

5.1 The following Agenda was adopted:

Agenda Item 1: Adoption of the Provisional Agenda **(Plenary)**

Agenda Item 2: Global and Regional Developments **(Plenary)**

- 2.1 Review of action taken by the ANC on MIDANPIRG/18 and RASG-MID/8 Reports
- 2.2 Global updates related to COVID-19 including Outcomes from HLCC-2021
- 2.3 Regional update related to COVID-19 including RPTF, CRRIC, CAPSCA, iPACKs deployment, MID CART Implementation Plan and Plans of Actions, etc.

- 2.4 Regional Projects (MENA-RSOO, ARCM & MID-FPP)
- 2.5 MID Region statistics and forecasts

Agenda Item 3: Coordination between MIDANPIRG and RASG-MID *(Plenary)*

- 3.1 Follow-up on the PIRG/RASG MID Conclusions and Decisions
- 3.2 MID Region Safety priorities (Organizational issues and Operational and Emerging risks)
- 3.3 Air Navigation Subjects of interest to RASG-MID including RVSM operations and Monitoring
- 3.4 Safety Subjects of interest to MIDANPIRG

Agenda Item 4: RASG-MID Work Programme *(RASG-MID/9)*

- 4.1 Global Aviation Safety developments
- 4.2 Follow-up on the RASG-MID/8 Conclusions and Decisions
- 4.3 Outcomes of the ASRG/3 meeting
- 4.4 Outcomes of the SEIG/3 meeting
- 4.5 Outcomes of the SPIG/3 meeting
- 4.6 Outcomes of the AIIG/1 meeting
- 4.7 RASG-MID Working Arrangements and Election of Chairpersons
- 4.8 Fourth Edition of the RASG-MID Procedural Handbook
- 4.9 Future Work Programme

Agenda Item 5: MIDANPIRG Work Programme *(MIDANPIRG/19)*

- 5.1 Global Air Navigation developments
- 5.2 Follow-up on MIDANPIRG/18 Conclusions and Decisions
- 5.3 MID Region Air Navigation priorities and targets
- 5.4 AIM
- 5.5 PBN
- 5.6 AGA-AOP
- 5.7 ATM-SAR
- 5.8 CNS
- 5.9 MET
- 5.10 Air Navigation Deficiencies
- 5.11 MIDANPIRG Working Arrangements and Election of Chairpersons
- 5.12 MIDANPIRG Procedural Handbook
- 5.13 Future Work Programme

Agenda Item 6: Dates and Venue of MIDANPIRG/20 & RASG-MID/10 *(Plenary)*

Agenda Item 7: Any other business *(Plenary)*

6. CONCLUSIONS AND DECISIONS – DEFINITION

6.1 The MIDANPIRG and RASG-MID record their actions in the form of Conclusions and Decisions with the following significance:

- a) **Conclusions** deal with matters that, according to the Group's terms of reference, merit directly the attention of States, or on which further action will be initiated by the Secretary in accordance with established procedures; and

- b) **Decisions** relate solely to matters dealing with the internal working arrangements of the Group and its Sub-Groups.

7. LIST OF CONCLUSIONS AND DECISIONS

<i>PIRG/RASG MID CONCLUSION 1:</i>	<i>HLCC RECOMMENDATIONS</i>
<i>PIRG/RASG MID CONCLUSION 2:</i>	<i>NATIONAL OLS IMPLEMENTATION FOCAL POINT</i>
<i>RASG-MID CONCLUSION 9/1:</i>	<i>SHARING OF THE NASP</i>
<i>RASG-MID CONCLUSION 9/2:</i>	<i>10TH ASR</i>
<i>RASG-MID CONCLUSION 9/3:</i>	<i>SHARING OF SAFETY DATA ANALYSIS</i>
<i>RASG-MID CONCLUSION 9/4:</i>	<i>SMIT HANDBOOK</i>
<i>RASG-MID CONCLUSION 9/5:</i>	<i>DEVELOPMENT OF NATIONAL AVIATION SAFETY PLAN (NASP) IN MID STATES</i>
<i>RASG-MID CONCLUSION 9/6:</i>	<i>RSA ON APRON MANAGEMENT</i>
<i>RASG-MID CONCLUSION 9/7:</i>	<i>QUESTIONNAIRE ON ESTABLISHING A PLATFORM FOR SHARING SAFETY RECOMMENDATIONS</i>
<i>RASG-MID DECISION 9/8:</i>	<i>TERMS OF REFERENCE OF THE AIIG</i>
<i>RASG-MID DECISION 9/9:</i>	<i>FOURTH EDITION OF RASG-MID PROCEDURAL HANDBOOK</i>
<i>RASG-MID DECISION 9/10:</i>	<i>CIVIL HELICOPTER OPERATIONS WORKING GROUP</i>
<i>MIDANPIRG CONCLUSION 19/1:</i>	<i>MID RVSM SMR 2021</i>
<i>MIDANPIRG CONCLUSION 19/2:</i>	<i>MID RVSM SMR 2022</i>
<i>MIDANPIRG CONCLUSION 19/3:</i>	<i>MID RAS UPGRADE PROJECT</i>
<i>MIDANPIRG CONCLUSION 19/4:</i>	<i>REPORTING OF GNSS RFI TO ITU</i>
<i>MIDANPIRG CONCLUSION 19/5:</i>	<i>WEB- BASED MID AIR NAVIGATION REPORT (2021)</i>
<i>MIDANPIRG CONCLUSION 19/6:</i>	<i>WEB- BASED MID AIR NAVIGATION REPORT (2022)</i>
<i>MIDANPIRG CONCLUSION 19/7:</i>	<i>UPDATED GUIDANCE FOR AIM PLANNING AND IMPLEMENTATION IN THE MID REGION (MID DOC 008)</i>

<i>MIDANPIRG CONCLUSION 19/8:</i>	<i>MID REGION AIM DATABASE (MIDAD)</i>
<i>MIDANPIRG CONCLUSION 19/9:</i>	<i>AIM CAPACITY-BUILDING ACTIVITIES IN 2022-2023</i>
<i>MIDANPIRG CONCLUSION 19/10:</i>	<i>CONDUCT OF A WORKSHOP ON CCO/CDO IMPLEMENTATION IN 2022</i>
<i>MIDANPIRG DECISION 19/11:</i>	<i>ESTABLISHMENT OF CCO/CDO AD HOC WORKING GROUP</i>
<i>MIDANPIRG DECISION 19/12:</i>	<i>ESTABLISHMENT OF THE MID REGION PBN IMPLEMENTATION PLAN AD HOC WORKING GROUP (PBN IP AD-HOC WG)</i>
<i>MIDANPIRG CONCLUSION 19/13:</i>	<i>PROPOSAL FOR AMENDMENT TO THE MID eANP VOLUME II, TABLE ATM II-MID-I: MID REGION ATS ROUTE NETWORK</i>
<i>MIDANPIRG CONCLUSION 19/14:</i>	<i>MID ATFM PLAN (V2.0)</i>
<i>MIDANPIRG DECISION 19/15:</i>	<i>TERMS OF REFERENCE OF THE ATFM TF</i>
<i>MIDANPIRG CONCLUSION 19/16:</i>	<i>ATFM IMPLEMENTATION</i>
<i>MIDANPIRG DECISION 19/17:</i>	<i>TERMS OF REFERENCE OF THE FWC 2022 TF</i>
<i>MIDANPIRG DECISION 19/18:</i>	<i>MID ATM CONTINGENCY PLANNING AD-HOC ACTION GROUP</i>
<i>MIDANPIRG DECISION 19/19:</i>	<i>MID CMC/FUA ACTION GROUP</i>
<i>MIDANPIRG DECISION 19/20:</i>	<i>HIGH LEVEL AIRSPACE CONCEPT ACTION GROUP (HLAC AG)</i>
<i>MIDANPIRG CONCLUSION 19/21:</i>	<i>REDUCED CHANNEL SPACING FOR VHF NAV</i>
<i>MIDANPIRG DECISION 19/22:</i>	<i>TOR OF THE FREQUENCY MANAGEMENT WORKING GROUP</i>
<i>MIDANPIRG DECISION 19/23:</i>	<i>RADALT ACTION GROUP</i>
<i>MIDANPIRG DECISION 19/24:</i>	<i>5G SAFEGUARDING MEASURES</i>
<i>MIDANPIRG CONCLUSION 19/25:</i>	<i>STATISTICS ON ADS-B EQUIPAGE LEVEL</i>
<i>MIDANPIRG DECISION 19/26:</i>	<i>MID Region Surveillance Plan</i>
<i>MIDANPIRG DECISION 19/27:</i>	<i>NEW EDITION OF THE MIDANPIRG PROCEDURAL HANDBOOK</i>

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA

1.1 The meeting reviewed and adopted the Provisional Agenda as at paragraph 6 of the History of the Meeting.

REPORT ON AGENDA ITEM 2: GLOBAL AND REGIONAL DEVELOPMENTS**2. *Global and Regional Developments*****2.1 *Review of Action taken by the ANC on MIDANPIRG/18 and RASG-MID/8 Reports***

2.1.1 The subject was addressed in WP/2 presented by the Secretariat. The meeting noted that the Air Navigation Commission (ANC) referred the MIDANPIRG/18 and RASG-MID/8 Report to its Working Group of the Whole for Strategic Review and Planning (WG/SRP). The WG/SRP reviewed the Report on 27 April 2021.

2.1.2 The WG/SRP commended the MID Region for the excellent quality of the regional reports and the progress made in the region. The discussion of the WG/SRP focused mainly on the followings:

- Coordination between MIDANPIRG and RASG-MID;
- RASG-MID activities and achievements;
- MIDANPIRG/18 activities and achievements; and
- Challenges and lessons learnt.

2.1.3 The meeting noted that the consolidated annual report on Planning and Implementation Regional Groups (PIRGs) and Regional Aviation Safety Groups (RASGs), covering the period from April 2020 to March 2021 was presented to the Council through C-WP/15197 (Council 223rd Session).

2.1.4 It was noted that all regional PIRG and RASG meetings during this reporting cycle were held via virtual meeting arrangements. These arrangements were necessitated by the exceptional circumstances related to the COVID-19 pandemic and the related global travel and meeting restrictions which prevented face-to-face meetings.

2.1.5 It was noted that since the introduction of virtual meetings for PIRGs and RASGs, the participation by States and other role players has increased dramatically. However, as part of the challenges reported to the Council, it was highlighted that PIRG/RASG virtual meetings reduce efficiency and flexibility because decision making takes more time and reaching consensus is more difficult. It was also underlined that Virtual meetings are not conducive for complex discussions and different time zones makes it difficult for participants.

2.1.6 With respect to the review of the uniform methodology for the identification of Air Navigation deficiencies, it was highlighted that work is ongoing and progress will be reported to Council during Q1 2022.

2.1.7 With regard to the MIDANPIRG/19 and RASG-MID/9 meetings, the Commission noted that excellent coordination took place between the MIDANPIRG and RASG-MID. The Commission noted with satisfaction that the first edition of the Middle East-Regional Aviation Safety Plan (MID-RASP) has been developed in accordance with the Global Aviation Safety Plan (GASP) 2020-2022. The Commission noted that the final version of the Middle East and North African States (MENA) Accident Investigation (AIG) Regional Coordination Mechanism (ARCM) MoU was finalized and circulated to States for signature.

2.1.8 The Commission was apprised of the results of the MID Annual Safety Report, including the MID Region safety priorities and status of safety indicators. With regard to the State Safety Programme (SSP) implementation, it was noted with concern that only one State completed it fully. The Commission recalled that SSP implementation was already identified as a common/global challenge during the consideration of the consolidated annual report to Council (refer to AN-WP/9416).

2.1.9 The Commission recalled that on 12 January 2020, a proposal for the amendment of the Air Navigation Plan —Middle East Region (Doc 9708, Volume I), concerning the establishment of a Doha flight information region (FIR) and Doha search and rescue region (SRR) (Serial No. MID ANP-I 20/01 – ATM/SAR), was circulated to States and international organizations for comments, in accordance with established procedures. The Commission noted that MIDANPIRG/19 recognized that the matter would be considered by the ANC and eventually the ICAO Council and recalled that this matter will be considered separately by the ANC and Council (refer to AN-WP/9494).

2.1.10 The Commission noted that there is a need to update PART 0 – Introduction and PART I - General Planning Aspects (GEN) of the Electronic Regional Air Navigation Plan (eANP), Volume III to keep pace with the latest developments, including alignment with the GANP – Sixth Edition. The Commission requested the Secretariat to harmonize Parts 0 (Introduction) and I (General Planning Aspects) of Volume III and to align it with the GANP Sixth Edition.

2.2 Global updates related to COVID-19 including outcomes from HLCC-2021

2.2.1 The subject was addressed in WP/3 presented by Secretariat. The meeting noted with appreciation the recommendations of the HLCC-2021 under the Safety Stream. The recommendations can be available on the ICAO website, at: <https://www.icao.int/Meetings/HLCC2021/Pages/yellow-cover-report.aspx>

2.2.2 The meeting noted that the HLCC 2021 made 147 Recommendations under the Safety Stream and the most relevant outcomes to the RASG-MID Work Programme are:

- a) the proposed topics for the draft 2023-2025 edition of the GASP were agreed upon, in preparation for subsequent endorsement of the GASP at the 41st Session of the ICAO Assembly;
- b) input from the Conference will be used to revise existing ICAO guidance materials and tools that support the implementation of regional and national aviation safety plans, in line with the GASP;
- c) there is a need for support, technical expertise and participation by States, international organizations and industry to the contributory bodies of the PIRGs and RASGs; and
- d) the Conference adopted the Ministerial Declaration on “One Vision for Aviation Recovery, Resilience and Sustainability beyond the Global Pandemic”.

PIRG/RASG MID CONCLUSION 1: HLCC RECOMMENDATIONS

That, States:

- a) *be encouraged to support and implement the HLCC recommendations; and*
- b) *actively participate and support the RASG-MID and its subsidiary groups meetings/activities.*

2.3 Regional update related to COVID-19 including MID-RPTF, CRRIC, CAPSCA, iPACKs deployment, MID CART Implementation Plan and Plans of Actions, etc.

2.3.1 Through PPT/6 presented by the secretariat, the meeting was apprised of current Status of Implementation of the 20 recommendations of the ICAO Council's Aviation Recovery Task Force (CART) in the MID Region.

2.3.2 The MID Recovery Plan Task Force (RPTF) activities and outcomes were addressed in PPT/7 presented by the Secretariat.

- The MID-RPTF mechanisms and activities continued to serve as a platform for coordination and cooperation amongst all stakeholders to support States with the implementation of the CART and HLCC recommendations as well as the recovery of aviation industry in the MID region during the COVID-19 pandemic outbreak.
- The key activities undertaken covered mainly aspects related to continuous coordination with all stakeholders, to ensure well harmonized implementation of the measures to support to restart and recovery of the aviation system in MID Region; Continuous support to States on the use of TE system; facilitation to the CAPSCA programme implementation; identifying and addressing States needs and operational challenges; monitoring status of implementation of the CART Recommendations through CRRIC and providing required assistance to States for the posting of relevant information; Continuous sharing, communication and promotion of developed guidance material and best practices with MID States and stakeholders on operational safety measures, CAPSCA, AVSEC/FAL and ANS/ATM aspects; Coordinating exchange of information and experience between States; and supporting the planning for the post COVID-19 pandemic recovery and the restart of aviation operations; and supporting the planning for the post COVID-19 pandemic recovery and the restart of aviation operations.
- The meeting recalled that the 3rd DGCA-MID virtual meeting (7 December 2020), through Conclusion 3/2, endorsed the MID CART Implementation Plan. In order to keep pace with the global developments and, in particular the CART Phase III Recommendations and guidance, a revised version of the MID CART Implementation Plan has been developed by the Secretariat and endorsed by the 5th virtual DGCA-MID meeting.

2.3.3 In respect to iPacks, the meeting noted with appreciation that the iPack- Aviation Safety Risk Management related to COVID 19 has been implemented by ICAO for Oman (as a pilot project) and the rest of iPacks are being in the process to be deployed in coordination with TCB.

2.3.4 In the same vein, the meeting commended the ICAO MID Regional Office for its efforts and continuous support and close communications with States to ensuring a well-coordinated and harmonized implementation of the measures to support the restart and recovery of the aviation system in the MID Region.

CAPSCA MID/9 Outcomes

2.3.5 The subject was addressed in PPT/8 presented by the secretariat. The meeting was apprised of the CAPSCA MID/9 Meeting outcomes and encouraged States to submit working papers supporting the CASPCA Programme.

2.4 Regional Projects (MENA-RSOO, ARCM & MID-FPP)

2.4.1 The subject was addressed in WP/9 and PPT/10 presented by the Secretariat.

2.4.2 With respect to MENA RSOO, the meeting supported the recommendations of the 2nd MENA RSOO Technical Meeting, in particular, the proposal to include a new Annex to the MoA on ICAO role and responsibilities to the Steering Committee (SC) as at **Appendix 2.4A**.

2.4.3 The meeting noted with appreciation that the 2nd MENA RSOO Steering Committee (DG level) is planned to be held during the Saudi Aviation Future Forum in Riyadh, Saudi Arabia in May 2022.

2.4.4 In respect of the MENA ARCM, the meeting recalled that:

- the DGCA-MID/4 meeting (Muscat, Oman, 17-19 October 2017) endorsed the Strategy for the Enhancement of Cooperation in the Provision of AIG Services in the MENA Region;
- the DGCA-MID/5 meeting (Kuwait, 4- 6 November 2019) endorsed the AIG Regional Cooperation Mechanism (ARCM); and
- the RSC/7 meeting (Cairo, Egypt, 3-5 March 2020) endorsed the ARCM Action Plan and agreed that an ARCM Technical Coordination meeting be organized by the ICAO MID Office in Cairo, 1-4 June 2020.

2.4.5 The meeting noted that the 5th virtual DGCA-MID meeting reviewed and endorsed the MENA AIG Regional Cooperation Mechanism (ARCM) MoU through *Virtual DGCA-MID Conclusion 5/1* (in both languages Arabic and English) emanating from the AIIG/1 virtual meeting (7-9 September 2021).

2.4.6 The meeting noted that the MENA ARCM MoU (in both languages Arabic and English) has been circulated to the States for signature through State Letter SL File Ref.: ME 4/1.9 - 21/182, dated 1 November 2021 and a reminder dated on 13 January 2022.

2.4.7 The meeting was apprised of the progress related to the establishment of the MENA ARCM and noted with appreciation that so far, Seven (7) States signed the MENA ARCM MoU, namely: Iraq, Iran, Kuwait, Saudi Arabia, Sudan, UAE, and Yemen. The meeting also encouraged States to sign the MENA ARCM MoU; if not yet done.

MID FPP

2.4.8 The meeting recalled the history of the MID FPP, including the last version of the ProDoc signed during the DGCA-MID/5 (Kuwait, 4 – 6 November 2019), by six (6) States: Jordan, Kuwait (Active), Lebanon, Syria, UAE (Host) and Yemen. Saudi Arabia notified that they will initially join the Program as a Donor State.

2.4.9 The meeting noted that the Programme Manager was recruited by ICAO TCB effective 17 January 2022 and that the first meeting of the MID FPP Steering Committee (SC/1) was successfully held virtually on 26 and 27 January 2022.

2.4.10 The meeting noted with appreciation the infrastructure and tools available in the premises of the MID FPP Office within SZC, Abu Dhabi, and the logistics provided by UAE as the Host State.

2.5 *MID Region Statistics and Forecasts*

2.5.1 The subject was addressed in PPT/11 presented by the Secretariat. The meeting was apprised of the state of air transport in the MID Region. It was noted in particular, that:

- Passenger traffic in Revenue Passenger-Kilometres declined by -67.2% in 2020.
- Seat Capacity in Available Seat-Kilometres declined by -58.7% in 2020.
- Passenger load factor declined to 60.0% in 2020.
- Cargo traffic in Freight Tonnes-Kilometres declined by -13.2% in 2020.
- With regard to the Total Number of flights from MID States, it was noted that, after the catastrophic decline of air traffic observed in 2020 due to the COVID-10 pandemic, the recovery status of flights in 2021 is underway, and already above 2019 levels for cargo flights (number of cargo flights in November 2021 is 14% higher than November 2019). However, the Total number of flights in November 2021 reached 80% of November 2019 level.

2.5.2 The meeting noted that, according to the ICAO Long Term Traffic Forecasts (2018-2050), the passenger traffic in RPK is expected to increase by 4.4% for International Traffic; 3% for the Domestic Traffic and 4.3% for the Total Traffic; and the cargo traffic in FTK is expected to increase by 6%, 2.3% and 6.0% for international, domestic and total, respectively.

ICAO's Technical Cooperation Bureau: *Your go-to partner to achieve compliance with ICAO SARPs*

The subject was addressed in PPT/4 presented by the Secretariat. The meeting noted the transformed and modernized portfolio of products and services of ICAO Technical Cooperation Bureau (TCB) provided to Member States and aviation stakeholders to meet the needs of the rapidly evolving sector, improving performance and results.

The meeting noted the capabilities of TCB in providing support to Member States to achieve strategic and compliance outcomes, developing local capacity through the different modules designed for this purpose (experts, training, procurement and iPACKs).

In addition, the meeting noted the emerging needs identified by TCB for 2022, as follows: Technical Assistance through ICAO International Expert (OPAS and Non- OPAS), Training / Capacity Building projects (USOAP and Government Safety Inspector AIR, PEL, AC, OPS) and Traveler Identification Programme/Machine Readable Travel Documents (TRIP/MRTD).

The meeting noted the Global Aviation Training (GAT) Section accessible training solutions for Member States, with a course training catalogue of over 350 courses available, in all 6 ICAO languages across the 9 training areas: Aerodrome, Air Navigation Services, Air Transport, Aviation Law, Aviation Management, Environment, Flight Safety and Safety Management, and Security and Facilitation, conducted in classroom, online and virtual format.

REPORT ON AGENDA ITEM 3: COORDINATION BETWEEN MIDANPIRG AND RASG-MID**3.1 Follow-up on the PIRG/RASG MID Conclusions and Decisions**

3.1.1 The subject was addressed in WP/12 presented by the Secretariat. The meeting was apprised of the progress achieved in the implementation of the joint MIDANPIRG/18 and RASG-MID/8 Conclusions and Decisions. The actions taken by States and the Secretariat on the above-mentioned Conclusions and Decisions are reflected in **Appendix 3.1A**.

3.2 MID Region Safety priorities (Organizational issues and Operational and Emerging risks)

3.2.1 The subject was addressed in PPT/13 presented by the Secretariat. The meeting was apprised of the MID Region safety priorities.

3.2.2 Based on the analysis of the reactive and proactive safety information for the period 2016-2020, the safety priorities defined for the MID Region are:

Regional Operational Safety Risks

- a. Runway Excursion (RE) and Abnormal Runway Contact (ARC) during landing;
- b. Loss of Control Inflight - (LOC-I);
- c. Mid Air Collision- (MAC)
- d. Controlled Flight Into Terrain- (CFIT); and
- e. Runway Incursion- (RI).

Organizational issues

- a. States' Safety Oversight Capabilities
- b. Safety management
- c. Human Factors and Competence of Personnel

Emerging Risks

- a. GNSS Outages/ Vulnerability
- b. COVID-19 Pandemic outbreak
- c. Ensure the Safe Operations of UAS (drones)
- d. Impact of Security on Safety

3.2.3 The meeting noted with appreciation the status of the MID region Safety performance.

FAA's experience

3.2.4 The subject was addressed in IP/3, IP/4 and IP/5 submitted by USA/FAA. The meeting noted the FAA experience related to the Safety Assurance of Ground-Based Associated Elements of Unmanned Aircraft Systems, Advanced Data Analytics in Aviation Safety, and the Voluntary Safety Reporting, Safety Culture, and Effective Management of Risk.

3.3 Air Navigation Subjects of interest to RASG-MID including RVSM operations and Monitoring

Airport Collaborative Decision Making (ACDM)

3.3.1 The subject was addressed in WP/14 presented by the Secretariat. The meeting was apprised of the proposal emanating from the ASPIG/3 Meeting related to the establishment of an ACDM Task Force within the ASPIG Framework in order to foster the ACDM Implementation Level in the MID Region. The outcomes of the discussion on the subject are reflected under Agenda Item 5.6.

RVSM Operations and Monitoring Activities in the MID Region

3.3.2 The subject was addressed in WP/15 presented by the MIDRMA and the Secretariat. The meeting recalled MIDANPIRG Conclusion 18/7 related to data collection required for the development of the MID RVSM SMR 2021.

3.3.3 The meeting reviewed and endorsed the MID RVSM Safety Monitoring Report (SMR) 2021 at **Appendix 3.3A**, and agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/1: MID RVSM SMR 2021

*That, the MID RVSM Safety Monitoring Report (SMR) 2021 at **Appendix 3.3A**, is endorsed.*

3.3.4 The meeting noted that Tripoli FIR was excluded from the SMR 2021 due to the non-provision of required data. Additionally the meeting noted with concern that Libya has not submitted the TDS for long period, and urged the Libyan CAA to provide the data to include Tripoli FIR in the upcoming SMRs.

3.3.5 The meeting noted with concern the increased number of LHD reports submitted by Sana'a ACC, and urged the concerned States to address and resolve the issue; in coordination with the relevant Regional Offices and RMAs.

3.3.6 The meeting was informed that ICAO MID and APAC Regional Offices are planning to organize a meeting between India and Oman, to address the issues on the Regional interface boundaries, between Muscat and Mumbai FIRs.

3.3.7 The meeting was informed that the ICAO MID and ESAF Regional Offices are planning to organize a series of meetings between Yemen and its adjacent FIRs to address the issue of the increased number of LHD Reports by Yemen. The first meeting was conducted (Virtual, 9 Feb 2022) with the participation of Ethiopia (Addis Ababa FIR) and the RMAs of both Regions.

3.3.8 The meeting noted that the MIDRMA Board/17 agreed that for the Year 2022 the highest volumes of traffic will be observed, in addition to the Hajj season, during the FWC 2022 event, organized by Qatar (November and December 2022). Accordingly, the meeting agreed that it will be very beneficial to measure the RVSM TLS during the FWC 2022 event.

3.3.9 Based on the above, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/2: MID RVSM SMR 2022

That,

- a) *States are required to provide the FPL/traffic data for the period 1 June until 30 June 2022 and LHD data for the period 1 January to 31 December 2022 to the MIDRMA before 1 August 2022, for the development of the MID RVSM Safety Monitoring Report (SMR 2022);*
- b) *Bahrain, Iran, Iraq, Kuwait, Oman, Saudi Arabia and UAE, are urged to provide the FPL/traffic data for the period 1 – 30 November and 1 – 31 December 2022 to the MIDRMA before 31 January 2023 for measuring the ICAO RVSM TLS (Technical and Overall) during the FWC 2022 event; the remaining States are strongly encouraged to provide the FPL/traffic to the MIDRMA for the same period (months of November and December 2022).*
- c) *only the appropriate Flight Data form, available on the MIDRMA website (www.midrma.com), should be used for the provision of FPL/traffic data to the MIDRMA; and*
- d) *the final version of the MID RVSM SMR 2022 be ready for presentation to and endorsement by the MIDANPIRG/20 meeting.*

3.3.10 The meeting was apprised of the areas of improvement of the MID RAS Software gathered by the MIDRMA Team through the extensive work on the software during the last 10 years; and the offer received from the MID RAS Developer to address these issues and improvements, with a total cost of USD 100,700.00, which is available within the MIDRMA budget.

3.3.11 The meeting reviewed and supported the Business Case for the MID RAS Upgrade project at **Appendix 3.3B**, and agreed that the MID RMA Team and Board Chairman start the negotiation of the contract with the developer to proceed with the upgrade project. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/3: MID RAS UPGRADE PROJECT

*That, the MID RMA Team and Board Chairman take necessary actions for the upgrade of the MID RAS Software, in accordance with the Business Case at **Appendix 3.3B**.*

GNSS Interferences

3.3.12 The subject was addressed in WP/16 presented by the Secretariat/IATA.

3.3.13 The meeting noted that huge number of outage events were reported by pilots in 2021. The majority of incidents reported in Ankara and Baghdad FIRs. Therefore, ICAO MID Office conducted a Special Coordination meeting (SCM) on GNSS Interference for Iraq and Turkey virtually, on 7 October 2021, jointly with IATA MENA, IATA Europe and ICAO EUR/NAT Office.

3.3.14 The meeting was apprised of the outcome of the SCM for Iraq and Turkey and reiterated that States should ensure implementation of the preventive and reactive mitigation strategies mentioned in the RASG-MID Safety Advisory (RSA-14). Furthermore, the meeting noted that the issued NOTAMs related to GNSS interference had variant Q codes and terminologies (GPS unreliable, GPS Signal interference, GPS Jamming, Loss of GPS Signal, etc.,) making it difficult for operators to filter and search through the NOTAMs. Hence, the meeting agreed to task the AIM SG in coordination with IATA to develop a standard NOTAM text to be used for GNSS Interference and to be attached to the RSA-14.

3.3.15 The meeting noted that some military activities might cause GNSS signal interference and that civil-military coordination can play a key role in this area. Consequently, the meeting agreed that the issue of GNSS interferences would be addressed during the Civil-Military Webinar/Workshop planned in 2022.

3.3.16 The meeting was informed that EUROCONTROL has initiated communication with ITU radio-communications bureau (BR) regarding the GNSS RFI resolution process. The meeting emphasized that States should locate the source of interference and coordinate with relevant parties to resolve the issue of GNSS interferences. Otherwise, States should report infringements of the ITU radio regulations. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/4: REPORTING OF GNSS RFI TO ITU

That, States are invited to report frequent GNSS radio frequency interferences to ITU Radio-communication Bureau (ITU-BR), describing GNSS RFI impact either in their State or reported by their registered aircraft.

Radio Altimeter Interference

3.3.17 The meeting recalled the HLCC-2021 Recommendation 5/5 on mitigating the risk of 5G implementation to safety-critical radio altimeter functions and urged States to take actions as appropriate.

3.3.18 The subject was also addressed by WP/69 presented by Saudi Arabia. The meeting noted Saudi Arabia's measures to mitigate possible harms to Radio Altimeter from 5G Networks.

UASs

3.3.19 The subject was addressed in WP/17 presented by the Secretariat. The meeting recalled that the RPAS/UTM Action Group was established by the MIDANPIRG/18 & RASG-MID/8 through the PIRG/RASG MID Decision/1, to support the development of UTM Capabilities in the MID Region, and to harmonize the integration of RPAS/UAS operation.

3.3.20 The meeting noted that there was no progress related to the activities of the RPAS/UTM Action Group, due to higher priorities and COVID-19 related issues.

3.3.21 The meeting highlighted the operational benefits of the different applications of the UAS; and noted the increased airspace infringement and security hazards due to unauthorized UAS/RPAS operations.

3.3.22 The meeting noted that ICAO MID has included in its Work Programme for the Year 2022 the following related activities:

- a) the Civil-Military Cooperation Webinar/Workshop (13 – 16 Jun 2022) which includes in its tentative agenda the Drones - Airspace Management Applications; and
- b) Drone Symposium (Casablanca, 7 – 9 Dec 2022).

3.3.23 The meeting encouraged States and International Organizations to actively participate in the above events.

3.3.24 Based on the above, the meeting agreed that the RPAS/UTM Action Group continue its works in 2022 and present its outcomes to the MIDANPIRG/20 & RASG-MID/10 meetings.

3.3.25 With respect to the UASs Operation impact on Aeronautical Surveillance Equipment, the meeting noted that increasing density of ground-based and on-board surveillance systems using the 1030/1090 MHz frequencies is currently raising concerns on congestion of 1090 MHz and shortage of 24-bit aircraft addresses. The rapid growth in the number of unmanned aircraft (UA) is making those concerns more severe. Ultimately it may result in a reduction to the overall performance of ACAS as well as the SSR/MLAT and ADS-B systems. Accordingly, the meeting urged States with high density airspace to perform radio frequency spectrum analysis to:

- i) analyses the degree of congestion of 1090 MHz and to consider how 1090 MHz ADS-B UA operations might impact the performance of the ANSP-operated surveillance; and
- ii) define procedures to determine the potential requirement for ADS-B equipage on UA in order to allow or prohibit such equipage as appropriate.

3.3.26 The meeting noted that the 24-bit aircraft address scheme was not designed for a very large number of aircraft, based on projected growth of UAs numbers, it will be impossible to accommodate all UA in the current scheme. It was highlighted that in cases where UA are not required to equip with ICAO-compliant aeronautical surveillance equipment, States should not allocate 24-bit aircraft addresses.

3.3.27 With regard to UASs Integration in Aerodrome Operations,—the meeting was appraised of the benefits of the integration of the UASs in Aerodrome Operations. The meeting highlighted that the integration of UASs in day-to-day Aerodromes Operations is a challenge, which needs an appropriate regulatory framework scaled to integrate properly and safely UASs into the Aerodrome Airspace.

3.3.28 The meeting noted the information related to USA/FAA experience included in IP/6 submitted by USA/FAA.

3.4 Safety Subjects of interest to MIDANPIRG

3.4.1 The subject was addressed in PPT/18 and PPT/19 presented by the Secretariat.

MID Region Dashboard on Global Reporting Format Implementation (GRF)

3.4.2 The meeting reviewed and updated the MID Region GRF Dashboard and encouraged States to continuously provide the ICAO MID Office with their updates on the implementation of the National GRF Implementation Plans (GRF Milestones) in addition their Airports readiness for the GRF deployment.

ICAO/ACI New Obstacle Limitation Surfaces (OLS) Symposium Outcomes and Design

3.4.3 The meeting was appraised of the ICAO/ACI OLS Symposium outcomes held from 8 to 10 December 2021 and encouraged States to learn from the challenges faced during the GRF Implementation by proactively referring to the symposium outcomes for effective implementation of the upcoming proposed OLS. The meeting agreed to designate national focal points in order to manage the implementation of the upcoming proposed OLS, accordingly the meeting agreed to the following MID PIRG/RASG Conclusion:

***PIRG/RASG MID CONCLUSION 19/2: NATIONAL OLS IMPLEMENTATION
FOCAL POINT***

That, States be urged to nominate a National OLS implementation Focal Point to coordinate the OLS implementation activities at the National level.

REPORT ON AGENDA ITEM 4: RASG-MID WORK PROGRAMME**4.1 Global Aviation Safety Developments***GASP 2023-2025, NASP and Safety Management*

4.1.1 The subject was addressed in WP/20 and PPT/21 presented by the Secretariat. The meeting was informed on the latest proposed amendments to the 2023-2025 edition of the GASP including the revision of targets taking into account several factors such as the impact of the COVID-19 pandemic on aviation safety-related activities. The meeting noted the process ICAO undertook to review the GASP, inducing the recommendations resulting from HLCC-2021, the feedback received via the Questionnaire on the GASP Update, and the work conducted by the GASP Study Group. A final draft of the GASP will be presented to the ICAO Council for approval during Q2 2022, and for subsequent endorsement at the 41st Session of the Assembly, in Q3 2022.

4.1.2 The meeting also noted that the Guidance related to the development and implementation of a national aviation safety plan (NASP) is currently being updated, and will be published to coincide with the 2023-2025 edition of the GASP. The meeting was informed that a dedicated NASP Implementation Package (iPACK) was also launched in 2022 to assist States with their plan.

4.1.3 The meeting was informed on the latest update on Safety Management activities, including the timelines for the amendment to Annex 19, as well as upcoming ICAO safety events.

4.1.4 Based on the above, the meeting agreed to the following RASG-MID Conclusion:

RASG-MID CONCLUSION 9/1: SHARING OF THE NASP

That States, be urged to develop and implement their NASP in line with the GASP and MID-RASP and share the latest version of their NASPs with ICAO HQ and ICAO MID Office for posting on the GASP public website.

USOAP-CMA and SSPIA

4.1.5 The subject was addressed in PPT/5 presented by Secretariat. The meeting was apprised and thanked the Secretariat about the latest update related to the USOAP-CMA and SSPIA.

4.1.6 For the USOAP CMA, the meeting noted the latest updates regarding USOAP CMA including Priority Protocol Question (PPQ).

4.1.7 In respect of SSPIA, the meeting was informed about the evolution of the SSPIA and the **rollout** of phase 2. The meeting also noted that three (3) States were assessed during the phase 1. e Secretariat.

4.2 Follow-up on the RASG-MID/8 Conclusions and Decisions

4.2.1 The subject was addressed in WP/22 presented by the Secretariat. The meeting reviewed the progress made for the implementation of the RASG-MID/8 Conclusions and Decisions as at **Appendix 4.2A**.

4.3 Outcomes of the ASRG/3 meeting

4.3.1 The subject was addressed in WP/23 and PPT/24 presented by the Secretariat. The meeting was apprised of safety data and safety information analysis and the safety priorities for MID Region.

4.3.2 Based on the analysis of the reactive and proactive/predictive safety information for the period 2016-2020, the safety priorities defined for the MID Region are:

Regional Operational Safety Risks

1. Runway Excursion (RE) and Abnormal Runway Contact (ARC) during landing;
2. Loss of Control Inflight - (LOC-I);
3. Mid Air Collision- (MAC)
4. Controlled Flight Into Terrain- (CFIT); and
5. Runway Incursion- (RI).

Organizational issues

States' Safety Oversight Capabilities

4.3.3 USOAP-CMA audits had identified that State's inability to effectively oversee aviation operations remains a global concern. In respect of MID Region, the regional average overall Effective Implementation (EI) (13 out of 15 States have been audited) is 76 %, which is above the world average 68.68 % (as of 24th May 2021). Three (3) States are currently below EI 60%.

4.3.4 All eight areas have an EI above 60%. However, the areas of AIG and ANS still need more improvement. Regarding the Critical Elements (CEs), CE4 (Qualified technical personnel) improved and is above 60% (62.39%) EI, whereas CE8 (resolution of safety issues) is the only one below EI 60% (58.89%) EI.

Safety Management

4.3.5 States should build upon fundamental safety oversight systems to implement SSPs according to Annex 19; States shall require that applicable service providers under their authority implement an SMS. The average EI for SSP foundation PQs for States in the MID Region is 76.1%.

4.3.6 Implementation of SSP is one of the main challenges faced by the States in the MID Region. The RASG-MID addresses the improvement of SSP implementation in the MID Region as one of the top Safety Enhancement Initiatives (SEIs). In connection with this, the RSC/7 endorsed the MID Region Safety Management Implementation Roadmap and the establishment of the Safety Management Implementation Team (SMIT) to support MID States in the implementation of the SSP.

Human Factors and Competence of Personnel

4.3.7 As new technologies emerge on the market and the complexity of the system continues increasing, it is of key importance to have the right competencies and adapt training methods to cope with new challenges. The CRM has been identified as most important human factors issue in the domain of commercial air transport and safety actions would be identified and developed.

Emerging Safety Risks

4.3.8 Emerging safety issues are risks that might impact Safety in the future, these may include a possible new technology, a potential public policy, a new concept, business model or idea that, while perhaps an outlier today, could mature and develop into a critical mainstream issue in the future or become a major trend in its own right.

- GNSS Outages/ Vulnerability
- COVID-19 Pandemic outbreak
- Ensure the Safe Operations of UAS (drones)
- Impact of Security on Safety

4.3.9 The meeting reviewed and endorsed the 10th MID-ASR and agreed to the following RASG-MID Conclusion:

RASG-MID CONCLUSION 9/2: 10TH ASR

That, the Tenth MID Annual Safety Report is endorsed and be posted on the ICAO MID Website.

4.3.10 The MID Annual safety reports (ASRs) are available at: <https://www.icao.int/MID/MIDANPIRG/Documents/MID19%20and%20RASGMID9/10th%20MID%20ASR-2021.pdf>

4.3.11 The meeting noted the main challenges facing the ASRG for the development of the ASRs, in particular:

- lack of shared safety data and safety information, safety analysis, and safety recommendations by the States; and
- low participation in the meetings from the States and the organization

4.3.12 In connection with the above, the meeting reiterated the importance of sharing of safety data analysis for improved ASRs development and urged States to provide the ICAO MID Office by end of April 2022 the safety data analysis and their associated safety recommendations for the period (2017 – 2021). The meeting also recognized the importance of sharing the low probability high consequence (LPHC) events. Accordingly, the meeting agreed to the following RASG-MID Conclusion:

RASG-MID CONCLUSION 9/3: SHARING OF SAFETY DATA ANALYSIS

That, in order to present an improved version of the 11th MID-ASR to the MID-ASRG/4 meeting, States be,

- a) *urged to provide the ICAO MID Office by 30 April 2022 with the number of accidents, serious incidents and incidents, safety data analysis/information, and their associated safety recommendations in **Appendix 4.3A** for the past 5 years (2017 – 2021) and using the template in **Appendix 4.3B**.*
- b) *encouraged to share the low probability high consequence (LPHC) events.*

4.4 Outcomes of the SEIG/3 meeting

4.4.1 The subject was addressed in WP/25 presented by the Secretariat. The meeting recalled that the Eighth meeting of the Regional Aviation Safety Group – Middle East (RASG-MID/8) reviewed and endorsed the MID-RASP 2020-2022 Edition, including the SEIs list and their respective actions through RASG-MID Conclusion 8/3. Therefore, to address organizational challenges/issues, regional operational risks, and emerging risks, 16 SEIs and 51 actions have been included in the MID-RASP.

4.4.2 The MID-RASP 2020-2022 Edition is available at:
<https://www.icao.int/MID/MIDANPIRG/Documents/Plans/MID-RASP1.pdf>

4.4.3 The meeting noted with appreciation the updated SEIs and their respective safety actions at **Appendix 4.4A**, as well as the status of their implementation.

SMIT HANDBOOK

4.4.4 In respect of the SMIT Handbook, the meeting recalled that the RSC/7 meeting supported and endorsed the Regional Roadmap for Safety Management Implementation through *RSC Conclusion 7/10* and agreed to the establishment of Safety Management Implementation Team (SMIT) and the development of a SMIT handbook through *RSC Conclusion 7/1*.

4.4.5 The meeting was apprised with appreciation of the draft SMIT Handbook developed by the Secretariat and which would be mainly used in the conduct of a systematic and objective assessment of the State's SSP using MID Region SSP assessment tool to determine the State SSP main achievements and identify opportunities for enhancement and consequently, supporting MID Region States to implement their SSP. Accordingly, the meeting agreed to the following RASG-MID Conclusion:

RASG-MID CONCLUSION 9/4: SMIT HANDBOOK

*That, the SMIT Handbook including the MID Region SSP assessment tool at **Appendix 4.4B** is endorsed.*

MID States Progress on NASPs Development

4.4.6 With respect to the National Aviation Safety Plans (NASP), it was highlighted that the MID-RASP establishes the first layer of priorities, which is further complemented at national level by NASP, and would ensure the timely implementation of the SEIs to address safety deficiencies and mitigate risks to attain the MID Region Safety Targets.

4.4.7 The meeting noted that Kuwait and UAE confirmed that their NASPs have been completed and that Bahrain, Jordan, Oman, Qatar, Saudi Arabia, and Sudan NASPs development is in progress.

4.4.8 The meeting recognized the challenges facing the States on the development of their NASPs. In this respect, the meeting noted that the MID Regional Office is planning to conduct Assistance Missions dedicated to NASP in order to support States with NASP development. Accordingly, the meeting agreed to the following RASG-MID Conclusion:

**RASG-MID CONCLUSION 9/5: DEVELOPMENT OF NATIONAL AVIATION
SAFETY PLAN (NASP) IN MID STATES**

That, States

- a) be encouraged to request assistance from the ICAO MID Regional Office related to the development of their NASPs including the conduct of assistance missions and/or customized NASP Workshop for each State; and*
- b) share their experiences related to the development of their NASPs during the Regional NASP Workshop to be organized by the ICAO MID Regional Office in 2022.*

4.4.9 The meeting noted with appreciation that an overview on the ICAO State Safety Programme Implementation Assessment (SSPIA) and the Safety Information Management System (SIMS). The meeting also noted that ICAO SIMS Workshop is tentatively scheduled to be held in Cairo, Egypt, 25-27 October 2022.

4.5 Outcomes of the ASPIG/3 meeting

4.5.1 The subject was addressed in WP/26 and WP/27 presented by the Secretariat. The meeting was apprised on the implementation progress of the Aerodromes SEIs and their associated Actions included in the MID Regional Aviation Safety Plan (MID RASP) 2020-2022 Edition and related to AGA-AOP.

4.5.2 In relation with both G2-SEI-0 and G3-SEI-01 the meeting noted with appreciation the effort made by UAE and Egypt, with the support of Secretariat, in developing the draft of the Regional Safety Advisory (RSA) on Apron Management. The objective of the RSA presented on the website at the following link:

<https://www.icao.int/MID/MIDANPIRG/Documents/MID19%20and%20RASGMID9/RSA-15-%20Apron%20Management.pdf> is to provide technical guidelines to addresses effectively residual/emerging risk related to Apron design and Operations. Accordingly the meeting agreed to the following RASG-MID Conclusion:

RASG-MID CONCLUSION 9/6: RSA ON APRON MANAGEMENT

That, the RSA on Apron Management is endorsed and be posted by the ICAO MID Office on the RASG-MID web page.

4.5.3 The meeting reviewed and updated the progress made at the Regional Level on Aerodromes Safety Management, as at **Appendix 4.5A**, in terms of:

- Aerodrome Certification Implementation,
- Runways Safety Teams Establishment, and
- Global Reporting Format Implementation/Deployment

4.5.4 The Meeting noted with appreciation the Data-driven decision making process established by the MID Office to effectively implement the ICAO requirements in line with the Regional and Global

Aviation Safety Plans and encouraged States to systematically provide the ICAO MID Office with their updates as requested by the Aerodromes Safety Dashboard.

4.6 Outcomes of the AIIG/1 meeting

4.6.1 The subject was addressed in WP/28 presented by the Secretariat.

MENA ARCM MOU

4.6.2 Covered under Agenda Item 2.4

Questionnaire on Establishing a Platform for Sharing Safety Recommendations Issued by the MENA States

4.6.3 In respect of the Questionnaire on Establishing a Platform for Sharing Safety Recommendations, it was highlighted that the Safety Recommendations are the utmost results of investigation conducted by States. Such outcomes are worthwhile to be shared among States, through a database/online application or data repository. A bigger size safety recommendations database can assist States in carrying out more precise and comprehensive analysis, which will enhance their capabilities in formulating more effective safety recommendations, and exponentially improve their State-level risk management.

4.6.4 The meeting noted that MENA ARCM Member States could utilize the MENA ARCM for managing safety recommendations issued by the MENA ARCM Member States at the regional level. The preferable means/media for sharing the safety recommendations and posting them to the joint-dataset/repository would be determined based on the survey outcomes.

4.6.5 The meeting supported the establishment of a repository for MENA ARCM Member States to allow sharing the analysis of their safety recommendations. Accordingly, the meeting agreed to the following RASG-MID Conclusion:

**RASG-MID CONCLUSION 9/7: QUESTIONNAIRE ON ESTABLISHING A
PLATFORM FOR SHARING SAFETY
RECOMMENDATIONS**

*That, the questionnaire on establishing a platform for sharing safety information among MENA ARCM member States at **Appendix 4.6A** be used for the conduct of the survey on the subject.*

4.6.6 The meeting was apprised and thanked the Secretariat for sharing the event risk assessment methodologies. The meeting also noted with the appreciation the SAM ARCM's experience and practices related to the establishment and implementation of SAM ARCM.

4.6.7 The meeting reviewed and endorsed the AIIG Terms of Reference (TORs); and agreed to the following RASG-MID Decision:

RASG-MID DECISION 9/8: TERMS OF REFERENCE OF THE AIIG

*That, the Terms of Reference of the AIIG at **Appendix 4.6B** are endorsed.*

Saudi Arabia- AIB

4.6.8 The subject was addressed in PPT/29 presented by the Saudi Arabia-Accident Investigation Bureau (AIB). The meeting was apprised and thanked the Saudi Arabia AIB for sharing the safety study related to “Detecting Errors of Take-off Performance Past TO/GA Selection”.

4.7 RASG-MID Working Arrangements and Election of Chairpersons

4.7.2 The subject was addressed in WP/30 presented by the Secretariat. The meeting was apprised of the status of the Chairpersons and Vice Chairpersons of the RASG-MID and its Groups and noted that some positions are vacant. The meeting recalled that due to the situation related to COVID-19 and its impact on the RASG-MID Work Programme, the RASG-MID/8 meeting agreed that the Chairperson and Second Vice-Chairperson be renewed for one (1) additional term/meeting; and the election of Chairpersons should be included in the Agenda of the RASG-MID/9 meeting.

4.7.3 In connection with the above, the meeting elected unanimously Capt. Suliman S. Almuhaimeedi, Executive Vice President of Safety and Aviation Standards, General Authority of Civil Aviation as the Chairman of the RASG-MID.

4.7.4 The meeting also elected Ms. Sharron Caunt, Regional Director Safety and Flight Operation, IATA Africa and Middle East, as the Second Vice-Chairman of the RASG-MID.

4.7.5 In line with the above, the meeting commended Mr. Ismaeil Mohammed Al Blooshi, Assistant Director General, Aviation Safety Affairs Sector, GCAA-UAE for his remarkable support to the RASG-MID since its establishment in the capacity of the RASG-MID Chairman. The meeting also thanked Mr. Jehad Faqir, Assistant Director Safety and Flight Operation (IATA Africa and Middle East), for his continuous support in different capacities and positions including the Second Chairman of the RASG-MID.

4.7.6 With respect to the various vacant positions of the RASG-MID’s Groups, the meeting elected unanimously Ms. Leena Ahmed Alkooheji, Chief Airport & Navigation Audit, Civil Aviation Affairs, Bahrain, as the Vice Chairperson of the SEIG. As for other positions, the meeting agreed that election of vacant positions be included in the agendas of the relevant Groups.

4.8 Fourth Edition of the RASG-MID Procedural Handbook

4.8.1 The subject was addressed in WP/31 presented by the Secretariat. The meeting noted that as a follow-up action to the RASG-MID/8 Decision 8/10, the RASG-MID Procedural Handbook was updated to include the followings:

- RASG-MID Terms of Reference
- RASG-MID Sub-Groups Terms of Reference
- RASG-MID Frequency of meeting
- RASG-MID ORG Structure (Dissolving the RSC)
- Conduct of Virtual (online) meetings

4.8.2 The meeting reviewed the Fourth Edition of the RASG-MID Procedural Handbook at the following link: <https://www.icao.int/MID/MIDANPIRG/Documents/Hand%20Book/RASGMID-ProceduralHandbook.pdf> and agreed to the following RASG-MID Decision:

RASG-MID DECISION 9/9: *FOURTH EDITION OF RASG-MID PROCEDURAL HANDBOOK*

That, the Fourth Edition of the RASG-MID Procedural Handbook is endorsed.

4.9 *Future Work Programme*

4.9.1 The subject was addressed in WP/32 presented by the Secretariat. The meeting noted with appreciation Oman's offer to host RASG-MID/9 after Ramadan in 2023.

4.9.2 The meeting noted with appreciation that Saudi Arabia has generously re-confirmed the hosting of the Fifth MID Region Safety Summit during the Second Half of 2023.

Certification and Authorization of Water Aerodromes

4.9.3 The subject was addressed in WP/67 presented by Saudi Arabia. The meeting was notified about the importance to have international SARPs in order to ensure the safety and development of this emerging civil aviation sector of seaplane operations and water aerodromes.

4.9.4 The meeting encouraged MID States to share experience in developing the regulations for water aerodromes certification and authorization; and invited the ICAO MID Office to coordinate with ICAO HQ to review the existing SARPs related to aerodromes and develop specific SARPs for the design, operation, safety management, and certification of water aerodromes.

Development of Regional Rotorcraft/Helicopter Work Group

4.9.5 The subject was addressed in WP/68 presented by the Saudi Arabia. The meeting recognized the importance of the civil Helicopter operations in the MID Region. Accordingly, the meeting supported the proposal to establish a Working Group with a Chairperson from Saudi Arabia; and agreed to the following RASG-MID Decision:

RASG-MID DECISION 9/10: *CIVIL HELICOPTER OPERATIONS WORKING GROUP*

That, a Civil Helicopter Operations Working Group composed of the following States, is established under ASRG to support the civil helicopter operations activities in the MID Region:

- Bahrain
- Egypt
- Jordan
- Iran
- Oman
- Saudi Arabia
- Sudan

4.9.6 The meeting also agreed that the Working Group will develop its Terms of Reference (ToRs) during its first meeting to be presented to the RASG-MID/10 for endorsement.

REPORT ON AGENDA ITEM 5.1: GLOBAL AIR NAVIGATION DEVELOPMENTS

5.1.1 The subject was addressed in PPT/33 presented by the Secretariat.

5.1.2 The meeting was provided with an overview of the simplified procedure for Air Traffic Management (ATM) Collaborative Decision Making (CDM) and information sharing. The procedure was developed to facilitate cross-border coordination between the relevant Air Traffic Services (ATS) providers taking into consideration prevailing circumstances that would have an impact on traffic flow due to, or recovery from, contingency situations including those caused by a Pandemic.

5.1.3 The meeting was apprised of the ongoing amendments to the ICAO provisions related to Air Traffic Flow Management (ATFM) and in particular the mandate for the determination of ATS capacity and the establishment of ATFM services to contribute to a safe, orderly, and expeditious flow of air traffic and to support ATFM cross-border collaboration.

5.1.4 The meeting noted that the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971) would include a new Part IV in form of an operational handbook for the provision of additional guidance for the establishment, implementation, and provision of ATFM services including the determination of ATS capacity.

5.1.5 The meeting noted that the eleventh ICAO ATFM Global Symposium is planned for the fourth quarter of 2023, the venue and dates are to be confirmed at a later stage.

5.1.6 The meeting noted that the *Manual on Civil-Military Cooperation in Air Traffic Management* (Doc 10088) that superseded the Circular 330 provides information and guidance on the establishment of a framework for civil-military cooperation and coordination to enhance and optimize the management and use of the airspace, and to achieve and strengthen the trust between civil and military. It also serves as a reference for authorities and units responsible for establishing and implementing the processes and procedures that will facilitate civil-military collaboration, cooperation, and coordination. It was highlighted that civil-military cooperation workshops would be conducted to support States with the implementation of the guidance of Doc 10088, as deemed necessary.

5.1.7 The meeting noted that Amendment 11 to the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) concerning terminal approach phraseology, applicable on 3 November 2022, was consequential to the approach procedure charting and identification requirements contained in the *Procedures for Air Navigation Services — Aircraft Operations, Volume II — Construction of Visual and Instrument Flight Procedures* (PANS-OPS, Doc 8168). The phraseologies used for instrument approach clearances were intended to specify the identification of various approach procedures.

5.1.8 The meeting was provided with an update on the wake turbulence provisions that became applicable on 5 November 2020 addressing runway capacity constraints at major airport hubs by reducing applicable separation minima for arrivals and departures through alternative wake turbulence aircraft grouping. It also addressed long-standing issues related to the uneven implementation of Airbus A380-800-related procedures by adding a new wake turbulence aircraft category. The proposal also updated and incorporated related procedures to facilitate a globally harmonized implementation by States and industry alike.

5.1.9 The meeting noted that the Wake Turbulence Encounter Reporting (WTER) portal was established to facilitate data collection, storage, and analysis, of wake turbulence occurrences. From the global perspective, the WTER would offer the opportunity for a more diverse and representative dataset of wake encounters providing the quantitative validation necessary to support future work related to wake turbulence. At the national level, States would be able to analyze their wake encounter

risk evolution to support any wake turbulence separation implementation or procedure development. Data analysis would support post-implementation monitoring and safety risk assessment as an important aspect of enhanced wake turbulence separation (eWTS) implementation. States will be invited to nominate focal points to access and provide data to the WTER portal in due course. States were encouraged to integrate the WTER submission as part of their States existing wake turbulence reporting procedure and benefit from the analytical tools.

5.1.10 The meeting noted that the ATS interfacility data communications (AIDC) provisions in the PANS-ATM were being reviewed to identify areas for amendment necessary for the globally harmonized implementation of AIDC. The meeting noted that the 2nd Edition of the *Global Operational Data Link (GOLD) Manual* (Doc 10037) would be published in 2022/2023, which would incorporate the guidance on ATS Air-Ground datalink. The new Manual on ATS Ground-Ground data exchange implementation and operations guidance would be published in 2022/2023 to supersede the *Manual of Air Traffic Services Data Link Applications* (Doc 9694).

5.1.11 The meeting recalled that the main objective of the Flight and Flow – Information for a Collaborative (FF-ICE) was to exchange information necessary for planning, coordination, and notification of flights in a standardized format between members of the ATM community, including those involved in flight operations and aerodrome operations.

5.1.12 In the short term, FF-ICE would address the limitations and constraints of the current flight planning mechanism. In the long term, FF-ICE would enable transitioning to a fully collaborative environment where a flight trajectory is shared and optimized during all phases of a flight.

5.1.13 The meeting noted that the proposed amendments of ICAO provisions for FF-ICE concerning “flight plan” or flight planning would be applicable on 28 November 2024. It was highlighted that the updated *Manual on Flight and Flow — Information for a Collaborative Environment (FF-ICE)* (Doc 9965), which would include an update to the Concept in Volume I and implementation guidance in a new Volume II.

5.1.14 The meeting noted that a notional sunset date for FPL2012 would be considered together with a transition strategy.

5.1.15 The meeting was apprised of the ICAO provisions, applicable since 5 November 2020, related to the special procedures for in-flight contingencies in oceanic airspace as well as the amendment in progress to PANS-ATM that would be applicable on 28 November 2024.

5.1.16 The meeting noted that the proposal for amendments to radio communication failure provisions would take into account recent improvements in technology such as ADS-B surveillance and innovations in areas such as remotely piloted aircraft system (RPAS) operations. Additionally, it would also ensure alignment between the related provisions in Annex 2 and PANS-ATM.

5.1.17 The meeting was provided with an overview regarding the applicable provisions related to parallel runway operations. It was noted that the 2nd Edition of the *Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways* (Doc 9643) was published. It was highlighted that when using an RNP AR Approach, an aircraft can be considered established before the final approach, so the controller can give away vertical separation against the adjacent approach before the aircraft turns onto the final. In addition, for PBN independent parallel runways simultaneous departures 10 degrees divergences would be applied instead of 15 degrees as per conventional departures. These new provisions provided for enhanced efficiency and increased capacity.

5.1-3

5.1.18 Concerning search and rescue and Global Aeronautical Distress and Safety System (GADSS), the meeting recalled that the Autonomous distress tracking (ADT) equipage deadline was approaching – 1 Jan 2023. The meeting noted that the location of an aircraft in distress repository (LADR), established to receive notification on the location of an aircraft in distress promptly, was under the final stage of development. Moreover, the OPS Control Directory, a centralized contact details database, was established to facilitate contact between air traffic services (ATS) units and operators, thereby supporting them in meeting their obligations to establish coordination promptly when an aircraft is in distress.

5.1.19 The meeting noted that proposed amendments to the ICAO provisions to Annexes 11 and 12 are under development to support the implementation of the GADSS concept and facilitate contact between ATS units, air operators, and rescue coordination centres (RCCs) with an envisaged applicability date of 28 November 2024. In addition, a proposal for amendment to Annex 12 was under review by the Air Navigation Commission related to drift measurement, the responsiveness of SAR points of contact (SPOC), safety of SAR personnel at accident sites, conduct of exercises, procedures to be followed when intercepting a distress transmission, and methods for allowing other States to assist in SAR operations. Envisaged applicability November 2026.

5.1.20 The meeting noted that ICAO would be conducting webinars and workshops to raise awareness regarding the amended provisions, LADR, OPS Control Directory to support effective implementation.

5.1.21 Based on the foregoing the meeting:

- a) encouraged States to consider the updated ICAO provisions into their planning process, and take necessary measures to ensure timely implementation;
- b) requested the relevant sub-groups to address the need for regional actions ensuring effective implementation and monitoring of the amended provisions and procedures; and
- c) noted that ICAO is ready to provide required guidance and support for the implementation including the organization of workshops and training sessions as deemed necessary in collaboration with interested International Organizations.

REPORT ON AGENDA ITEM 5.2: FOLLOW-UP ON MIDANPIRG/18 CONCLUSIONS AND DECISIONS

5.2.1 The subject was addressed in WP/34 presented by the Secretariat. The meeting reviewed the progress made in the implementation of MIDANPIRG/18 Conclusions and Decisions. The actions taken by States and the Secretariat on the above mentioned Conclusions and Decisions were reviewed and the updated list is provided at **Appendix 5.2A**.

REPORT ON AGENDA ITEM 5.3: MID REGION AIR NAVIGATION PRIORITIES AND TARGETS***MID Region Air Navigation priorities and targets***

5.3.1 The subject was addressed in WP/35 and PPT/36 presented by the Secretariat. The meeting noted that a Web-based MID Air Navigation Report for 2021 has been developed to increase users' engagement, improve information accessibility and increase visibility. The link to the web-based report is <https://www.icao.int/MIDANReport/Pages/default.aspx>

5.3.2 The meeting noted that the overall status of implementation of ASBU priority 1 Threads/Elements is 58%. From a regional perspective, the progress for the implementation of RSEQ, ACAS, SNET, ASUR, and APTA is very good. However, the progress for the implementation of NAV, FICE, NOPS and ACDM is far below expectation.

5.3.3 The meeting noted that Bahrain, Qatar, Saudi Arabia and UAE have very good implementation level. It was highlighted that the lack of data received affected the data analysis accuracy of the implementation status in many States. Likewise, addition of new threads/elements to the MID Region Air Navigation Strategy decreased the overall ASBU implementation level in the MID Region.

5.3.4 The meeting recalled that MIDANPIRG/18, through Conclusion 18/11, urged States to provide ICAO with the results of the KPIs monitoring for the months of June and July 2021. The meeting noted that 8 States (Egypt, Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia and UAE) provided their inputs regarding the measurement of the Regional KPIs (01, 02, 13 and 14). The data covered 17 out of 57 international aerodromes in the MID Region, representing 29.8% (HECA, HEBA, HESH, HEGN, HELX, HESN, HEMA, OIIE, OJAI, OKBK, OOMS, OTHH, OEDF, OEJN, OEMA, OERK and OMDB).

5.3.5 The meeting reviewed and endorsed the Web-based MID Air Navigation Report (2021). Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

**MIDANPIRG CONCLUSION 19/5: WEB- BASED MID AIR NAVIGATION
REPORT (2021)**

That, the Web-based MID Air Navigation Report (2021) is endorsed.

5.3.6 The meeting urged States to provide the ICAO MID Office, with necessary data for the development of the MID Region Air Navigation Report (2022). Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

**MIDANPIRG CONCLUSION 19/6: WEB-BASED MID REGION AIR NAVIGATION
REPORT (2022)**

That,

- a) *States be urged to provide the ICAO MID Office with:*
 - i) *relevant data necessary for the development of the MID Region Air Navigation Report (2022) (Status of ASBU Implementation), by 1 December 2022;*
 - ii) *the data necessary for the measurement of the KPIs (01, 02, 13 and 14) for the period June & July 2022, by the 1 October 2022; and*
- b) *the MID Air Navigation Report (2022) be presented to the MIDANPIRG/20 for endorsement.*

REPORT ON AGENDA ITEM 5.4: AIM***Digital Datasets Planning and Implementation***

5.4.1 The subject was addressed in WP/37 presented by the Secretariat. The meeting recalled that MIDANPIRG/18, through Conclusion 18/17, tasked the Digital Datasets Ad-hoc Working Group (DDI Ad-hoc WG) with the development of a detailed Regional Implementation Plan for Digital Datasets and update of the MID Doc 008. The meeting noted that the AIM SG/8 reviewed the outcomes/deliverables of the Digital Datasets Implementation Ad-hoc Working Group (DDI Ad-hoc WG), including, the revised version of the MID Doc 008 – Guidance for AIM Planning and Implementation at the following link:

<https://www.icao.int/MID/MIDANPIRG/Documents/eDocuments/MID%20Doc%20008%20-%20Guidance%20for%20AIM%20Planning%20and%20Impl%20in%20MID.pdf> ; and agreed to the following MIDANPIRG Conclusion:

**MIDANPIRG CONCLUSION 19/7: *UPDATED GUIDANCE FOR AIM
PLANNING AND IMPLEMENTATION IN
THE MID REGION (MID DOC 008)***

That, the revised version of MID Doc 008 is endorsed.

5.4.2 The meeting was apprised of the progress achieved by the DDI Ad-hoc WG in the development of a detailed Regional Implementation Plan for Digital Datasets and noted that a questionnaire is being developed concerning the intentions and plans of the Member States for the provision of the Digital AIS Data Sets specified in the Annex 15 (16th Edition) to ensure a coordinated deployment of the Digital AIS Data Sets in the MID Region. Furthermore and in order to give the chance to airspace users to reaching the technical capability for handling digital datasets and to evaluate their readiness for using digital datasets instead of AIP tables, the survey results of the European AIS clients and their readiness for using digital datasets instead of AIP tables, will be used to make best use of available resources and avoid duplication of efforts.

MIDAD Project

5.4.3 The subject was addressed in WP/38 presented by the Secretariat. The meeting recalled that MIDANPIRG/18, agreed through Conclusion 18/18, that the ICAO MID Office, with the support of concerned States, initiate discussions with EUROCONTROL/EAD, in order to reconsider the charging mechanism to add a lower/upper limit for charging States that are willing to migrate to EAD. The meeting noted that, as a follow-up to the MIDANPIRG Conclusion 18/18, a coordination meeting with EUROCONTROL (EAD) and ICAO MID (MIDAD) took place on 27 April 2021 to explore the possibilities to review and reconsider the charging mechanism to encourage a bigger number of MID States (at least 7) to migrate to EAD.

5.4.4 The meeting was apprised of the outcomes of the coordination meeting with EUROCONTROL (EAD) and ICAO MID (MIDAD) and noted that with regard to the charging and cost of service provision, non EUROCONTROL member States may be charged for EAD user service that are provided. The amount of service charges is proportional to the service provided and the applicable charging scheme is described in Annex 5, Attachment C of the EAD agreement. This scheme provides a unique and standard way of a fair, equitable and transparent charging mechanism defined and agreed by the EAD Service and Royalties Charging Work Group composed of representatives from the EUROCONTROL member States.

5.4.5 The meeting noted that the MIDAD TF/6 meeting reviewed and updated the status of States' plan and progress related to the MIDAD Project Phase A, and noted that the number of States that initiated the process of migration to EAD is still too low to launch the phase B of MIDAD project. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion to replace and supersede the MIDANPIRG Conclusion 17/1:

MIDANPIRG CONCLUSION 19/8: MID REGION AIM DATABASE (MIDAD)

That,

- a) the ICAO MID Office and AIM SG continue to monitor the States' status of EAD migration and other related issues and provide regular updates to MIDANPIRG and DGCA MID meetings;*
- b) the activities of the MIDAD TF will not be resumed until the finalization of Phase A of the MIDAD Project (at least 7 States complete their migration to EAD);*
- c) States are encouraged to develop their business case/cost-benefit analysis related to the transition from AIS to AIM, in accordance with the GANP 6th edition, MID Air Navigation Strategy and MID Region AIM Roadmap;*
- d) States considering the migration to EAD as one of the options to support the transition from AIS to AIM/SWIM to engage directly with Eurocontrol (EAD) for the completion of the cost-benefit analysis; and*
- e) States that have not yet established an automated AIM system are strongly encouraged to migrate to EAD.*

MID Region AIM Implementation Roadmap

5.4.6 The subject was addressed in WP/39 presented by the Secretariat. The meeting recalled that MIDANPIRG/18, through Conclusion 18/19 urged States to provide the ICAO MID Office with their updated National AIM Implementation Roadmap, using a standard Template.

5.4.7 The meeting noted that all MID States provided their updated National AIM Implementation Roadmap except, Iraq, Lebanon, Syria and Yemen. The meeting urged those States to submit their updated National AIM Implementation Roadmap without delay.

5.4.8 Considering the significant challenges that States are facing in the transition process and in order to foster the transition from AIS to AIM and share knowledge and experience that will assist States in the effective transition from AIS to AIM, the meeting agreed to the following MIDANPIRG Conclusion:

**MIDANPIRG CONCLUSION 19/9: AIM CAPACITY-BUILDING ACTIVITIES
IN 2022-2023**

That, the following AIM-related workshops and webinars, be organized in 2022-2023:

- a) transition from AIS to AIM Workshop (pending the issuance of the revised global roadmap);*
- b) Workshop on Building Effective Safety Oversight of Aeronautical Information Services (AIS) and Aeronautical Information Management (AIM); and*
- c) Webinar(s) on the provision of Terrain and Obstacle (TOD) and AIP Datasets.*

NOTAM Issues/Proliferation

5.4.9 The subject was addressed in WP/40 presented by the Secretariat and IP/16 presented by IATA. The meeting recalled that MIDANPIRG/18, through Conclusion 18/21, agreed that, Webinars on the NOTAM proliferation and needs for improvement, as well as on the AIM/QMS Functions Systems and Processes be organized in 2021.

5.4.10 The meeting noted that ICAO MID established a NOTAM Go-team, composed of ICAO MID, IATA, AACO and GCAA UAE, organized a series of regional webinars during 2021 with the aim of raising awareness to improve the quality of NOTAM, monitoring progress in eliminating the old NOTAM and sharing experiences and lessons learned. The schedule for these regional webinars was 1 June 2021; 16 August 2021 and 15 December 2021. In addition, the ICAO MID AIM/QMS Functions Systems and Processes Webinar was successfully held on 29 April 2021.

5.4.11 In this respect, the meeting was apprised of the outcomes of the ICAO MID regional Campaign on COVID-19 publications and NOTAM proliferations. The meeting reviewed the recommendations of the campaign:

- **Quality Management and Automation:**

- AIS QMS should be effective in identification and resolution of deficiencies of AIS products including NOTAM. Verification and validation procedures shall be introduced to ensure quality requirements related to NOTAM.
- Establishment of systematic review mechanisms (routine manual check or automatic check by NOTAM systems) to continuously monitor and identify NOTAM passing their validity.
- Enhancement of NOTAM system (AIS database) would significantly improve monitoring of NOTAMs and compliance with ICAO SARPs (validity, format, syntax, etc.).

- **Safety Oversight:**

- States safety oversight system should include the review of aeronautical information management and publications to ensure that States published aeronautical information, including NOTAM are issued in compliance with the ICAO SARPs in Annex 15 and PANS AIM.

- **Training:**

- AIS and NOF personnel shall be appropriately trained on continuous basis in accordance with the competency and knowledge required to perform their functions.

- **Coordination with Data Originators:**

- Mature, well-understood and mutually agreed formal arrangements with data originators (aerodromes, air navigation service providers, military, etc.) is a priority.
- Formal arrangements must be supported (signed) by the top management of originators.
- Regular awareness campaigns and coordination meetings (e.g. annual or bi-annual) must be held with data originators.
- Development of NOTAM Origination Guidance is recommended to enhance originators' awareness and knowledge.

- **Adherence to SARPs:**

- Information of a lasting character must be published through amendments to AIP (AIRAC, regular) not NOTAM, particularly operationally significant information.
- If a PERM NOTAM has been issued, it must be transferred to the appropriate publication without delay.
- AIP amendment shall be published on a sufficiently frequent interval to make sure that NOTAM would not be used to publish PERM information instead of amendment of the correct placement of the information
- AIRAC provisions must be fully adhered to when operationally significant information is published. Use of NOTAM for notification of operationally significant information must be avoided.
- Use of NOTAM must be limited to operational information of short duration and temporary nature. Proper coordination with the originator would be needed to terminate the NOTAM in due time.
- Origination and issuance of NOTAM shall be limited to the information types prescribed in Annex 15 (6.3.2.3)
- NOTAM shall not be originated and issued for the situations prescribed in Annex 15, 6.3.2.4.
- Originating and issuing NOTAM for the following purposes must be avoided: legal protection from liability, political reasons, re-notification of the information already published in AIP (for emphasis), notification of information requiring AIRAC amendment, etc.
- AIP Supplement should not be considered as a replacement for NOTAM, as far as practicable. Intended use of AIP Supplement as described in Annex 15 and PANS-AIM must be taken into consideration.
- Repetitive NOTAM replacement is against its initial intent (short duration/temporary nature information). A NOTAM must be issued for a maximum of 3 months validity and be replaced only for one more term (maximum 3 months), if needed.

- NOTAM should have text a pilot and ATC can easily apply. Use terminology and information frequently seen on the flight deck and used in radio communication. Avoid references to AIP pages within NOTAM.
- PERM NOTAM should be cancelled as soon as the information is no longer applicable or has been incorporated into PERM publication.

5.4.12 The meeting urged States to adhere to the above recommendations and invited States requiring assistance to make their needs known to the NOTAM Go-team through the ICAO MID Regional Office.

5.4.13 The meeting noted that a workshop on Flight Planning System Capability was conducted virtually with Oman (CAA, operators and service providers) to address the importance of aeronautical information in Flight Planning, Flight Dispatch, ATM environments. This activity being a critical cross coordination activity between AIM and AT(F)M that will ensure safe, efficient, predictable, flight operations and planning through clear, timely and fit for purpose NOTAM and other aeronautical information in a format that can be ingested and correctly interpreted by flight planning and navigation databases.

5.4.14 The meeting commended this initiative and invited ICAO MID Office with the collaboration of IATA MENA to organize a regional workshop on Flight Planning System Capability during 2022.

New AIM System Implementation in Saudi Arabia

5.4.15 The meeting noted the information submitted by Saudi Arabia related to the replacement of the current AIM system installed since 2008 by a new AIM automation system to fully comply with GACA Regulation PART 175 requirements and ICAO Annex 15 SARPs, PANS-AIM (Doc 10066) requirements and considering the ICAO MID Roadmap for the transition from AIS to AIM, as highlighted in IP/13.

AIM/SWIM Service in UAE

5.4.16 The meeting noted the information submitted by GCAA UAE through IP/9, which highlights UAE AIM/SWIM services capabilities for the provision of aeronautical data in digital format i.e. Aeronautical Information exchange model (AIXM) as well as graphical visualization features available as part of the UAE GCAA strategic milestone.

REPORT ON AGENDA ITEM 5.5: PBN***Status of PBN Implementation in the MID Region***

5.5.1 The subject was addressed in WP/41 presented by the Secretariat. The meeting noted that the PBN SG/6 meeting reviewed and updated the status of implementation of priority 1 APTA Thread/Elements in the MID region and urged States to expedite implementation of PBN to achieve the regional targets included in the MID Region Air Navigation Strategy.

5.5.2 The meeting noted the significant challenges that States are facing in the implementation of Continuous Climb/Descent Operations (CCO/CDO). It was highlighted that 4 out of 9 States have implemented CDO/CCO. To cope with the challenges and to provide States with the guidance on CCO/CDO to harmonize their implementation in the MID Region and to promote the sharing of good practices, the meeting agreed to the following MIDANPIRG Conclusion:

**MIDANPIRG CONCLUSION 19/10: CONDUCT OF A WORKSHOP ON
CCO/CDO IMPLEMENTATION IN 2022**

That,

- a) a Workshop on CCO/CDO implementation be organized in 2022, in collaboration with MID FPP, to provide necessary knowledge about the ICAO provisions on the subject and share experience and best practices on CCO/CDO implementation by States/Airspace users; and*
- b) States and International Organizations are strongly encouraged to participate actively in this Workshop.*

5.5.3 The meeting noted that the majority of MID States AIPs do not contain details on CCO/CDO availability at airports and recognized the need for a harmonized AIP content related to CCO/CDO to ensure that identified good practices are shared and that Flight Crew / Flight Planners know where CCO/CDO-related text may be found in an AIP. Accordingly, the meeting agreed to the following MIDANPIRG Decision:

**MIDANPIRG DECISION 19/11: ESTABLISHMENT OF CCO/CDO AD HOC
WORKING GROUP**

That, a CCO/CDO Ad Hoc Working Group:

- a) be established to develop guidance related to the publication of CCO/CDO information (text and Charts) in the AIP, in coordination with the relevant MIDANPIRG and RASG MID subsidiary bodies.*
- b) be composed of:*
 - Chairpersons of the PBN SG*, AIM SG and ATM SG*
 - Mrs. Sheila Brizo, (QCAA Qatar)*
 - Mrs. Lindi-Lee Kirkman (IATA)*
 - Mr. Muhammad Al Juhani (Saudi Arabia)*
 - Secretariat*
- c) present their outcome during the AIM SG/8 and PBN SG/7 meeting.*

** the rapporteur of the group is the Chairman of the PBN SG.*

5.5.4 The meeting noted that the PBN SG/6 meeting reviewed the current version of the MID Region PBN Implementation Plan (MID Doc 007) and recognized that the MID Doc 007 should be updated and refined throughout the implementation process in order to keep pace with changes in the MID Region Air Navigation Strategy (MID Doc 002) and to ensure alignment with the GANP 6th edition. Therefore, the meeting agreed to the following MIDANPIRG Decision:

MIDANPIRG DECISION 19/12: ESTABLISHMENT OF THE MID REGION PBN IMPLEMENTATION PLAN AD HOC WORKING GROUP (PBN IP AD-HOC WG)

That, the PBN Implementation Plan Ad Hoc Working Group:

- a) *be established to review the MID Region PBN Implementation Plan (MID Doc 007) and develop a revised version for review by the PBN SG/7 meeting and to the MIDANPIRG/20 meeting for subsequent endorsement, to keep pace with the developments, including the GANP 6th Edition and the MID Region Air Navigation Strategy (MID Doc 002, Edition February 2021); and*
- b) *be composed of:*
 - Chairpersons of the PBN SG* and ATM SG
 - Mr. Saqr Al Marashda (GCAA UAE)
 - Mr. Hamed Al Zubaidi (GCAA UAE)
 - Mr. Ahmed Al Shehhi (GCAA UAE)
 - Mr. Muhammad Al Juhani (Saudi Arabia)
 - Secretariat

** the rapporteur of the group is the Chairman of the PBN SG.*

Progress Report on the establishment of the MID FPP and outcomes of the MID FPP SC/1 meeting

5.5.5 The subject was addressed in PPT/42 presented by the MID FPP Manager. The meeting noted that the first meeting of the MID FPP Steering Committee (SC/1) held virtually on 26 and 27 January 2022 reviewed and adjusted the Work Plan for Y2022 with the specific requests received from States, in particular, Jordan, Kuwait and Oman for the provision of IFP services, including training, assistance and consultancy. The meeting recalled that during the DGCA-MID/5 meeting (Kuwait, 4-6 November 2019), Jordan, Lebanon, Syria and Yemen signed the MID FPP ProDoc as User States, Kuwait signed as Active State and UAE signed as the host State; and through DGCA-MID/5 Conclusion 5/3, the meeting urged States, that have not yet done so, to sign the MID FPP ProDoc with ICAO.

5.5.6 The meeting also noted that the main funding and income sources plan for the sustainability of the programme include the revenue generation services and activities, voluntary contributions and donations, ICAO resource Mobilization, active States contributions and industry sponsorship contribution.

5.5.7 The meeting noted that several States, including Egypt, Jordan, Oman and Sudan, showed the intention to join the Programme as Active/Donor States, subject to the average annual contribution. The meeting urged those States to sign the MID FPP ProDoc or at least, as a first step, to submit a Letter of Intent to the MID FPP through the ICAO MID Office.

5.5.8 The meeting strongly encouraged States that have not yet done so, to join the MID FPP, preferably as “Active State” to take benefit of all the services provided by the MID FPP; this

will reduce also the cost-share contribution of each State and facilitate the agreement on a clear funding mechanism that is essential for the programme sustainability.

5.5.9 The meeting commended the support to be provided by DGAC France to the MID FPP within the framework of the Technical Agreement (TA) signed with ICAO; and invited France to sign the MID FPP Project Document (ProDoc) as Donor State. In the same context, the meeting strongly encouraged Donor States and industry to provide their contributions (sponsorship, in-kind & financial contributions) to the Programme to support its resources and to build its capabilities.

REPORT ON AGENDA ITEM 5.6: AGA-AOP***AGA-AOP Air Navigation Matters***

5.6.1 The subject was addressed in WP/43 presented by the Secretariat. The meeting noted with appreciation the new methodology used by the MID Office to manage Aerodromes Operations (AOP) matters. The secretariat emphasized on the importance to establish a Data-driven decision making process to effectively implement the MID Air Navigation Strategy in line with the Global Air Navigation Plan (GANP) frameworks.

Basic Building Blocks (BBBs)

5.6.2 The meeting recalled that the BBB is considered an independent framework and not a block of the Aviation System Blocks Upgrade (ASBU) framework as they represent a baseline rather than an evolutionary step. This baseline is defined by essential services recognized by ICAO Member States as necessary for International Civil Aviation to develop in a safe and orderly manner. Once these essential services are provided, they constitute the baseline for any operational improvement.

5.6.3 The meeting reviewed and analyzed the dashboard on the States Needs on Capacity Building for Effective Implementation of BBBs requirements, as at **Appendix 5.6A**. The meeting noted that there is a need for assistance to States and their Airport Operators to implement the requirement for each AOP sub-area. The meeting encouraged States which are able to provide technical assistance to coordinate with ICAO MID Office to facilitate a coordinated technical assistance, as deemed necessary.

Airport Collaborative Decision Making (ACDM)

5.6.4 The meeting reviewed the ACDM Implementation Plans Dashboard at **Appendix 5.6B**. The meeting encouraged States that didn't provide their updates on the ACDM Implementation to submit their inputs in order to amend the MID Air Navigation Strategy (Ref: MID Doc 002) and the annual MID Air Navigation Report.

5.6.5 The meeting noted with concern that some States are facing serious challenges to implement the ACDM. In addition, considering the benefits that accrue by the implementation of ACDM at the list of Airports concerned by the ACDM Implementation as defined in the MID Air Navigation Plan (ACDM applicability area as agreed by the MID States).

5.6.6 The meeting agreed that the ASPIG continue its work on ACDM from an airport operation perspective, and coordinate with ATM SG on the required development for comprehensive establishment of ACDM integration with ATFM in the MID Region with reference to ICAO and International guidance material pertaining to ACDM implementation and integration with ATM/ATFM and considering all stakeholders needs. The meeting requested the ICAO MID Office to coordinate with the relevant Chairpersons to explore the best way for effective collaboration between the concerned MIDANPIRG and RASG-MID subsidiary bodies and present a WP on the subject to the MIDANPIRG/20 & RASG-MID/10 meetings.

Report on Agenda Item 5.7: ATM/SAR**MID ATS Route Network Table**

5.7.1 The subject was addressed in WP/44 presented by the Secretariat. The meeting recalled that MIDANPIRG/18 noted that a comprehensive review of the ANP Vol II, Table ATM II-MID-1: MID Region ATS Route Network, was still ongoing for the consolidation of States' inputs for the revised version, considering the numerous changes to the ATS route network in the Region, including, inter-alia, the impact of COVID-19 crisis and the projects of airspace re-organization in some States. The meeting noted also that the ICAO MID Office received requests from Bahrain, Egypt, Qatar and UAE for the inclusion of new established ATS routes in the MID ANP Vol II, including some of the contingency routes. The meeting noted that the following challenges have been identified and addressed:

- 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.

5.7.2 The meeting was apprised of the outcome of the ATM SG/7 meeting on the subject. The meeting reviewed and endorsed the proposal for amendment to the MID eANP VOL II, Table ATM II-MID-I, at **Appendix 5.7A**. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

**MIDANPIRG CONCLUSION 19/13: PROPOSAL FOR AMENDMENT TO THE MID
eANP VOLUME II, TABLE ATM II-MID-I:
MID REGION ATS ROUTE NETWORK**

*That, the ICAO MID Office process the proposal for amendment to the MID eANP VOL II, Table ATM II-MID-I, at **Appendix 5.7A**, in accordance with standard procedure.*

5.7.3 The meeting encouraged States and stakeholders to use the MID RDWG/Route catalogue as a the main platform to address ATS Route network improvements and urged States with the support of ICAO MID Office to take action to overcome/eliminate the remaining challenges including 5LNCs duplication.

5.7.4 The meeting noted that Bahrain, Iran and Qatar requested to include the Route T800 in the MID eANP VOL II, Table ATM II-MID-I; however, UAE objected to this proposal. In order not to delay the processing of the PfA at **Appendix 5.7A** (amendment of the whole ATS Route Table), the meeting noted that the originating States agreed to process a stand alone PfA related to T800.

5.7.5 The meeting was apprised of Saudi Arabia's experience related to airspace change process, through IP/12 submitted by Saudi Arabia.

MID ATFM Implementation

5.7.6 The subject was addressed in WP/45 presented by the Secretariat and IP/7 provided by CANSO. The meeting recalled that the MID ATFM CONOPS, endorsed by MIDANPIRG/18 meeting through MIDANPIRG Conclusion 18/28, was published on the ICAO MID Office website as MID Doc 014 (V1.0).

5.7.7 The 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>. Accordingly, the 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 .

5.7.8 The meeting reviewed and endorsed the revised Terms of Reference (ToR) of the ATFM TF at **Appendix 5.7B**. Accordingly, the meeting agreed to the following Decision:

MIDANPIRG DECISION 19/15: TERMS OF REFERENCE OF THE ATFM TF

*That, the Terms of Reference of the ATFM TF be updated as at **Appendix 5.7B**.*

5.7.9 The meeting noted with concern the slow pace of implementation of the agreed actions/requirements of the MID ATFM CONOPS in particular those related to the establishment of the ATFM service at the national level. It was highlighted that the establishment of ATFM service would vary from one State to another based on the level of airspace complexity, number of movements, demand, etc. However, an ATFM Manager position should be the basis to ensure effective cross-border coordination and successful implementation of the Multi-nodal concept. The meeting noted that the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971) in addition to the MID Doc 014 would provide the required guidance for the establishment of ATFM service. Moreover, the meeting noted with appreciation that ICAO and International Organizations would provide support, as appropriate.

5.7.10 The meeting noted with appreciation Qatar's offer for the use of their ATFM system; and CANSO's initiative (IP/7 refers) for providing free of charge access to the CANSO ATFM Data Exchange system for the exchange of information. The meeting agreed that the ATFM TF would be in a better position to assess the available opportunities for the exchange of information and propose a way forward to the ATM SG. The meeting underlined that the FWC 2022 event would provide a good opportunity for collaborative decision-making and information sharing, which would be very beneficial for the future ATFM implementation in the Region.

5.7.11 Based on the above, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/16: ATFM IMPLEMENTATION

That,

a) *States be urged to take necessary measures to establish ATFM service in accordance with the MID Region ATFM Plan taking into consideration the available relevant guidance materials, and the willingness of ICAO and International organization to provide support as appropriate; and*

b) *ATFM TF be tasked to*

- i. *assess the available opportunities for the exchange of information and propose a way forward to the ATM SG;*
- ii. *develop a checklist for ATFM service implementation assessment and monitoring (regulation, declared capacity, organizational ATFM structure, procedure for information sharing, etc).*

FWC2022

5.7.12 The subject was addressed in WP/46 presented by the Secretariat. The meeting noted the exceptional demand expected on the MID Region FIRs/Airspace/Route network during the period 16 Nov – 20 Dec 2022; the traffic forecast is estimated to be 1000 movements per day and could reach 1600 movements per day on the peak periods.

5.7.13 The meeting recalled the MIDANPIRG Conclusion 18/30 related to the “MID REGION RVSM AIRSPACE SAFETY ASSESSMENT RELATED TO THE FWC 2022”.

5.7.14 The meeting was apprised of the Safety Assessment developed by the MIDRMA using all the available historical LHD Data and the traffic forecast during the event provided by Qatar, based on the worst case scenario.

5.7.15 The meeting noted that the results of the Safety Assessment demonstrated that the ICAO Target Level of Safety (TLS) will continue to be met.

5.7.16 The meeting noted the capacity enhancement projects planned by Qatar to facilitate the traffic movements during the FIFA World Cup 2022 event within Doha TMA. Additionally, the meeting noted the initial FWC 2022 ATFM plan during the period of the event, based on the MID Region ATFM CONOPS V1.0, and the web-based tool for exchanging data, which will enable the measurement of demand vs capacity, and providing the ATFM measures.

5.7.17 The meeting noted that the FWC2022 TF/6 meeting reviewed the details of the FWC 2022 Roadmap and Operational plan presented by Qatar; and noted the projects details planned to be implemented by Qatar, mainly addressing the airspace management and the introduction of ATFM.

5.7.18 The meeting noted that, in order to enable Qatar to implement the Roadmap and Operational Plan, many regional activities involving the other States and ANSPs are required as follows:

- close coordination with the neighbouring States/ANSPs;
- temporary LoA agreements;
- regular briefing for operational plans and data exchange;
- agreements with nearby Airports for the usage of offload parking (Drop-and-Go Policy);
- ATFM implementation (CONOPS, Tools and training);
- contingency procedures (weather, incidents...) to include:
 - airborne/enroute holding patterns;
 - diversions to alternates; and
 - provisions of ATS services.
- Airspace users consultation and requirements.

5.7.19 The meeting noted that the FWC 2022 ATFM Implementation, using a web-based data exchange tool, will support the measurements of the demand and implementation of the measures. However, considering the current status of the MID ATFM Plan (currently in the phase of training and building capacity activities), it was found that training might be required for the MID States’ specialists to support this implementation.

5.7.20 Based on the above, Qatar offered the use of their ATFM tool during the event in two parts:

- Part 1: related to traffic movements bound to Doha, which will support the traffic management within Doha TMA.
- Part 2: related to the overall traffic within the FIR of the participating State, to support the State in managing its FIR.

5.7.21 Accordingly, training programme is hosted by Qatar based on the State intention to participate. Additionally, the meeting noted the Airspace enhancement projects by Egypt, Kuwait and Saudi Arabia planned to be implemented to address the hotspots highlighted by the MID Region RVSM Airspace Assessment within their FIRs, to ensure preparation and readiness of their route structure during the event.

5.7.22 Based on the above, the meeting reviewed and updated the FWC 2022 Action Plan as at **Appendix 5.7C**, and agreed to support the Action Plan with the checklist at **Appendix 5.7D**; including the details from the Roadmap and Operational Plan to ensure all projects implementations are tracked and harmonized, with due consideration to the AIRAC Cycle dates.

5.7.23 The meeting urged States to support the implementation of the FWC 2022 Action Plan, and to take all the necessary measures in a collaborative manner to accommodate the expected high increase in traffic during the FWC 2022 event, in a safe and efficient manner.

5.7.24 The meeting reviewed the proposed changes to the ToR of the FWC 2022 as at **Appendix 5.7E**, and agreed accordingly to the following MIDANPIRG Decision:

MIDANPIRG DECISION 19/17: TERMS OF REFERENCE OF THE FWC 2022 TF

*That, the Terms of Reference of the FWC 2022 TF be updated, as at **Appendix 5.7E**.*

MID Region ATM Contingency Plan

5.7.25 The subject was addressed in WP/47 presented by the Secretariat. The meeting was apprised of the outcome of the ATM SG/7 related to the need to review and enhance the ICAO Doc. 003: MID Region ATM Contingency plan (April 2016).

5.7.26 The meeting agreed that the MID Region ATM Contingency Plan should include provisions related to the management of public health pandemics; and encouraged States to adopt a unified contingency response and joint policy to strengthen future collaboration considering the lessons learnt from COVID-19.

5.7.27 Based on the above, the meeting agreed to the following MIDANPIRG Decision:

MIDANPIRG DECISION 19/18: MID ATM CONTINGENCY PLANNING AD-HOC ACTION GROUP

That,

- a) *the MID ATM Contingency Planning Ad-hoc Action Group be established to carry out a comprehensive review of the MID Region ATM Contingency Plan (MID Doc 003), taking into considerations the lessons learnt from recent events; and*

b) the MID ATM Contingency Planning Ad-hoc Action Group:

i. be composed of:

- *the Chairpersons of the ATM SG;*
- *Abdulla Al Qadhi (Bahrain);*
- *Ahmad Abu Ghaleb (Saudi Arabia);*
- *Sharron Caunt (IATA);*
- *Faisal Al Assosi (Kuwait);*
- *Ehab Raslan (Egypt);*
- *Saleh Al Nesf (Qatar);*
- *Nasser Salem Al Mazroe (Oman);*
- *Saqr Marashdah (UAE), and*
- *ICAO MID Office (Secretariat).*

ii. present the revised version of the MID Region ATM Contingency Plan (MID Doc 003) to the ATM SG/8 for review and enhancement, before presentation to the MIDANPIRG/20 meeting for endorsement.

CMC/FUA

5.7.28 The subject was addressed in WP/48 presented by the Secretariat. The meeting recalled the that MIDANPIRG, through Decision 18/31, tasked the MID CMC/FUA Action Group to review the ICAO Doc 10088, to ensure that the regional requirements related to Civil/Military Cooperation and implementation of FUA Concept, including State aircraft operations under Due Regard in particular over the high seas, are covered.

5.7.29 The meeting noted the slow progress made by the CMC/FUA Action Group, and noted the identified challenges related to CMC/FUA implementation in the Region, and the need to raise awareness on different subjects, including:

- State aircraft operations under Due Regard in particular over the high seas,
- CMC/FUA implementation,
- Drones-Airspace management applications,
- GNSS/GPS interference,
- NMAC reports between Civil and Military aircraft.

5.7.30 Based on the above , the meeting 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.*

5.7.31 The meeting encouraged the MID States and International Organizations to actively participate in the CMC/FUA Webinar/Workshop, planned during 2022.

HLAC

5.7.32 The subject was addressed in WP/49 presented by the Secretariat. The meeting recalled the MIDANPIRG Decision 18/32 related to the High Level Airspace Concept Action Group (HLAC AG). The meeting reiterated that the objective of the MID Doc 004 “MID Region 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.

5.7.33 The 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.

Usage of ATC Simulators

5.7.34 The subject was addressed in WP/50 presented by UAE. The meeting recalled that UAE presented WP/45 to the MIDANPIRG/18 & RASG-MID/8 meeting, describing GCAA safety decision related to the usage of unit specific Synthetic Training Devices (ATC simulators) to perform the competency examination for renewal and issue of rating validation; in addition to, the use of refresher and emergency training.

5.7.35 The meeting recalled that MIDANPIRG/18, through Conclusion 18/33, invited States to share their practices and experience on the use of ATC Simulators for refresher courses, competency checks and examination/assessment purposes, to continuously ensure the level of proficiency during extended abnormal traffic periods (pandemics, crisis and similar events), and tasked the ICAO MID Office to consolidate the inputs from MID States to be shared with States and ICAO HQ, for appropriate action.

5.7.36 The meeting noted that as a follow-up action to the MIDANPIRG/18 Conclusion 18/33, the ICAO MID Office issued State Letter Ref.: ME 3 & AN 6/16 – 21/059 dated 21 April 2021, requesting States to share their experience on the subject. The consolidated inputs received from MID States are summarized as follows:

***ATCO training and competency maintaining programmes,
Where reduction of air traffic density levels are observed for extended periods***

In situations where traffic volumes are far below normal, or the operational environment is not suitable for competency check, ATC simulation could be used for the purpose of competency-maintaining programmes and proficiency checks required for the issuance of Certificate of Competence; provided that:

- *The ATCO who was previously exposed to live traffic representative of the density level and complexity of the normal operation of the Unit; could be accredited up to 50% of the required experience on the current rating.*
- *Candidate ATCO could be accredited 20% of the required experience of the new rating.*

Note: *to ensure realistic simulation, the devices, equipment and facility should exactly match the equipment used in live operations; and the training scenarios should demonstrate representative traffic levels and current airspace / sector / runways configurations, considering the objective of the training and assessment.*

5.7.37 The meeting encouraged the MID States and ANSPs to maximize the use of realistic simulation to mitigate ATCOs skill fadeout; and encouraged them to promulgate regulation on the subject, considering the best practices above consolidated from the inputs received from States.

SAR Implementation issues

5.7.38 The subject was addressed in WP/51 presented by the Secretariat. The meeting underlined that the material included in the MID Doc 010: SAR Implementation Plan would support the implementation of the SAR requirements.

5.7.39 The meeting noted that the main findings and challenges related to SAR in the MID Region are still standing. The meeting reviewed and updated the current status of the SAR bilateral arrangements as at **Appendix 5.7F**.

5.7.40 The meeting noted that the ICAO MID Office is coordinating with the ICAO AFI and APAC Regional Offices to organize an Inter-regional SAR Seminar in 2022.

5.7.41 The meeting reviewed the States GADSS Contact directory at **Appendix 5.7G**; and encouraged States to continuously provide updates, when deemed necessary.

5.7.42 The meeting noted the IP/14 submitted by Saudi Arabia related to SAMCC.

Updates from Bahrain

5.7.43 The subject was addressed in PPT/63 and PPT/64 presented by Bahrain. The meeting was apprised of the progress achieved in the implementation of the new Area Control Center and Air Traffic Management systems in Bahrain ACC; as well as Bahrain's experience related to SAR.

REPORT ON AGENDA ITEM 5.8: CNS***Frequency Management***

5.8.1 The subject was addressed in WP/52 presented by the Secretariat.

Reducing Channel Spacing for ILS/VOR

5.8.2 The meeting recalled the study performed to assess spectrum availability for VHF NAV systems (ILS/DME and VOR/DME). The meeting agreed that the frequency congestion necessitates reducing the channel spacing of the VOR/ILS from 100 KHz to 50 KHz/Y DME channel to increase the frequencies availability. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/21: REDUCED CHANNEL SPACING FOR VHF NAV

That, the ICAO MID Office, process a proposal for amendment to the MID ANP Volume II, CNS Specific Requirements to implement reduced channel spacing for Radio Navigation Aids.

5.8.3 The meeting recalled that MIDANPIRG/18 meeting tasked the Frequency Management Working Group with the development of a rolling frequency assignment plan, in order to secure adequate spectrum for VHF-COM, ILS, VOR, DME and GBAS/VDB facilities and meet the operational requirements up to 2030. The meeting agreed to postpone this action and to conduct another study to assess the frequency congestion after implementation of the reduced channel spacing for VHF navigation facilities.

Review frequency Assignments in the MID Region

5.8.4 The meeting noted that the ICAO Global NAV database includes incorrect data. The meeting urged States to continue updating the ICAO Global database and agreed that this action should be ideally completed during ACAO/ICAO Frequency Management Workshop planned in June 2022.

Radio Altimeter & 5G Interference

5.8.5 The meeting recalled that ICAO issued State Letter (dated 25 March 2021) on the potential impact of the 5G on Radio Altimeter in the MID Region. The meeting acknowledged the safety concerns and potential operational impacts of the 5G & Radio Altimeter interferences. The subject was also addressed through WP/62 presented by IATA; and WP/69 and PPT/71 presented by Saudi Arabia.

5.8.6 The meeting agreed to update the Frequency Management Working Group Terms of Reference to include tasks related to the issue of 5G & Radio Altimeter interferences. The meeting agreed to establish Radio Altimeter (RADALT) Action Group to develop guidance material to protect the aircraft operations from potential Radio Altimeter interference. Accordingly, the meeting agreed to the following MIDANPIRG Decisions:

MIDANPIRG DECISION 19/22: TORs OF THE FREQUENCY MANAGEMENT WORKING GROUP

That, the Terms of Reference of the Frequency Management WG be updated as at Appendix 5.8A.

MIDANPIRG DECISION 19/23: RADALT ACTION GROUP

That, the Radio Altimeter (RADALT) Action Group be:

- a) *established to develop guidance material to protect the aircraft operations from potential Radio Altimeter interference associated with the deployment of cellular broadband/5G ground infrastructure near the bands used by RADALT; and*
- b) *composed of:*

*Ridha Dridi, (Saudi Arabia, Rapporteur);
Khaled Alhazmi (Saudi Arabia)
Fares A. Alzahrani (Saudi Arabia)
Abdullaziz Hussain (Saudi Arabia)
Mohammed Kamal (Egypt);
Nevin Askar (Jordan);
Talal Al Jasmi (UAE);
Jehad Faqir (IATA);
Hecham Bennani (ACAO);
Gerlof E Osinga (Boeing)
ICAO MID RO/CNS*

5.8.7 The meeting noted that 5G rollout strategies in MID States are different in terms of key parameters; such as the frequency band used and the total transmitting power of the base stations. Therefore, the mitigation strategies taken will need to be tailored to each specific situation.

5.8.8 The meeting invited States to share information on their practices to mitigate 5G potential interference that may affect the radio altimeters during aircraft operations. Furthermore, the meeting agreed to task the CNS SG to coordinate with the RASG-MID relevant subsidiary bodies the 5G Safeguarding measures around the aerodromes to protect RADALT from any interference. Accordingly, the meeting agreed to the following MIDANPIRG Decision:

MIDANPIRG DECISION 19/24: 5G SAFEGUARDING MEASURES

That, the CNS SG coordinate with the RASG-MID relevant subsidiary bodies the 5G Safeguarding measures around the aerodromes to protect RADALT from any interference.

Preparation for WRC23

5.8.9 The meeting recalled that ICAO Position at the WRC-23 was disseminated to States on 18 August 2021 (refers SL E 3/5-21/37). The meeting noted that the active support from States is the only way to ensure that the results of WRC-23 reflect civil aviation's continued need for radio frequency spectrum.

5.8.10 The meeting urged States to participate in the WRC23 preparatory Webinar tentatively scheduled for 23-24 May 2022; and to communicate the ICAO WRC-23 position to national Telecommunication Authorities.

Communication Matters

5.8.11 The subject was addressed in WP/53 presented by the Secretariat.

Establishment of MID IP Network

5.8.12 The meeting recalled that MIDANPIRG/18 agreed, through Conclusion 18/37, that the ICAO MID Office, with the support of concerned States, initiate discussions with EUROCONTROL, in order to explore the possibility of joining the NEW PENS project as an alternative solution for establishing a MID IP Network.

5.8.13 The meeting was apprised of the follow-up actions taken by the MID Office including the conduct of the New PENS Webinar (10 November 2021).

5.8.14 The meeting noted that Eight (8) States (Bahrain, Egypt, Jordan, Lebanon, Kuwait, Oman, Saudi Arabia and UAE) confirmed their interest to join the EUROCONTROL IP Network Project (New PENS). Furthermore, the meeting invited States that have not confirmed their interest to do so.

5.8.15 The meeting was informed that EUROCONTROL is reviewing the expressions of interest by some MID States to join NewPENS, and is considering the integration within the NewPENS institutional and contractual framework.

AMHS Network with EUR/NAT Region

5.8.16 The meeting noted that the inter-regional connections with Cyprus and Greece have been migrated completely to AMHS with Egypt. Lebanon and Cyprus are in final stage of migrating to AMHS. Accordingly, the AMHS Network with ICAO EUR/NAT has been established with sufficient redundancy taking into consideration the existence of others bilateral AMHS connections.

5.8.17 The AMHS Network between the two ICAO MID and EUR/NAT Regions will provide the required inter-regional communication infrastructure to Regional OPMET Centre (ROC) and will facilitate the operation of extended AMHS service and exchange of the advanced data format, like XML based data (ex. IWXXM) between the two Regions.

ANS Cyber Security

5.8.18 The subject was addressed in WP/54 presented by the Secretariat. The meeting noted that the second version of the Cybersecurity Action Plan (CyAP) was developed early 2022. The meeting encouraged States to ensure alignment of ANS national Cyber Security plan with ICAO of Cybersecurity Action Plan (CyAP), 2nd version.

5.8.19 The meeting noted that ANS Cyber Security Tabletop Exercise (TTX) is planned in 2022. The TTX would make use of existing national contingency plan that is already developed and amend it to include provisions for cybersecurity to ensure the continuity of air transport during cyber incidents. Accordingly, the meeting encouraged States to participate actively in the ANS Cyber Security Tabletop Exercise (TTX).

ADS-B Implementation

5.8.20 The subject was addressed in WP/55 presented by the Secretariat and WP/72 and WP/73 presented by Saudi Arabia and IP/15 submitted by Saudi Arabia.

5.8.21 The meeting noted that ADS-B has been implemented by several MID States as a backup and complementary surveillance system.

5.8.22 The meeting urged States to consider the following lessons learned/ best practices when planning for ADS-B Mandate issuance. States should:

- inform airspace users about ADS-B implementation plan and publish mandates early to give operators enough lead time;
- establish procedures for managing Waiver and Exemptions. Requests for temporary waivers and exemptions should be based on operational impact and hazard analyses. Waiver/ exemptions could be granted for limited time span;
- for planning purpose, find the ADS-B equipage rate based on Flight plan data collected and analyzed; MIDRMA would provide data regarding ADS-B equipage as well;
- continuously monitor operator compliance progress, conduct monthly statistics; and
- plan for non ADS-B OUT compliant operations (ex. State aircraft)

5.8.23 The meeting was informed that the Space based ADS-B has been used for Search and Rescue service, due to the fast position update rate (every 8 seconds) compared to position update using voice position reporting (every 30 min) and ADS-C (every 15 min), the potential search area would be significantly decreased if the aircraft is equipped with ADS-B.

5.8.24 The meeting noted that ADS-B can be used to monitor the GNSS RFI; the lack of ADS-B position reporting by multiple aircraft is a reliable indicator of GNSS RFI since GNSS is the primary source of position for ADS-B. However, limitations exist depending on available ADS-B track density and geometry, yet there is a need to frame CONOPS of RFI Detection and Downlink functions.

5.8.25 The meeting was apprised of the coming new capabilities built on ADS-B technology in near term, such as (ACAS X, ADS-B version 3, ADS-B In).

5.8.26 The meeting was apprised of the ADS-B Out equipage mandate issuance and ADS-B avionics equipage certification and operational approval processes in Saudi Arabia.

5.8.27 The meeting highlighted that the low level of ADS-B equipage of the General Aviation Aircraft is impeding the ADS-B implementation in the MID Region. However, the meeting noted that Saudi Arabia did not require the carriage of ADS-B for all Aircraft intending to operate in Airspace Class G.

5.8.28 The meeting agreed that the percentage of ADS-B equipped aircraft is critical for the decision-making process for ADS-B deployment. The meeting noted that there is a need to monitor the level of ADS-B equipage at Regional and National levels. Furthermore, the meeting noted that States could analyze Flight Plan data (Item 10b) to monitor the ADS-B equipage level.

5.8.29 For the monitoring of aircraft operating from/to and through the MID RVSM airspace, the meeting agreed that the Middle East Regional Monitoring Agency (MIDRMA) can play a role in collecting and sharing information on the level of ADS-B equipage of the registered fleet and all flights operating from/to or through MID RVSM airspace.

5.8.30 Based on the above, the meeting agreed that the MIDRMA Board address the subject and explore the possibility to extend the functions and responsibilities of the MIDRMA to include the collection and sharing of information on the level of ADS-B equipage of the registered fleet and all flights operating from/to or through the MID RVSM airspace. Accordingly, the meeting agreed to the following MIDANPIRG Conclusion:

MIDANPIRG CONCLUSION 19/25: STATISTICS ON ADS-B EQUIPAGE LEVEL

That the MIDRMA Board explore the possibility to extend the functions and responsibilities of the MIDRMA to include the collection and sharing of information on the level of ADS-B equipage of the registered fleet and all flights operating from/to or through the MID RVSM airspace.

5.8.31 The meeting tasked the CNS SG in coordination with the ATM SG to update the MID Region Surveillance Plan (MID Doc 013) with the outcome of the ADS-B Webinar and MID States' experience in ADS-B implementation. Accordingly, the meeting agreed to the following MIDANPIRG Decision:

MIDANPIRG DECISION 19/26: MID REGION SURVEILLANCE PLAN

That, the CNS SG, in coordination with the ATM SG update the MID Region Surveillance Plan (MID Doc 013) considering the outcome of the ADS-B Webinar and MID States' experience in ADS-B implementation.

5.8.32 The meeting raised concerns regarding the issue of privacy of flights broadcasting ADS-B data addressed under WP/72 presented by Saudi Arabia. This data is used by internet-based flight tracker platforms and websites to provide real-time tracking of aircraft including private and sensitive flight.

5.8.33 The meeting highlighted that open access to ADS-B data on the internet raises concerns, in particular, with regard to the real-time tracking of sensitive flights or aircraft including VVIP, VIP, State, and private flights.

5.8.34 The meeting agreed on the necessity for ICAO to consider the development of provisions/guidance related to the sharing of ADS-B and ATS surveillance data publicly to address the associated security risk. In this respect, the meeting noted that Bahrain, Kuwait, Oman, Saudi Arabia and UAE will present a joint Working Paper on the subject to the upcoming ICAO Assembly 41. This would be coordinated by ACAO through the agreed mechanism.

5.8.35 The meeting noted that FAA is using the Limiting Aircraft Data Display (LADD) service which limits the availability of the data from the FAA systems, either completely or through data sharing agreements with restrictions regarding its sharing publicly. <https://ladd.faa.gov/>.

Use of Wireless Links for Navigational Aids Monitoring and Transfer of Surveillance Data

5.8.36 The subject was addressed in WP/65 presented by Saudi Arabia. The meeting was apprised of Saudi Arabia's experience on the deployment of Microwave Line of Sight (LOS) Links to monitor Navigational Aids at certain aerodromes and to transfer surveillance data for the provision of Approach service in Jazan.

5.8.37 The meeting encouraged States to share information on the implementation of wireless connections/links for CNS/ATM applications, and to consider its potential use for the implementation of Performance-based Communication and Surveillance (PBCS) for the provision of ATS.

5.8.38 The meeting agreed that Saudi Arabia present their experience on the subject to the CNS SG/11 meeting, for further discussion and necessary action.

REPORT ON AGENDA ITEM 5.9: MET***MET Implementation Issues***

5.9.1 The subject was addressed in WP/56 presented by the Secretariat, with a focus on the implementation of the ICAO Meteorological Information Exchange Model (IWXXM), the dissemination of space weather advisory information and an update to deficiencies in the MET field.

5.9.2 The meeting noted that two separate events were held virtually in 2021 as follows:

- ICAO MID Space Weather Advisory Information Dissemination Webinar, 3 to 4 March 2021, whose objectives were to share information on the background and developments of ICAO Provisions related to Space Weather Advisory Information as well as review the dissemination requirements of this information; and
- The ICAO MID IWXXM Implementation Webinar, 26 to 27 May 2021, whose objectives were to share information on the background, requirements and best implementation practices of ICAO provisions and World Meteorological Organization (WMO) means of compliance related to IWXXM.

5.9.3 The meeting agreed that States be encouraged to investigate (e.g. survey) with operators in their State on their operational procedures in space weather events (e.g. descent procedures planned by airlines in case of radiation exposure) and provide feedback on their experience. In addition, the meeting encouraged States to update the status of IWXXM implementation (e.g. Saudi Arabia has implemented IWXXM version 3.0). These items are expected to be reviewed by the MET SG/10 meeting in May 2022.

5.9.4 With reference to MET deficiencies, the meeting agreed to update the MANDDD accordingly and encouraged States, for those that have not yet done so, to provide a corrective action plan as soon as possible.

REPORT ON AGENDA ITEM 5.10: AIR NAVIGATION DEFICIENCIES***MID Air Navigation Deficiencies Status***

5.10.1 The subject was addressed in WP/57 presented by the Secretariat. The meeting urged States to use the MID Air Navigation Deficiency Database (MANDD) for the submission of requests for addition, update, and elimination of Air Navigation Deficiencies, including the submission of a specific Corrective Action Plan (CAP) for each deficiency. The meeting reiterated that a deficiency would be eliminated only when a State submit a formal Letter to the ICAO MID Office containing the evidence(s) that mitigation measures have been implemented for the elimination of this deficiency.

5.10.2 The meeting noted with concern that the majority of deficiencies listed in the MANDD have no specific Corrective Action Plan (CAP). The meeting urged States to implement the provision of MIDANPIRG Conclusion 15/35 related to elimination of Air Navigation Deficiencies, in particular, the submission of a specific Corrective Action Plan (CAP) for each deficiency.

5.10.3 The meeting reviewed and updated the list of deficiencies in the AIM, AOP, ATM, CNS, SAR and MET fields as reflected in the MID Air Navigation Deficiency Database (MANDD) at: <https://mandd.icao.int>. The meeting noted that the total number of air navigation deficiencies recorded in MANDD is 105 deficiencies compared to 107 deficiencies in MIDANPIRG/18.

5.10.4 A quantitative analysis of the MID States' air navigation deficiencies is shown in the Tables and Graphs presented at **Appendices 5.10A** and **5.10B**.

5.10.5 The meeting highlighted the following:

- In the AOP field: the total number of AOP deficiencies is nine (9) priority "A". Seven (7) deficiencies related to aerodrome certification; one (1) related to runway physical characteristics; and one (1) related to apron lighting. The lack of implementation of aerodromes' certification represents 78% of these deficiencies.
- In the AIM field: according to the information provided by Oman and Iraq, the meeting agreed to remove the deficiencies reported against Oman related to *Lack of QMS implementation* as well as *non-production of Instrument Approach Chart-ICAO for Mousl Intl*. The total number of AIM deficiencies is fifty (50); forty-four (44) priority "A" and six (6) priority "B". Twenty-four (24) deficiencies related to eTOD (based on the agreement to include new deficiencies related to the non-provision of TOD for Area 2a/TOFP and OLS); five (5) related to QMS; five (5) related to AIXM; six (6) related to WAC; three (3) related to pre-flight information services; two (2) related to AIP and aeronautical charts; three (3) related to AIRAC adherence; and two (2) related to WGS-84.
- In the ATM field: the total number of deficiencies is eighteen (18); eleven (11) priority "A" and seven (7) priority "B". Nine (9) related to the uncompleted signature of contingency agreements; seven (7) related to the non-implementation of planned regional ATS Routes; and four (2) related to unsatisfactory reporting of large Height deviation (LHD) to the MIDRMA.
- In the CNS field: the total number of CNS deficiencies is five (5); two (2) priority "A" and three (3) priority "B". Three (3) deficiencies are related to ATS Direct speech circuits, one (1) related to Inter-Regional Communication link with ICAO EUR/NAT Region and one (1) for HF service.

- In the MET field: the total number of MET deficiencies is thirteen (13) priority “A” deficiencies. Six (6) related to QMS; and seven (7) related to METAR, TAF, SIGMET and WAFS. Three new deficiencies have been added: ORBM METAR and 24-hour TAF not available internationally (Iraq), SADIS FTP not available (Libya) and OYAA METAR and 30-hour TAF; OYHD, OYRN, OYSN, OYTZ METAR and 24-hour TAF not available internationally (Yemen).
- In the SAR field: the total number of deficiencies is ten (10) priority “A”. Five (5) related to the lack of implementation of SAR provisions; and five (5) related to non-compliance with the carriage of Emergency Locator Transmitter (ELT) requirements.

MID Air Navigation Deficiencies Management Process

5.10.6 The subject was addressed in WP/58 presented by the Secretariat. The meeting noted the proposal coming from the ASPIG/3 meeting on the need to include some improvement to the MANDD in order to enable States’ Focal points to upload evidences for the closure of the identified deficiencies. As part of the outcomes of the ASPIG/3 meeting, the meeting was apprised of ASPIG suggestions related to the following topics:

Proposed MID Air Navigation Deficiencies Management Process (MID AND-MP)

5.10.7 The ASPIG/3 meeting noted with concern the level of efficiency related to the resolution and management of the Air Navigation Deficiencies. The meeting agreed that, in order to encourage reporting by all concerned parties and to enable efficient follow-up, particularly by the ICAO MID Office, an Air Navigation Deficiencies Management Process is needed to support the reporting of non-compliances without prejudice to the definition of ‘a deficiency’ as approved by the Council.

5.10.8 In line with the above, the ASPIG/3 meeting proposed the development of a clear Middle East Air Navigation Deficiencies Management Process (MID AND-MP), as at the **Appendix 5.10C**, aiming to coordinate the collection and management of deficiencies.

Additional tool related to the AND Reporting (e.g. AOP Minimum Reporting Areas):

5.10.9 The ASPIG/3 meeting recalled that the ASPIG/2 Meeting agreed on a Template of the minimum reporting areas for Airport Operations (AOP), as available at **Attachment A** of the **Appendix 5.10D**, determining the fundamental infrastructure and core services to be implemented by Aerodromes in line with the Global Air Navigation Plan Frameworks. Consequently, the ASPIG/3 meeting agreed that this tool can be used, as deemed necessary, by States as a reference to monitor the implementation of the ICAO Standards and Recommended Practices (SARPs) and Regional Air Navigation Plan (ANP) requirements and report any related non-compliance to those requirements.

5.10.10 In this regard, the ASPIG/3 meeting noted and reiterated that the intent of the list of Minimum Reporting Area, defined by the above mentioned tool, is **NOT** to replace reporting based on the Council policy, but to encourage consistent reporting, noting on one hand the current critically low level of reporting, and on the other hand the expanse of SARPs and requirements on which reporting may be effected.

5.10.11 The ASPIG/3 meeting noted that the undesirable outcomes of the proposed approach, which should be guarded against, include the reporting only on the listed subareas, instead of all deficiencies covered by the Council Uniform Methodology.

5.10.12 In this regard, the ASPIG/3 meeting proposed to include in the next version of the MIDANPIRG Handbook a dedicated part on the ICAO Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies as proposed at **Appendix 5.10E**.

5.10.13 The meeting noted the proposal of the ASPIG/3 meeting and agreed that all MIDANPIRG Sub Groups need to study the proposal and provide their feedback, in order for the ICAO MID Office to provide the MIDANPIRG/10 meeting with a consolidated proposal on the subject.

**REPORT ON AGENDA ITEM 5.11: MIDANPIRG WORKING ARRANGEMENTS AND ELECTION
OF CHAIRPERSONS**

MIDANPIRG WORKING ARRANGEMENTS AND ELECTION OF CHAIRPERSONS

5.11.1 The subject was addressed in WP/59 presented by the Secretariat. The meeting recalled that MIDANPIRG/18, through Decision18/52, amended the MIDANPIRG Terms of Reference, in line with the PIRGs Generic ToR approved by the President of the Council on 7 August 2020. The meeting reviewed the MIDANPIRG Organizational Structure, updated as agreed by MIDANPIRG/18 meeting.

5.11.2 Mr. Ahmed Al Jallaf, Assistant Director General Air Navigation, GCAA, UAE, was unanimously elected as Chairman of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) and Mr. Saleh Al Nesf, Head of Integrated Management System, QCAA, Qatar, as the First-Vice Chairperson of MIDANPIRG.

5.11.3 The meeting thanked Mr. Adel S. Boresli, Director Air Navigation, DGCA Kuwait, for his good work and excellent contributions to MIDANPIRG and the MID Region during his career in DGCA Kuwait, and commended his chairmanship of MIDANPIRG, since his election during the MIDANPIRG/16 meeting (Kuwait, 13 – 16 February 2017).

REPORT ON AGENDA ITEM 5.12: MIDANPIRG PROCEDURAL HANDBOOK

5.12.1 The subject was addressed in WP/60 presented by the Secretariat. The meeting noted that further to the MIDANPIRG Decision 18/58, the Secretariat consolidated a new Edition of the MIDANPIRG Procedural Handbook (MID Doc 001), incorporating the following main changes:

- Part I (Terms of Reference): as approved by the President of the Council.
- Part II (Working Arrangements): in line with Part I and adding additional Guidelines for the election of MIDANPIRG Chairpersons.
- Part III (Rules of procedure for the conduct of meetings of the MIDANPIRG): in line with Parts I, II and IV and adding an Appendix related to the guidelines for the conduct of online meetings.
- Part IV (Rules of procedure for the conduct of meetings of the contributory bodies of MIDANPIRG): in line with Parts I, II and III.
- Part V (Middle East provider and user States): user States were updated
- Part VI (Regional and International Organization): this part was removed since it is covered by the Terms of Reference.
- Part VII (Sub-Groups of MIDANPIRG Terms of Reference (ToRs), Work Programme, Composition and Organizational structure): MIDANPIRG Sub-Groups ToRs updated
MIDANPIRG Organizational Chart was also updated.
- New Appendix related to the Conduct of Virtual (online) meetings.

5.12.2 The meeting reviewed and endorsed the new Edition of the MIDANPIRG Procedural Handbook available at: https://www.icao.int/MID/MIDANPIRG/Pages/Midanpirg_Handbook.aspx; and agreed accordingly to the following MIDANPIRG Decision:

**MIDANPIRG DECISION 19/27: NEW EDITION OF THE MIDANPIRG
PROCEDURAL HANDBOOK**

*That, the new Edition of the MIDANPIRG Procedural Handbook is endorsed and
be posted by the ICAO MID Office on the website.*

REPORT ON AGENDA ITEM 5.13: FUTURE WORK PROGRAMME

5.13.1 The subject was addressed in WP/61 presented by the Secretariat. The meeting noted with appreciation the offer made by Oman to host the MIDANPIRG/20 and RASG-MID/10 meetings in May 2023 (after Ramadan). The exact dates will be determined, after coordination between the ICAO MID Regional Office, Oman and the Chairpersons of MIDANPIRG and RASG-MID.

REPORT ON AGENDA ITEM 6: DATES AND VENUE OF MIDANPIRG/20 AND RASG-MID/10***Dates and Venue of MIDANPIRG/20 & RASG-MID/10***

6.1 The meeting received with appreciation an offer by Oman to host the MIDANPIRG/20 and RASG-MID/10 meetings. Accordingly, the meeting agreed that the MIDANPIRG/20 and RASG-MID/10 meeting will be held face-to-face in Oman in May 2023 (after Ramadan), providing that approval from the President of the Council is received for hosting the meetings outside of the ICAO MID Office premises (new PIRGs and RASGs TORs, refer).

6.2 The exact dates of the meetings will be coordinated between the ICAO MID Office, the Chairpersons of both Groups and Oman.

REPORT ON AGENDA ITEM 7: ANY OTHER BUSINESS***Airports Sustainability Assessments***

7.1 The subject was addressed in PPT/66 presented by Saudi Arabia on Airports Sustainability Assessments and the Saudi Green Initiative (SGI), which brings together environmental protection, energy transformation and sustainability programs to work towards three overarching targets to achieve a common goal of a green future and to increase reliance on clean energy, offset the impact of fossil fuels and combat climate change.

APPENDICES

Annex I to the MENA RSOO MOA

THE ROLE OF ICAO

In accordance with ICAO DOC 9734, Part B “**The Establishment and Management of a Regional Safety Oversight Organization**”, ICAO MID Regional Office works closely with MENA RSOO by assisting not just in the establishment of the MENA RSOO, but also in its ongoing management, as follows:

- Maintain close coordination between the ICAO MID Regional Director and the Chairman of the MENA RSOO Steering Committee (Executive Board) related to establishment process and ongoing management activities;
- Support the MENA RSOO during the initial start-up and ongoing operations by providing technical assistance missions;
- Ensure the MENA RSOO work plan is aligned with:
 - i. ICAO’s Global Aviation Safety Plan (GASP);
 - ii. ICAO MID Regional Aviation Safety Plan (MID-RASP) as well as the RASGs’ priorities; and
 - iii. ICAO MID Region Safety Management Roadmap.
- Coordinate the conduct of technical assistance missions and capacity building activities in line with MID Region NCLB Strategy including action plans in order to avoid duplication of efforts and for cost efficiency;
- Support the recruitment process of the Managing Director and Technical Experts;
- Participate in the MENA RSOO Steering Committee (Executive Board) meetings; and
- Support the monitoring of the MENA RSOO performance and work plan implementation.

APPENDIX 3.1A

FOLLOW-UP ACTION PLAN ON PIRG/RASG MID CONCLUSIONS AND DECISIONS

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
D. 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; - Mr. Mohamed Zainal from Bahrain - Mr. Ahmed Saeid and Ehab Raslan from Egypt - Mr. Ali Aezami from Iran - Mr. Nedal Raboey and Mr. Alwaleed Alenezi from Saudi Arabia - Mr. Mohammed Khamis Al Baloushi from UAE - Ms. Elisabeth Walker and Mr. Chris Swider from FAA - Mr. Benjamin Ivers from Boeing - Ms. Sharron Caunt, Mr. Jihad Faqir and Ms. Zainab Khudhair from IATA - Mr. Shayne Campbell from CANSO - ICAO MID	Development of UTM Capabilities in the MID Region, harmonize the integration of RPAS/UAS operation	Development of Regional Guidance	RPAS/UTM AG	TBD	Ongoing Due to the COVID-19, the RPAS/UTM AG was not able to complete the tasks assigned to it and develop the necessary guidance. (Further details in WP/16)
C. 2	MID REGION GRF IMPLEMENTATION ACTION PLAN That, States be urged to: a) nominate a National GRF implementation Focal Point to coordinate the implementation activities at the National level; b) provide the ICAO MID Office with the contact details of their nominated GRF Focal Points by end of February 2021; and c) provide regular progress reports/updates on the subject to the ICAO MID Office using the MID Region GRF Implementation Plan Template/Milestones at Appendix 3.2C.	Effective implementation of the GRF methodology and its deployment at the MID Region Airports	Status report of the GRF implementation and deployment at Airports	States	July 2021	Actioned (To be closed) SL ME 4/1.8 – 21/036 dated 22 March 2021 and email 24/6/2021 (States didn’t reply yet : Libya)

MID RVSM SMR 2021



MID RVSM SAFETY MONITORING REPORT 2021 (SMR 2021)

Prepared by the Middle East Regional Monitoring Agency (MIDRMA)

SUMMARY

The aim of the MID RVSM Safety Monitoring Report 2021 is to provide airspace safety review of the MID RVSM airspace and to highlight by means of arguments and supporting evidence that the implementation of RVSM in the ICAO Middle East Region is acceptably safe.

1. INTRODUCTION:

1.1 Executive Summary

The MID RVSM Safety Monitoring Report is issued by the Middle East Regional Monitoring Agency (MIDRMA) for endorsement by the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG).

The report presents evidence that according to the data and methods used, all safety objectives set out in the MID RVSM Safety Policy in accordance with ICAO Doc 9574 (2nd Edition) continue to be met in operational services within the Middle East RVSM airspace with some reservation for Safety Objective 3 which is under continuous monitoring by MIDRMA.

To conclude on the current safety of RVSM operations, the three key safety objectives endorsed by MIDANPIRG have to be met:

Objective 1 The risk of collision in MID RVSM airspace due solely to technical height-keeping performance meets the ICAO target level of safety (TLS) of 2.5×10^{-9} fatal accidents per flight hour.

The value computed for technical height risk is estimated 3.509×10^{-12} this meets RVSM Safety Objective 1.

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 the MID RVSM airspace meets the ICAO overall TLS of 5×10^{-9} fatal accidents per flight hour.

The value computed for the overall risk is estimated 4.073×10^{-10} this meets RVSM Safety Objective 2.

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.

Middle East RVSM Airspace Estimated Annual Flying Hours = (1,421,352) Average Aircraft Speed = 444.35 kts			
Risk Type	Risk Estimation	ICAO TLS	Remarks
Technical Risk	3.509×10^{-12}	2.5×10^{-9}	Below ICAO TLS
Overall Risk	4.073×10^{-10}	5×10^{-9}	Below ICAO TLS

Conclusions:

- (i) The estimated risk of collision associated with aircraft height-keeping performance is 3.509×10^{-12} and meets the ICAO TLS of 2.5×10^{-9} fatal accidents per flight hour (RVSM Safety Objective 1).
- (ii) The estimated overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies is 4.073×10^{-10} meets the ICAO overall TLS of 5×10^{-9} fatal accidents per flight hour (RVSM Safety Objective 2)
- (iii) Based on currently-available information (Except for Tripoli FIR), there is no evidence available to MIDRMA that the continued operations of RVSM adversely affects the overall vertical risk of collision other than the violation of Non-RVSM approved aircraft to the MID RVSM airspace which is under continuous monitoring and review by MIDRMA. (More details in 2.5)

1.2 Considerations on the Safety Objectives for MID RVSM SMRs

When considering the three safety objectives for RVSM, the following considerations should be borne in mind:

1. The assessment of risk against the TLS, both for technical and overall risk estimates, relies on height keeping performance data to assess the risk in the vertical plane and studies of traffic density to calculate the risk in the horizontal plane. There are numbers of assumptions that must be verified to satisfy the reliability of the risk assessment, the verification of these assumptions deals primarily with monitoring of aircraft performance issues.
2. The Aircraft performance is assessed by individual airframe and by monitoring group. A monitoring group consists of aircraft that are nominally of the same type with identical performance characteristics that are made technically RVSM compliant using a common compliance method. Monitoring group analysis is necessary to verify that the Minimum Aviation System Performance Standards (MASPS) for that group is valid. Aircraft that are made RVSM compliant on an individual basis are termed non-group.
3. RVSM Safety Objective 2, dealing with overall risk, takes into account the technical risk together with the risk from all other causes. In practice, this relates to the human influence and assessment of this parameter relies on adequate reporting of Large Height Deviation (LHD) Reports, and the correct interpretation of events for input to the CRM.
4. RVSM Safety Objective 3 requires the RMA to monitor long-term trends and to identify potential future safety issues, this compares the level of risk bearing incidents for the current reporting period. It also highlights if there are issues that should be carried forward as recommendations to be adopted for future reports.

2 Discussion

Scope:

The geographic scope of the MID RVSM Safety Monitoring Report covers the MID RVSM airspace, which comprises the following FIRs/UIRs:

Amman	Bahrain	Beirut	Baghdad	Cairo	Damascus	Emirates
Jeddah	Kuwait	Khartoum	Muscat	Sana'a	Tehran	Tripoli*

T-1: FIRs/UIRs of the Middle East RVSM Airspace

***Note: Tripoli FIR excluded from the RVSM safety analysis due to lack of data.**

The Data Sampling periods covered by SMR 2020 are as displayed in the below table

Report Elements	Time Period
Traffic Data Sample	01/07/2021 - 31/07/2021
Operational & Technical Errors	01/01/2021 - 31/12/2021

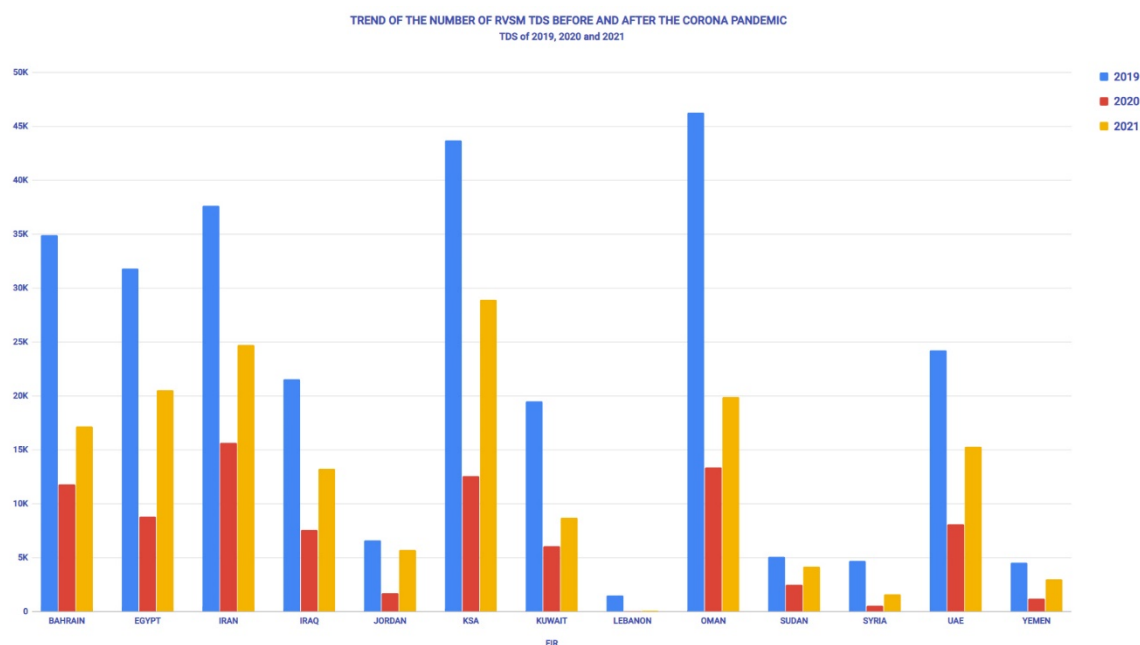
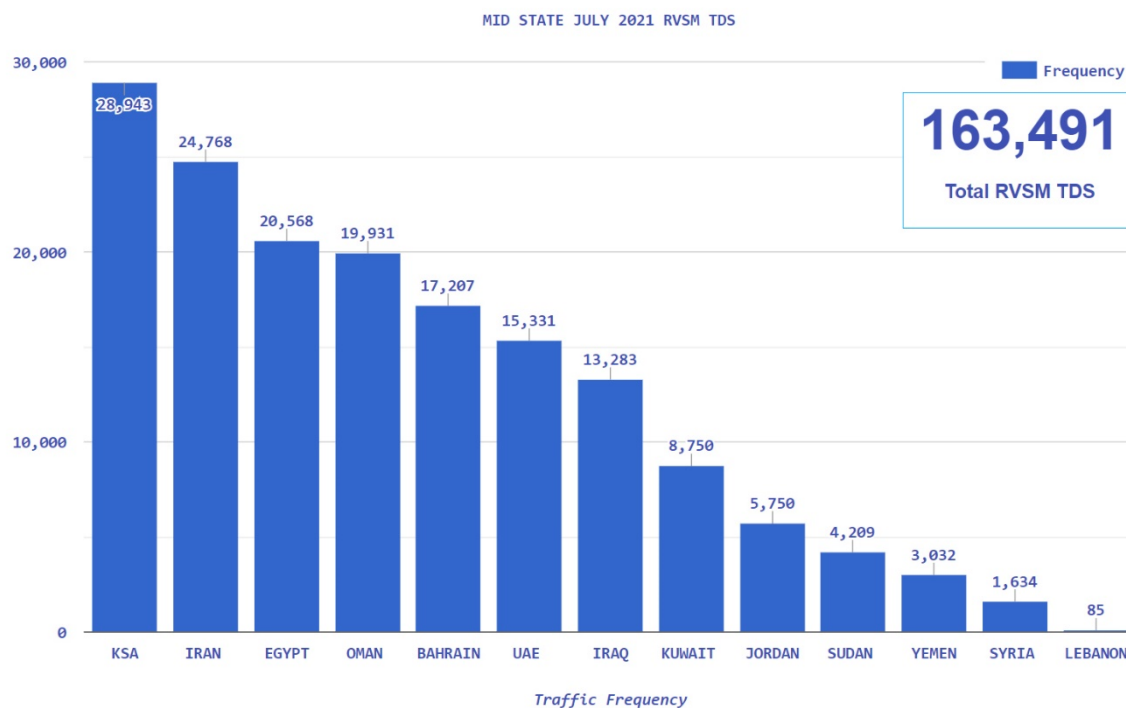
- 2.1 The descriptions of the traffic data collected from each MIDRMA Member State are depicted in table below:

MID States	No. of Flights	Received Dates	Status
Bahrain FIR	17207	12/08/2021	Accepted
Cairo FIR	20568	26/08/2021	Accepted
Amman FIR	5750	28/08/2021	Accepted
Muscat FIR	19931	17/08/2021	Accepted
Tehran FIR	24768	12/09/2021	Accepted
Khartoum FIR	4209	30/08/2021	Accepted
Emirates FIR	15331	22/08/2021	Accepted
Damascus FIR	1634	12/09/2021	Accepted
Sana'a FIR	3032	23/08/2021	Accepted
Baghdad FIR	13283	25/08/2021	Accepted
Kuwait FIR	8750	01/08/2021	Accepted
Jeddah FIR	28943	19/08/2021	Accepted
Beirut FIR	85	04/09/2021	Accepted
Tripoli FIR	-	-	No Data Submitted
Total	163491		

Table 1: Details of the MID States RVSM Traffic Data Sample (TDS) for July 2021.

Note: MIDRMA still faces number of errors/mistakes in the delivered TDS data from many States.

- 2.2 The description of the traffic data processed for each MIDRMA member state by the MID Risk Analysis Software (MIDRAS) is depicted in the graph below, a total of **163,491** flights were processed for the 13 FIRs, these flights were evaluated and processed very carefully to ensure accurate results according to the data submitted.

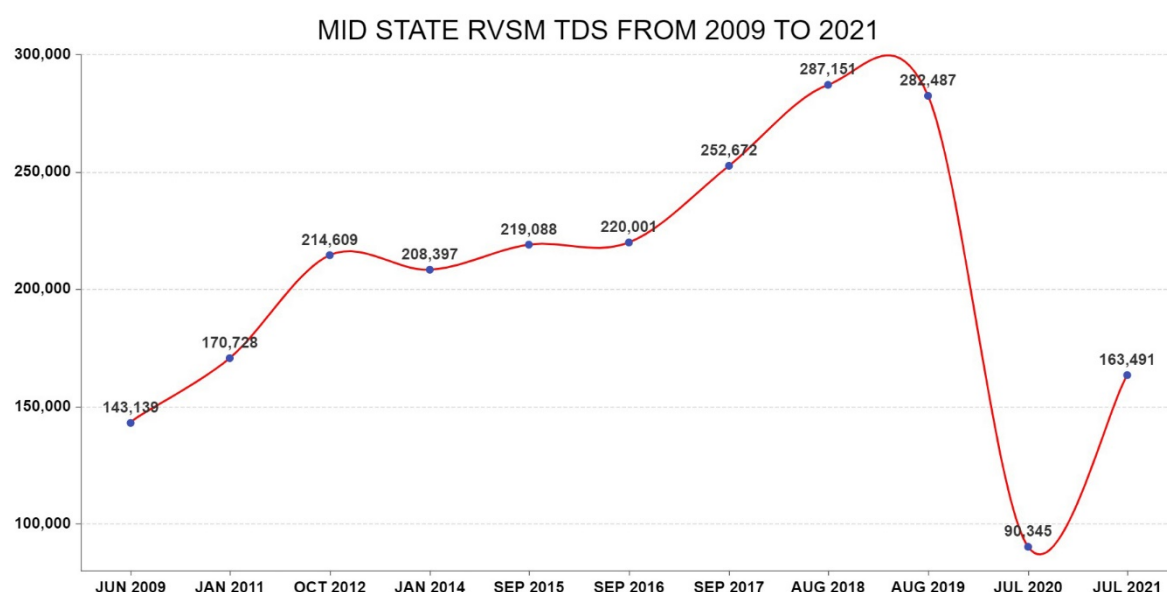


2.3 The COVID-19 pandemic has had a major impact on the airline industry across the world due to travel restrictions and reduced demand among travelers. The significant decrease in passenger demand is starting to improve compared to 2020 while this SMR TDS has reached 58% of what was recorded for TDS 2019 (before the pandemic).

#	MID FIRs	No of TDS July 2020	No of TDS July 2021	TDS Difference 2020 vs 2021	% of TDS Difference 2020 vs 2021
1	Bahrain FIR	11844	17207	5363	↑ 45.28 %

2	Cairo FIR	8838	20568	11730	↑ 132.72 %
3	Amman FIR	1752	5750	3998	↑ 228.2 %
4	Muscat FIR	13404	19931	6527	↑ 48.69 %
5	Tehran FIR	15689	24768	9079	↑ 57.87 %
6	Khartoum FIR	2526	4209	1683	↑ 66.63 %
7	Emirates FIR	8137	15331	7194	↑ 88.41 %
8	Damascus FIR	582	1634	1052	↑ 180.76 %
9	Sana'a FIR	1233	3032	1799	↑ 145.9 %
10	Jeddah FIR	12605	28943	16338	↑ 129.62 %
11	Beirut FIR	28	85	57	↑ 203.57 %
12	Baghdad FIR	7602	13283	5681	↑ 74.73 %
13	Kuwait FIR	6105	8750	2645	↑ 43.33 %
14	Tripoli FIR	NO TDS	NO TDS	-	-
	Total	90,345	163,491	73,146	↑ 80.96%

Comparison Table of MIDRMA Member States TDS for Years 2020 and 2021



2.4 Compiling and correcting the traffic data and then analysing it require a lot of efforts and follow up with the focal points to ensure the highest quality results obtained are reliable to study the impact of RVSM implementation within the ICAO Middle East Region, the MIDRMA decided to arrange for an upgrade to the MIDRAS to overcome problems with the errors in the received TDS from some member states, the upgrade will include other necessary features which will facilitate calculating all RVSM risk parameters and shall save a lot of time to avoid rejecting the TDS due to a lot of errors which usually delay the production of the SMR.

#	Reporting Points	FIRs	Frequency
1	TASMI	BAGHDAD / KUWAIT	4951
2	RATVO	BAGHDAD / ANKARA	4857

3	SIDAD	BAGHDAD / KUWAIT	4823
4	DAVUS	BAHRAIN / KUWAIT	4500
5	NINVA	BAGHDAD / ANKARA	4133
6	ULINA	CAIRO / AMMAN	4041
7	KITOT	CAIRO / JEDDAH	3634
8	ULADA	BAHRAIN / JEDDAH	3541
9	LONOS	BAHRAIN / KUWAIT	3156
10	DEESA	AMMAN / JEDDAH	3004
11	RASKI	MUSCAT / MUMBAI	2848
12	GABKO	TEHRAN / EMIRATES	2661
13	ALPOB	BAHRAIN / EMIRATES	2542
14	RASDA	CAIRO / NICOSIA	2477
15	NUBAR	CAIRO / KHARTOUM	2363
16	TUMAK	BAHRAIN / EMIRATES	2339
17	DAROR	BAHRAIN / JEDDAH	2305
18	NARMI	BAHRAIN / JEDDAH	2290
19	PASAM	CAIRO / JEDDAH	2249
20	BONAM	TEHRAN / ANAKRA	2221

TDS 2021 Top 20 Busiest FIR Entry / Exit Points in the ICAO MID RVSM Airspace

2.5 For the Seventh consecutive Safety Monitoring Reports, Tripoli FIR excluded temporary from the RVSM safety analysis due to lack of TDS and LHD reports, taking into consideration the MIDRMA never done any risk analysis for Tripoli FIR RVSM airspace since Libya joint the MIDRMA, this issue require the MIDRMA board and MIDANPIRG to decide what action should be taken if RVSM operations resume within the Tripoli FIR in the future

2.6 The Collision Risk Model (CRM)

2.6.4 The risk of collision to be modelled is that due to the loss of vertical separation between aircraft flying between FL290 and FL410 in a given portion of an airspace. One collision between two aircraft is counted as the occurrence of two accidents. The risk of collision depends both on the total number and types of aircraft flying in the system and the system characteristics.

2.6.2 The CRM provides an estimate of the number of accidents within an airspace system that might occur per aircraft flight hour due to aircraft collisions resulting from the loss of vertical separation in an RVSM environment analysis, is expressed in terms of quantifiable parameters. In the vertical dimension the CRM can be broken down in order to separately model a single route on which aircraft are flying in the same or opposite directions at adjacent flight levels, pairs of crossing routes and combinations of individual and intersecting routes, this model is applied equivalently to vertical, lateral and longitudinal separation.

2.6.3 Three parameters used within the CRM:

- a. The Vertical Overlap Probability, denoted as $P_z(1\ 000)$.
- b. The Lateral Overlap Probability, denoted as $P_y(0)$.

- c. The aircraft Passing Frequency are the most important quantities in determining the vertical collision risk. Of these, the vertical overlap probability is also an important parameter to calculate.

2.7 Technical Height Keeping Performance Risk Assessment

RVSM Safety Objective 1

The risk of collision in MID RVSM airspace due solely to technical height-keeping performance meets the ICAO target level of safety (TLS) of 2.5×10^{-9} fatal accidents per flight hour.

Direct evidence of compliance with TLS for Technical Height-Keeping Error

The result shows the risk of collision due to technical height-keeping performance is estimated to be 3.509×10^{-12} fatal accidents per flight hour, which is less than the ICAO TLS 2.5×10^{-9} .

MID RVSM SMRs Technical Risk Values				
Year 2006	Year 2008	Year 2010	Year 2011	Year 2012/13
2.17×10^{-14}	1.93×10^{-13}	3.96×10^{-15}	5.08×10^{-14}	6.37×10^{-12}
Year 2014	Year 2015	Year 2016	Year 2017	Year 2018
3.18×10^{-12}	3.056×10^{-10}	6.347×10^{-11}	4.966×10^{-11}	1.562×10^{-11}
Year 2019	Year 2020	Year 2021		
2.012×10^{-13}	9.185×10^{-13}	3.509×10^{-12}		

According to the technical risk values as shown in the above table the TLS values still, meet the ICAO TLS.

2.7.1 Supporting evidence of compliance with TLS for technical height-keeping performance

To demonstrate that the result is reliable, it is necessary to demonstrate that the following assumptions are true:

- The estimated value of the frequency of horizontal overlap, used in the computations of vertical-collision risk, is valid;
- $P_z(1000)$ – the probability of vertical overlap due to technical height-keeping performance, between aircraft flying 1000 ft. separation in MID RVSM airspace is estimated 5.207×10^{-10} valid and is less than the ICAO requirement of 1.7×10^{-8} .
- The monitoring target for the MID RVSM height-monitoring programme is an on-going process.
- The input data used by the CRM is valid.
- An adequate process is in place to investigate and correct problems in aircraft technical height-keeping performance.

2.7.2 Calculating the Probability of Lateral Overlap ($P_y(0)$)

The probability of lateral overlap $P_y(0)$ is the probability of two aircraft being in lateral overlap which are nominally flying on (adjacent flight levels of) the same route. The calculation of the $P_y(0)$ for the SMR 2021 has the following to consider:

- a. The MIDRMA continued to calculate the probability of lateral overlap $P_y(0)$ for all the MID RVSM airspace as per the ICAO methodology developed for this purpose and derived by the MID Risk Analysis Software (MIDRAS).
- b. The MIDRMA calculated the probability of lateral overlap $P_y(0)$ for each MIDRMA Member State and found all the results are valid :
 - 1- Bahrain FIR:
 Passing Frequency (n_{equiv}): 6.43304E-003
 Probability of Lateral Overlap ($P_y(0)$): 0.16441.
 - 2- Cairo FIR:
 Passing Frequency (n_{equiv}): 2.38668E-001
 Probability of Lateral Overlap ($P_y(0)$): 0.15226.
 - 3- Baghdad FIR
 Passing Frequency (n_{equiv}): 2.95343E-002
 Probability of Lateral Overlap ($P_y(0)$): 0.1658.
 - 4- Tehran FIR
 Passing Frequency (n_{equiv}): 4.18680E-002
 Probability of Lateral Overlap ($P_y(0)$): 0.14065.
 - 5- Amman FIR
 Passing Frequency (n_{equiv}): 4.13924E-002
 Probability of Lateral Overlap ($P_y(0)$): 0.13698
 - 6- Kuwait FIR
 Passing Frequency (n_{equiv}): 3.87258E-003
 Probability of Lateral Overlap ($P_y(0)$): 0.1716
 - 7- Beirut FIR
 Passing Frequency (n_{equiv}): Not enough traffic to measure
 Probability of Lateral Overlap ($P_y(0)$): 0.097463
 - 8- Muscat FIR
 Passing Frequency (n_{equiv}): 1.93820E-001
 Probability of Lateral Overlap ($P_y(0)$): 0.16611
 - 9- Jeddah FIR
 Passing Frequency (n_{equiv}): 2.13603E-002
 Probability of Lateral Overlap ($P_y(0)$): 0.14626
 - 10- Khartoum FIR
 Passing Frequency (n_{equiv}): 5.63241E-002
 Probability of Lateral Overlap ($P_y(0)$): 0.17548
 - 11- Damascus FIR
 Passing Frequency (n_{equiv}): 2.82413E-001
 Probability of Lateral Overlap ($P_y(0)$): 0.12441

12- Emirates FIR

Passing Frequency (n_equiv): 3.61452E-003

Probability of Lateral Overlap (Py(0)): 0.16116

13- Sana'a FIR

Passing Frequency (n_equiv): 2.39246E-001

Probability of Lateral Overlap (Py(0)): 0.17121

- c. Overall, the results are considered to be valid.

2.7.3 Pz(1000) Compliance

The Pz(1000) is the probability that two aircraft at adjacent RVSM flight levels will lose vertical separation due to technical height keeping errors. The value of the probability of vertical overlap Pz(1000), based on the actual observed ASE and typical AAD data is estimated to be of **5.207 x 10⁻¹⁰**

This value meets the Global System Performance Specification that the probability that two aircraft will lose procedural vertical separation of 1000ft should be no greater than **1.7x10⁻⁸**.

The MIDRMA continues to issue the minimum monitoring requirements (MMRs) through the automated MMR software which is programmed to address the MIDRMA member states with their updated requirements according to the latest RVSM approvals received, the MMR table valid for December 2021 is available in **Appendix B**.

Note: All member states are required to check and comply with their MMR through the MIDRMA website (www.midrma.com).

2.7.1 Conclusions on Technical Vertical Collision Risk:

- a. The current computed vertical-collision risk due to technical height-keeping performance meets the ICAO TLS.
- b. The probability of vertical-overlap estimate, Pz(1000), satisfies the global system performance specification.
- c. Most monitoring groups are complying with ICAO TVE component requirements (also known as technical height-keeping group requirements).

2.7.2 Recommendations for Safety Objective 1:

- a. The MIDRMA shall continue to review the content and structure of its aircraft monitoring groups (on going task).
- b. The MIDRMA will continue to keep the methods of calculating the technical CRM parameters and the risk due to technical height keeping errors under review and explore more options to enhance the MID Risk Analysis Software (MIDRAS),

Note: new project has started to include more features in the MIDRAS (will be presented to the MIDRMA Board meeting for approval).

- c. The MIDRMA shall carry out continuous height monitoring survey and investigation concerning aircraft flying within the MID RVSM airspace by collecting the TDS from member states offered to submit their RVSM TDS on a monthly basis.
- d. More MIDRMA Member states other than Bahrain, Iraq and UAE are encouraged to send their monthly RVSM traffic data to explore more possible violations to the MID RVSM airspace.

2.8 Assessment of overall risk due to all causes against the TLS of 5×10^{-9} fatal accidents per flight hour

RVSM 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 the MID RVSM airspace meets the ICAO overall TLS of 5×10^{-9} fatal accidents per flight hour.

The value computed for the overall risk is estimated 4.073×10^{-10} this meets RVSM Safety Objective 2.

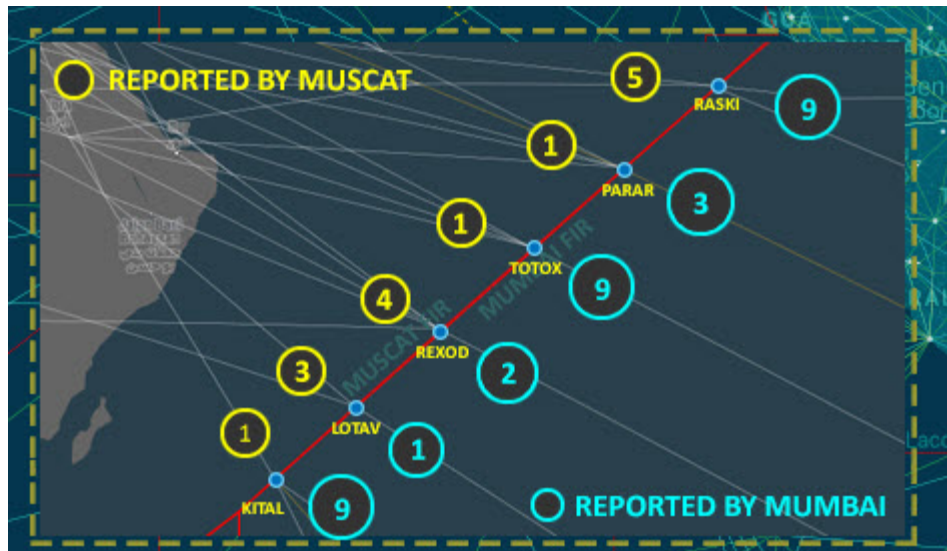
Overall Risk Values				
Year 2006	Year 2008	Year 2010	Year 2011	Year 2012/13
Not calculated	4.19×10^{-13}	6.92×10^{-12}	1.04×10^{-11}	3.63×10^{-11}
Year 2014	Year 2015	Year 2016	Year 2017	Year 2018
4.91×10^{-11}	7.351×10^{-10}	5.691×10^{-10}	4.518×10^{-11}	9.845×10^{-11}
Year 2019	Year 2020	Year 2021		
8.345×10^{-10}	5.206×10^{-10}	4.73×10^{-10}		

2.8.1 The vertical risk estimation due to atypical errors has been demonstrated to be the major contributor in the overall vertical-risk estimation for the MID RVSM airspace. In the previous SMRs the processed data were severely influenced by either NIL reporting of Large Height Deviations (LHDs) and very few reports of categories A, B, C, D, J and K as without enough data (especially from FIRs with high volume of traffic) will not reflect confidence with the final results.

2.8.2 The MIDRMA continues to monitor the LHD reports at the eastern FIR boundary of Muscat FIR filed by Mumbai, the MIDRMA indicated in SMR 2017 the level of LHD reports filed by Muscat and Mumbai ATCUs related to each other at their transfer of control points reached to a dangerous level and started to effect the ICAO TLS of RVSM implementation in the MID and APAC regions, therefore the MIDRMA requested from MIDRMA Board/15 meeting (Muscat – Oman 29 – 31 January 2018) to open a Safety Protocol for the purpose of resolving this issue as soon as possible.

2.8.3 Although, the traffic level reduced at the common FIR boundary points for Muscat and Mumbai, the MIDRMA can't see much improvement for SMR 2021 as the safety concern still exist and more works required from both ATCUs to close this safety protocol such as the implementation of OLDI/AIDC which is still ambiguous at this stage and required follow up from MIDANPIRG.

Note: A Safety Protocol is a critical safety issue effecting the implementation of RVSM operations which require the concerned authority an immediate action to rectify/resolve the problem in a certain period of time under the supervision of MIDRMA and ICAO MID Office.

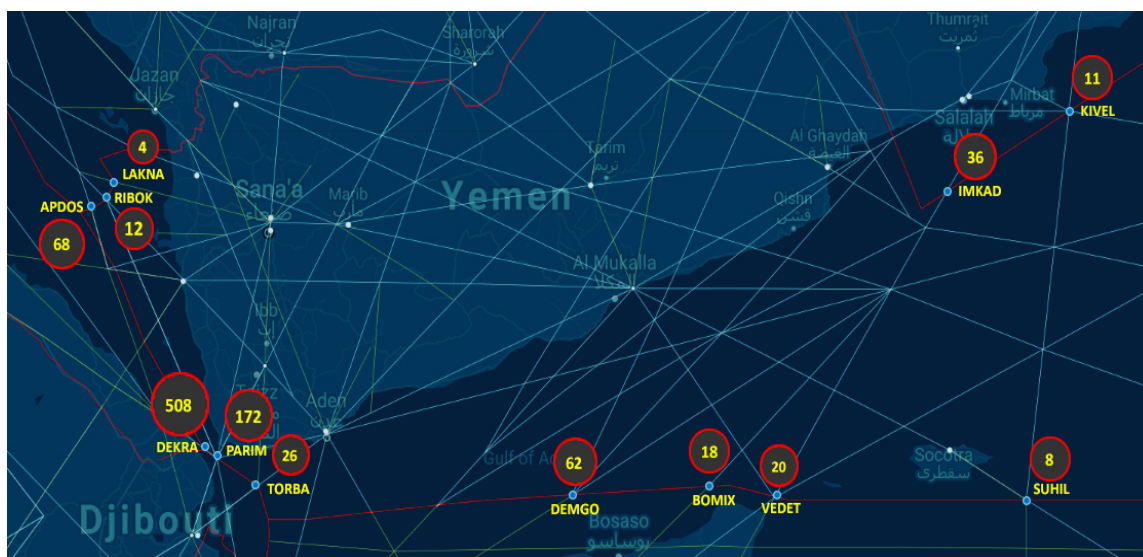


2.8.4 The Safety Protocol is under continuous review by MIDRMA and MAAR and the LHD reports filed by all concerned ATC Units are investigated and evaluated through the MIDRMA online LHD system and further update will be addressed to the next MIDRMA Board meeting.

2.8.5 The problem of the increased number of LHD reports submitted by Sana'a ACC related to some its neighboring ATCUs began to appear more than three years ago and did not improve even with the decrease in the number of air traffic in 2020 and 2021 due to the outbreak of the Corona pandemic, the MIDRMA is addressing this issue to the MIDRMA Board/17 to take all necessary measures to resolve this problem.

2.8.6 Through the evaluation review for the LHD reports valid for SMRs 2017, 2018, 2019 and 2020 the MIDRMA noticed very few Member States are investigating the reported LHDs related to their FIRs and reply with their outcomes/corrective actions. The meeting may wish to note that the Online LHD System has the feature to allow all Member States to forward their reports directly to the concerned focal points responsible to receive the LHD reports and allow them to reply with their outcomes in the same report which will be archived for future analysis.

2.8.7 The MIDRMA pointed out during the last Board meeting the issue of lack of response to the received LHD reports using the feature of direct response to the reporting unit to ensure that all responses are archived and referenced when needed. Unfortunately, the extreme majority of the Member States are not using this feature and don't bother to investigate and reply to the received LHD reports.



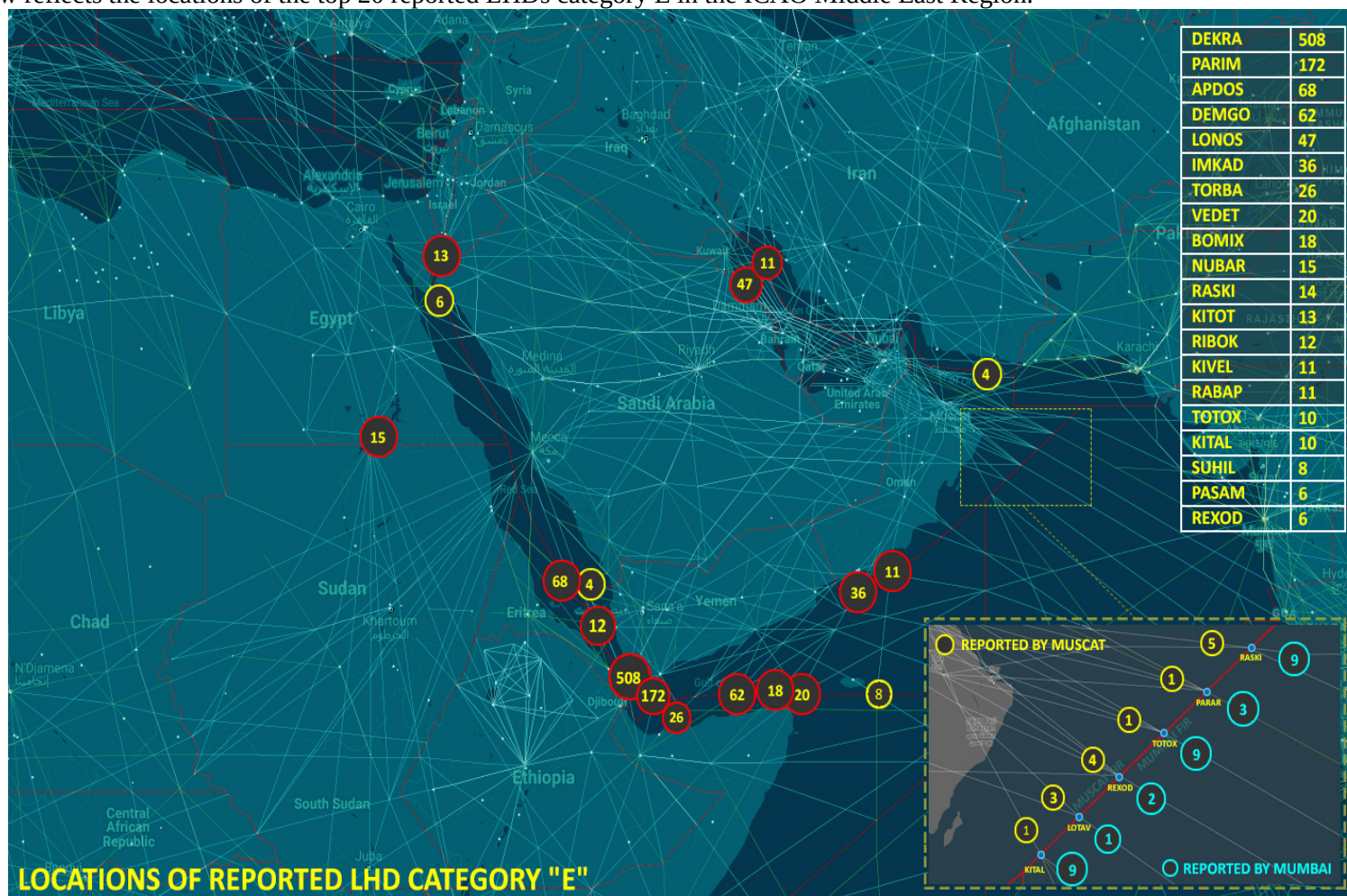
2.8.8 The Table below presents a summary of operational risk associated with Large Height Deviation (LHD) reports by LHD categories, these reports used to calculate the overall vertical collision risk for the MID RVSM airspace.

LHD Cat. Code	Large Height Deviation (LHD) Category	No. of LHDs	LHD Duration (Sec.)
A	Flight crew fails to climb or descend the aircraft as cleared	6	95
B	Flight crew climbing or descending without ATC clearance	-	-
C	Incorrect operation or interpretation of airborne equipment	-	-
D	ATC system loop error	-	-
E	ATC transfer of control coordination errors due to human factors	42	990
F	ATC transfer of control coordination errors due to technical issues	1	15
G	Aircraft contingency leading to sudden inability to maintain level	-	-
H	Airborne equip. failure and unintentional or undetected FL change	2	25
I	Turbulence or other weather related cause		
J	TCAS resolution advisory and flight crew correctly responds	1	5
K	TCAS resolution advisory and flight crew incorrectly responds	-	-
L	An aircraft being provided with RVSM separation is not RVSM approved	1	20
M	Other	-	-
	Total	53	1150

Summary of Operational Risk associated with Large Height Deviation Reports

MID RVSM SMR 2021

2.8.9 The picture below reflects the locations of the top 20 reported LHDs category E in the ICAO Middle East Region.



MID RVSM SMR 2021

2.8.10 Effects of Future Traffic Growth

For the second year, the Coronavirus outbreak and the relevant precautionary measures to limit its spreading are having clear impacts on human mobility at global scale. This provoked a reduction of domestic and international volumes of air passenger traffic worldwide, such effects are currently being observed in the Middle East region. This has clear implications for the aviation industry as well as indirect consequences to several sectors (e.g. tourism) and the economy at large as well as the society.

The MIDRMA continuously monitoring the traffic growth from the RVSM traffic data received on a monthly basis from Bahrain, Iraq and UAE and found the traffic growth compared with July 2020 has increased by 25% - 30% . These range from a quick and complete recovery to less optimistic scenarios of a slower or even incomplete recovery, and will depend on the duration and severity of the lockdown and the spread of this virus in the MIDRMA member states.

The effect of future traffic growth on the vertical collision risk can be evaluated on the assumption of a linear relationship between traffic growth and frequency of horizontal overlap, which will directly affect the two components of the risk: the risk due to technical height-keeping performance and due to atypical operational errors.

With the current uncertainty over traffic growth this issue will be revisited when the Middle East economic conditions return to more normal growth.

2.8.11 Conclusions on the overall vertical risk:

- a. 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 the MID RVSM airspace, estimated from the operational and technical vertical risks calculated with LHD reports from most of the member states, the computed result for this SMR is considered to be representative for the MID RVSM airspace.
- b. The effect of future traffic growth on the vertical collision risk can be evaluated on the assumption of a linear relationship between traffic growth and frequency of horizontal overlap, which will directly affect the two components of the risk: the risk due to technical height-keeping performance and due to atypical operational errors. It is very clear the MID region is suffering severe reduction in the traffic growth which is keeping the estimation of overall risk in safe side.

2.8.12 Recommendations Applicable to Safety Objective 2:

- a. The MIDRMA shall continue to encourage States to provide Large Height Deviation Reports (LHD) of all categories and not only related to handover issues.
- b. Due to the failure of replying related LHD reports by some member states, the MIDRMA will upgrade the LHD online reporting system to alert states who failed to respond with the need to investigate and report their outcomes in the system itself as soon as possible.
- c. The MIDRMA, in coordination with concerned States, assure that incidents and violations which have direct impact on the implementation of RVSM within the MID Region are reported in continuous basis through the MIDRMA LHD online reporting system in due time for operational safety assessment analysis.

2.9 ASSESSMENT OF SAFETY-RELATED ISSUES RAISED IN THIS REPORT

RVSM 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.

- a. The MIDRMA improved its monitoring capabilities by conducting trial ADSB Height Keeping Performance for some RVSM approved aircraft registered by MIDRMA member states.
- b. The MIDRMA started to build its database for the RVSM approved aircraft registered by MIDRMA member states which are capable of ADSB out to conduct height monitoring using AHMS (ADSB Height Monitoring System)
- c. The MIDRMA started to address Performance-Based Communication and Surveillance (PBCS) approvals request from member states issuing PBCS approvals and forward reports received from other regions related none compliant of PBCS requirements.
- d. The MIDRMA will address the Hot Spots of each MID FIR generated by the (MIDRAS) Software (for information only).
- e. Current risk-bearing situations have been identified by using the MIDRAS and the MID Visualization and Simulation of Air Traffic and action will be taken to ensure resolving all violations to RVSM airspace by non-approved aircraft.
- f. The MIDRMA continued to carry out scrutiny checks for aircraft filling W in their flight plans for all aircraft flying within the ICAO Middle East RVSM airspace and address all violating aircraft to the concerned authorities.
- g. The MIDRMA arranged for an upgrade project to enhance the MIDRAS which will improve and facilitate the calculation of all RVSM risk parameters.

-It is concluded that this Safety Objective is currently met.

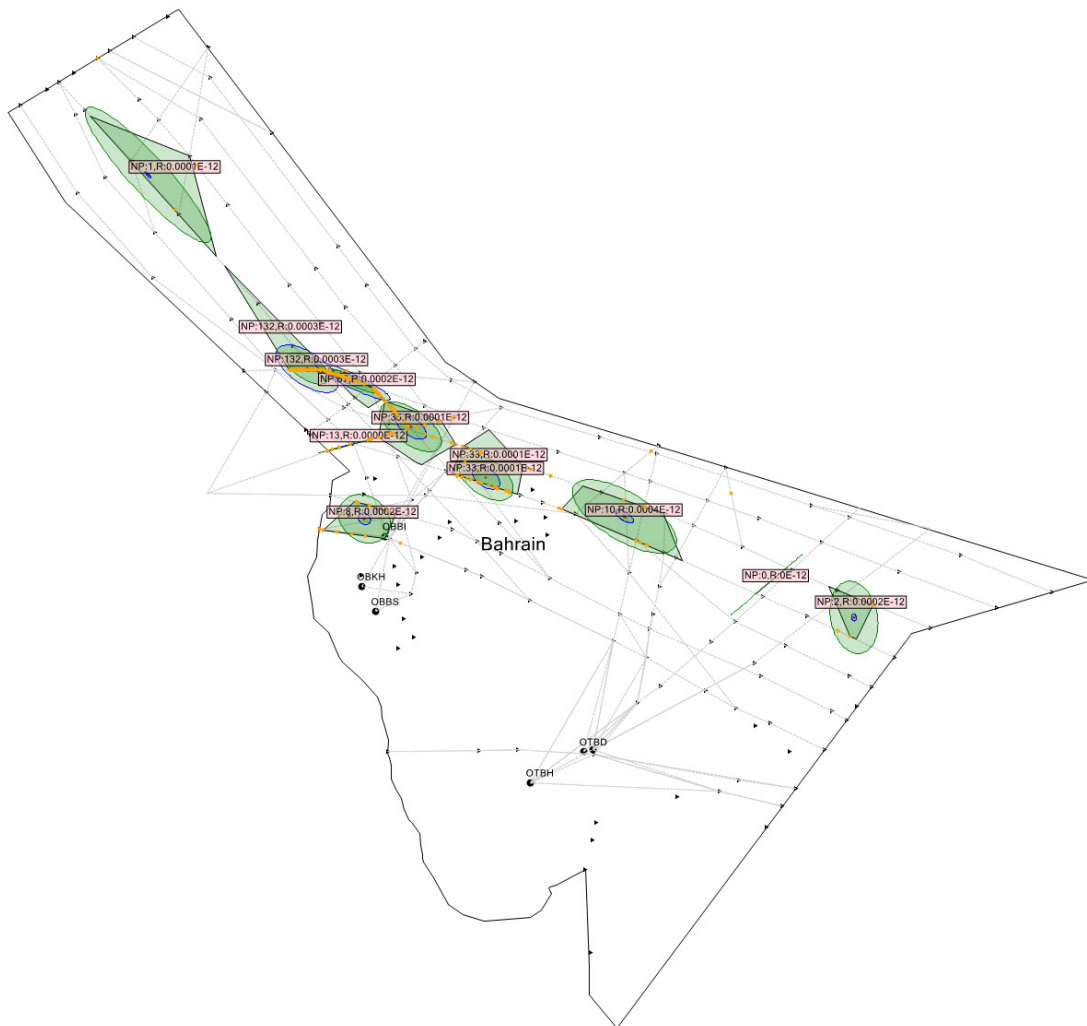
MID STATES RVSM AIRCRAFT MINIMUM MONITORING REQUIREMENTS

Valid as of 31st December 2021

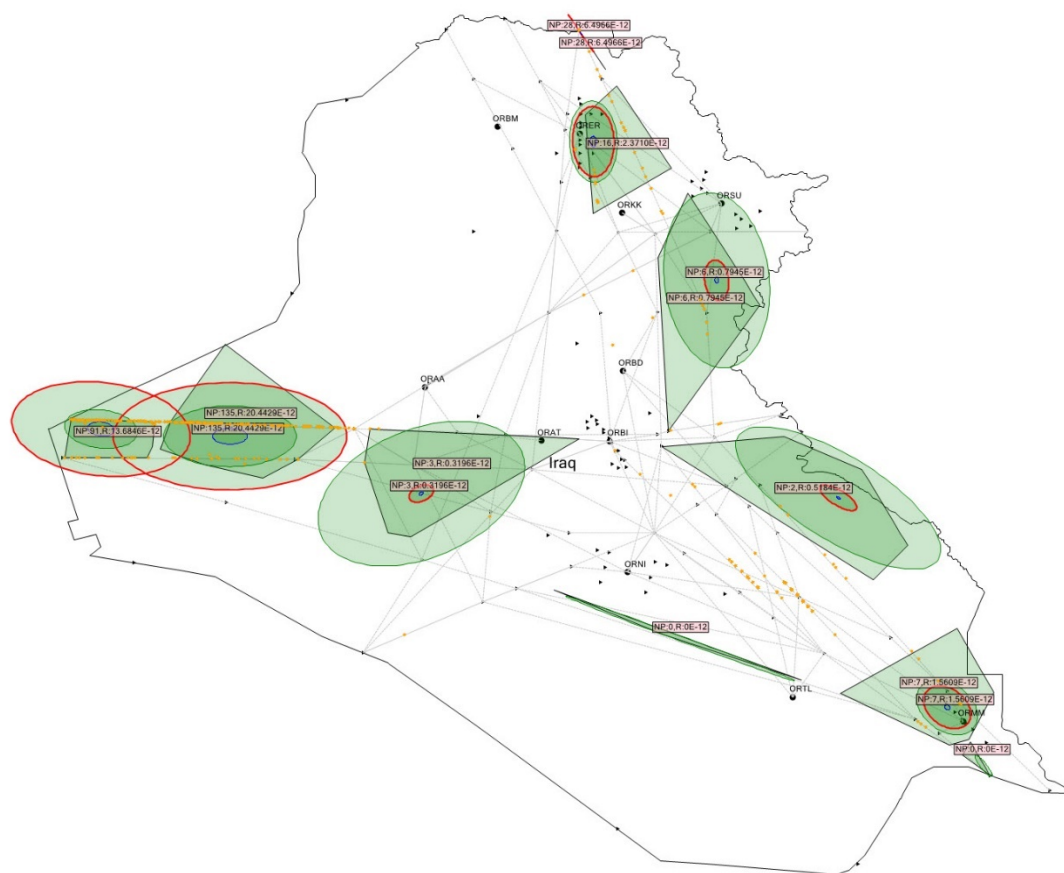
MID STATES	RVSM APPROVED A/C	HAVE RESULTS OR COVERED	NOT COVERED	NOT COVERED IN %	A/C MMR
Bahrain	60	60	0	0%	0
Egypt	156	113	43	28%	27
Iran	249	138	111	45%	36
Iraq	43	43	0	0%	0
Jordan	44	40	4	9%	4
KSA	259	257	2	0.8%	2
Kuwait	70	64	6	9%	5
Lebanon	32	32	0	0%	0
Libya	31	9	22	71%	15
Oman	72	63	9	13%	3
Qatar	276	276	0	0%	0
Sudan	10	10	0	0%	0
Syria	15	0	15	100%	9
UAE	584	529	55	9%	24
Yemen	5	0	5	100%	5
TOTAL	1906	1635	271	14.22%	130

Appendix B

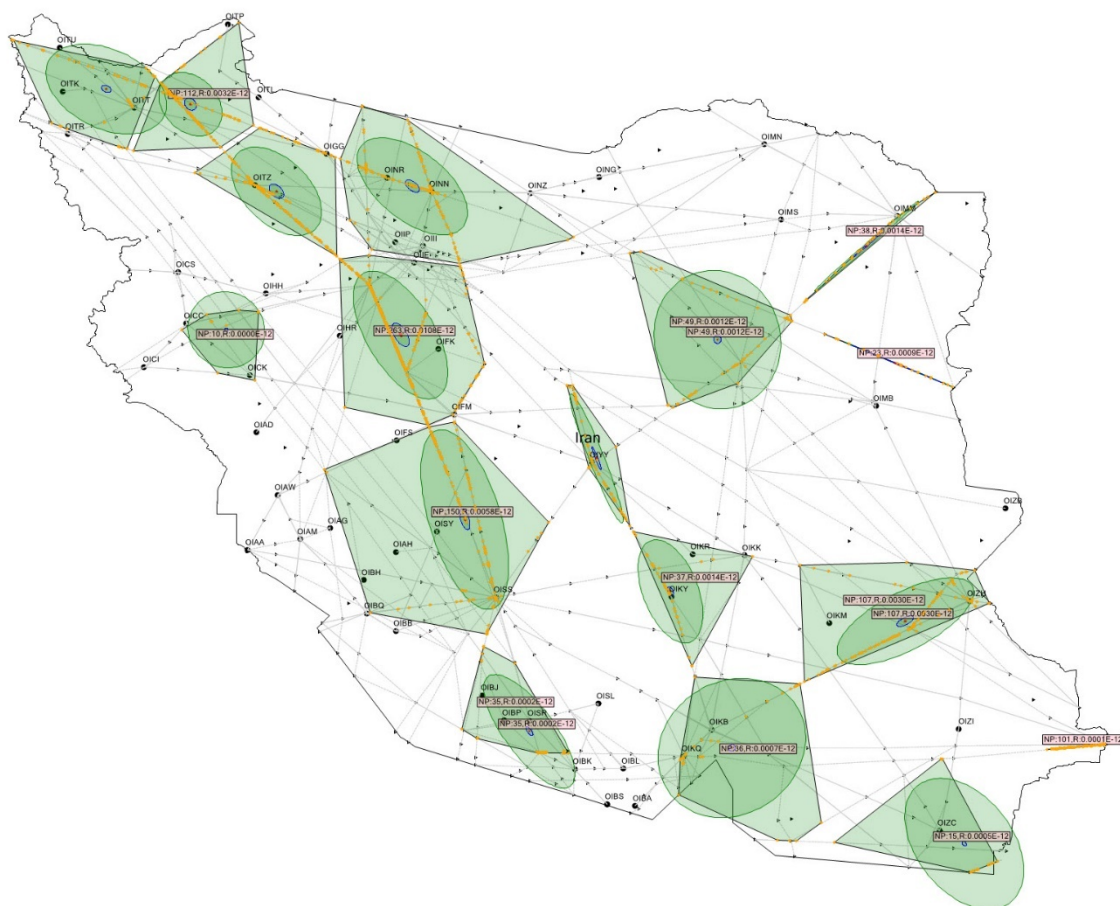
**MIDRMA Member States Hot Spots Generated from July 2021 TDS
(For information ONLY)**



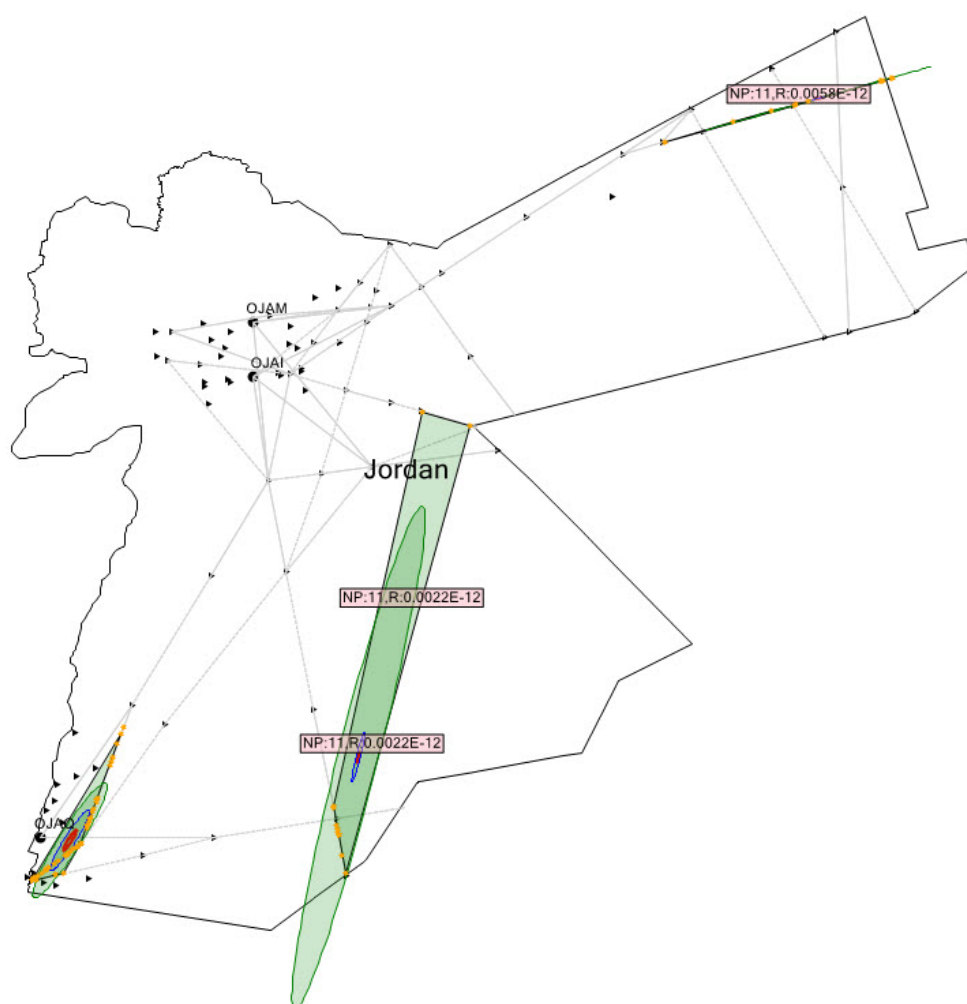
Bahrain FIR



BAGHDAD FIR



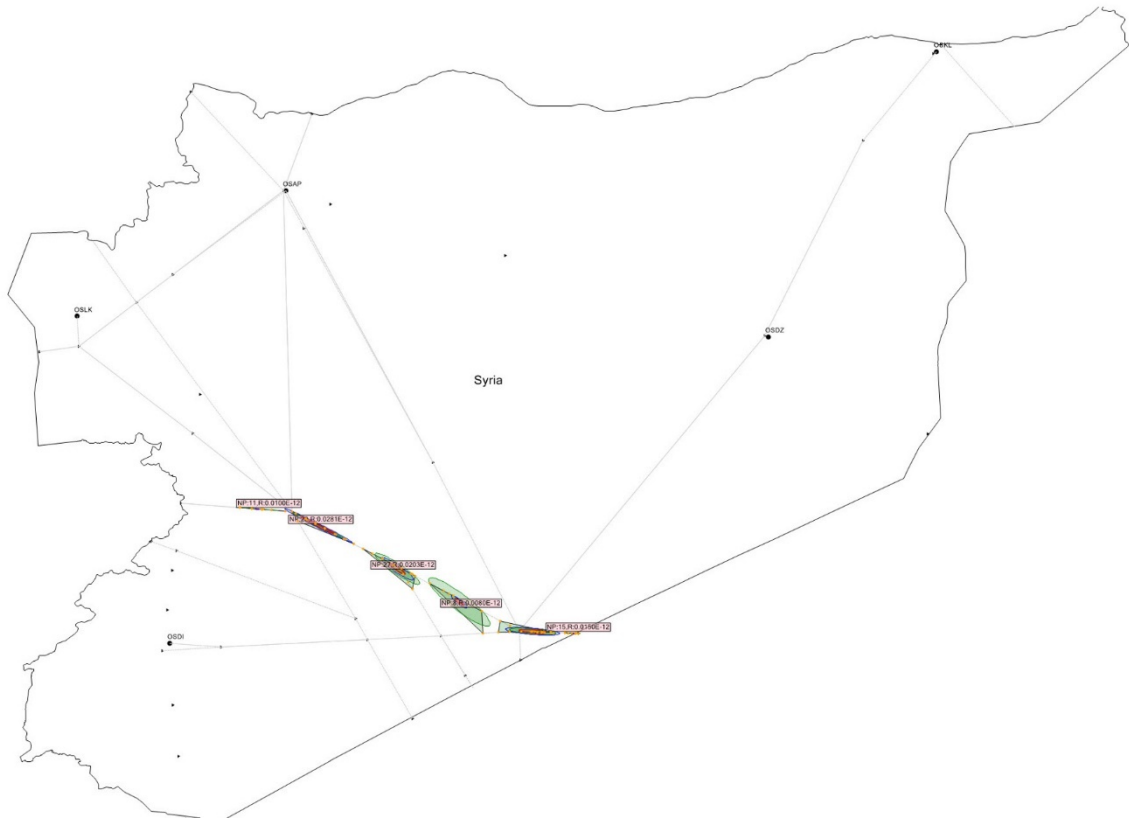
TEHRAN FIR



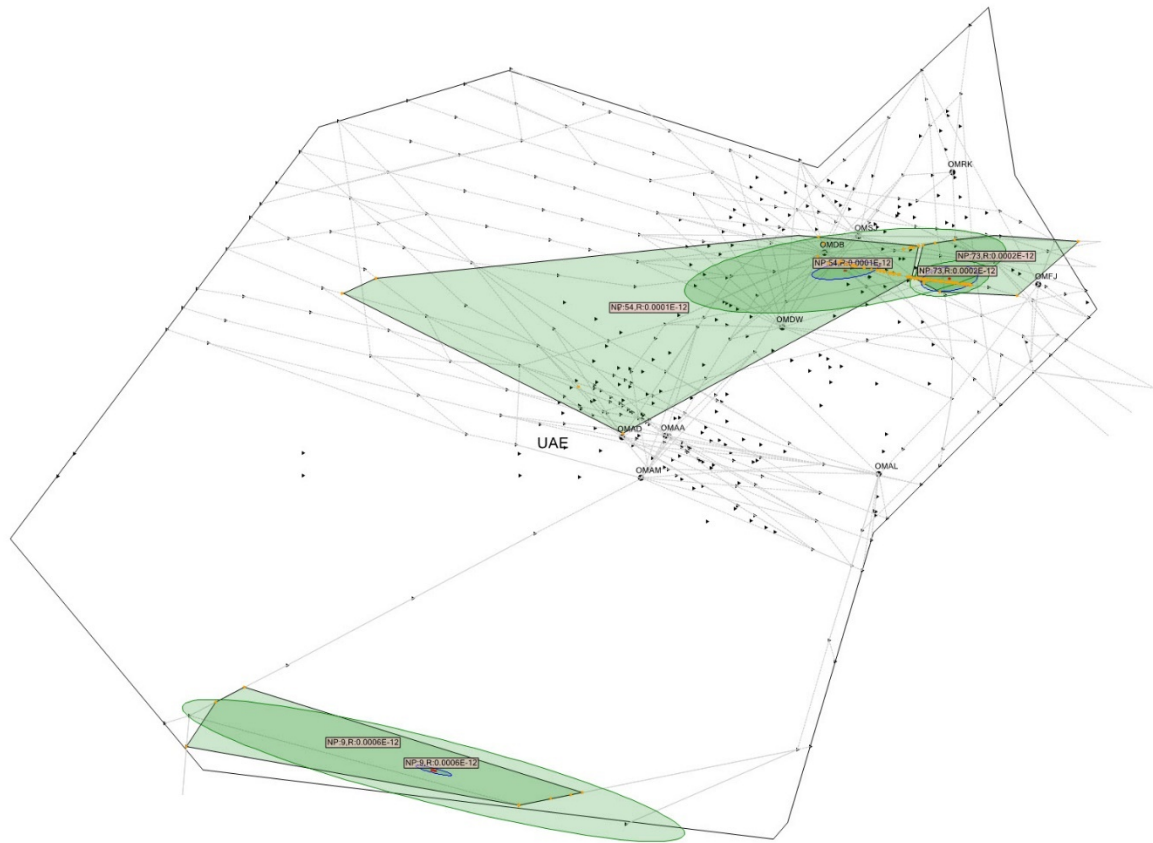
AMMAN FIR



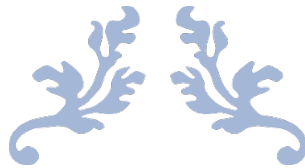




DAMASCUS FIR



EMIRATES FIR



BUSINESS CASE FOR THE MIDRAS UPGRADE PROJECT



FAREED ALALAWI
Middle East Regional Monitoring Agency
January 2022
V1.0

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INTRODUCTION

MID RMA Tasks and responsibilities

Given the continued growth in air transportation, one of the key challenges faced by Air Navigation Service Providers (ANSPs) and airlines is: how to increase airspace capacity without compromising aviation safety. New air traffic management (ATM) paradigms by ICAO aim for doubling the airspace capacity (2x) while increasing the safety by a factor of 10 by 2030. To achieve such ambitious targets, development of new operational concepts, safety measures and safety performance indicators in the air traffic system are not only expected but also necessary. Reduced Vertical Separation Minimum (RVSM) airspace which is ranging vertically from 29,000 feet (FL290) to 41,000 feet (FL410), reduces the vertical separation from 2000 feet to 1000 feet, adding 6 extra flight levels. To maintain the safety and integrity of airspace stringent procedures by ICAO are in place. To achieve these measures, MIDRMA has developed MIDRAS software for collision risk assessment of Middle East airspace. This software uses ICAO RGCSP Vertical Collision Risk Model for collision risk computation. The ICAO model is based on knowledge of the traffic flows along a given route structure. The software computes Collision Risk equation parameters; and processes flight data for each member State to compute Collision Risk. The MIDRAS software also provides an interactive interface for collision risk visualization, simulation, modelling of scenarios and Hot-Spot analysis.

The need for MIDRAS upgrade business-case

This study provides Member States and the MIDRMA Board the scope of work for the upgrade of MIDRAS, based on the identified needs, weaknesses and associated benefits and costs, to support the decision making process.

Structure of the business-case

The business-case is developed in three Sections, as follows:

Section One: Current status and the need for the upgrade.

Section Two: MIDRAS Upgrade Project Costs and Benefits.

Section Three: The value of the Upgrade Project.

SECTION ONE:

History and status of the Current software/tool

The development and procurement of the current version of the MID Region Risk Analysis Software (MID RAS) was approved by the MIDRMA Board/11 (Cairo, 27 – 29 September 2011). Since then, the software has been used by the MIDRMA team to develop all the MID RVSM Safety Monitoring Reports (SMRs).

The MIDRAS software is a customized tool that integrates the ICAO standards and models for collision risk calculations and provides an interactive interface for collision risk analysis, scenario planning, Hot-Spot analysis and fast-time air traffic simulation. The functionality of the software is based on the methodologies adopted by the MIDRMA to calculate the RVSM Safety parameters for the development of the SMRs based on the Traffic Data Sample (TDS) provided by the MID States.

Additionally, the current version of the software uses the Aircraft performance criteria issued and updated by EuroControl; however, the EU has recently decided to not support this information any more, which leaves the MIDRAS with outdated aircraft performance data, and not including any new aircraft types. This obliged the MIDRMA team to add the required data manually along with other manual inputs required to present the mathematical results in geo-referenced graphs.

On the other hand, the MIDRMA receives the TDS from MID States on periodic basis, and it has been identified that the TDS has been continuously submitted with issues related to the accuracy and continuity of the traffic trajectory information, which represents the foundation of the development of the SMR. Therefore, a lot of extra efforts by the MIDRMA team is required to identify the issues and make necessary corrections in coordination with concerned States, which requires a lot of extra time.

Furthermore, frequent changes in the dynamics of the Regional and International traffic flows within the Region, different Airspace reconfiguration, increased congestion and variation on the demand, have been observed; therefore, the MIDRAS software needs significant upgrades to keep pace with these developments.

Note: the current software was subject to different minor updates, mainly related to periodic maintenance and compatibility issues with the other platforms (like for example newer MS. Windows versions, security updates, etc.).

The need for upgrade

Based on the above; the MIDRMA Team, despite the 10 years of extensive work on the current software version, has faced several issues that necessitates a lot of extra efforts and time to overcome, which led in several occasions to delays in the development of the SMR.

Based on the experience gained, the MIDRMA team identified the issues/weaknesses and required mitigation measures including the modifications/upgrades of the MIDRAS and associated benefits and costs, in coordination with the MIDRAS developer and his team. Accordingly, the developer

proposed an offer for the upgrade of the software that will support the MIDRMA team and increase efficiency.

Upgrade Project Framework (Scope of work)

The MIDRAS necessary upgrades that have been identified include the followings (Scope of Work):

- 1- New Hot-Spot Detection and Visualization model.
- 2- Congestion areas Analysis.
- 3- Updating aircraft types performance database.
- 4- Enhanced risk parameters calculations.
- 5- Autocorrect Member States Traffic Data Samples (TDS).
- 6- Enhanced Geographical presentation of the mathematical results.
- 7- Top of Decent analysis.
- 8- Airway Occupancy statistics and analysis.
- 9- Other necessary technical features requested by the MIDRMA to help tracing errors, crashed registry errors and guidance to spot exceeded TLS in any RVSM airspace in the Middle East Region.

Upgrade Project Goals and Objectives

The new features and upgrades listed above will enable the MIDRMA to conduct effective analysis of collision risk in the Region and gain new insights into emerging traffic dynamics; this will support the States and ANSPs in the Region to enhance the Airspace management measures.

Scope of Work and Work Packages (WP) and Deliverables

The Upgrade Project is planned to be divided into three Work Packages as follows:

Work Package 1: New Features in MIDRAS

This work package will develop the new features in MIDRAS software using Artificial Intelligence. This will include:

1. A new Hot-Spot Detection and Visualization model,
2. Top of Decent analysis,
3. Airway Occupancy statistics and analysis,
4. A new metrics for Congestion analysis.

5. A tool to develop Target Level of Safety Collision Risk Graph generation and display capabilities, along with video recorder built-in the MIDRAS AI software.

WP2: Upgrades to MIDRAS

This work package will upgrade some existing capabilities in MIDRAS software. Such upgrades will include:

1. Automated Flight input data correction.
2. Automated speed/distance errors fixes.
3. Extended interactive features in terms of Zoom and Pan.
4. Time control feature for MIDRAS air traffic simulation tool, which can help user to choose the simulation speed.

Such upgrades will allow MIDRAS users to speed up the data processing, and reduce the need for manual intervention for data entry, thanks to the AI algorithms/features. This will allow for better traffic flow analysis and greater understanding of collision risk at crossing points; and overall enhanced efficiency and accuracy.

WP3: Correction to MIDRAS

This work package will modify existing features due to changes in the business rules for dealing with RVSM flights entering and exiting at non-RVSM levels. The correction will also include revising data inputs files such as BADA file, related to aircraft performance criteria used in MIDRAS (outdated and requires manual interventions/corrections).

In addition, further to the numerous changes in Middle East airspace redesign/reconfiguration since the development of MIDRAS, there is a need to update the software and its databases to keep pace with these developments, including the improvement of the features/functionalities, which allow the users (MIDRMA) to do the necessary updates by themselves (without the need of the developer every time there are changes). Moreover, there is a need to improve the quality of the error messages generated during the process (to be more detailed and accurate, so that the exact issue could be identified and dealt with more easily, which will again save a lot of time and efforts by the MIDRMA team).

Upgrade Project Deliverable

The followings are the key deliverables of the project:

1. MIDRAS Software with New Hot-Spot identification and traffic congestion visualization model.
2. MIDRAS Software with updated Input/output files, Graph display and Error handling capabilities.
3. MIDRAS Software with new business rules for flight plan processing and data analytic features.

SECTION TWO:

MIDRAS Upgrade Project Costs and Benefits

The MIDRAS upgrade will, inter alia, enable the MIDRMA to shorten the duration of the SMR development period from 50 – 60 days to 10 days, and will significantly reduce contacts with Member States having problems with the submitted TDS. The upgrade will include also improved graphical display, which will enable all those requesting technical information/clarification to understand the results in a much easier manner.

Upgrade Project Direct Cost:

The direct cost is mentioned in the third section of the business-case, including all the upgrade works, consultation and training services. It is to be highlighted in this respect, the upgrade of the network connections will be carried out by Bahrain CAA with no financial cost.

Upgrade Project Indirect Cost

There is no anticipated further cost involved for this upgrade project; all hardware, utilities and manpower already used by MIDRMA in the current arrangement of MIDRAS will be sufficient to meet the new features in the MIDRAS upgrade.

Upgrade Project Intangible Cost

The foreseen intangible cost of this upgrade project is the time and efforts by the MIDRMA Team to follow up the progress of the upgrade working packages with the developer and the work required from their side related to training and validation of the new MIDRAS version.

Upgrade Project Competitive Cost

MIDRAS is a unique software developed to enhance the results of the ICAO Collision Risk Model specially tailored to the MID RMA functions. The Regional Monitoring Agency Coordination Group (RMACG) was apprised of the MIDRAS functionalities and impressed with its performance. The upgrade is a continuation of MIDRMA's success in calculating the ICAO RVSM TLS with high efficiency, and it can encourage other RMAs to follow the MIDRMA's footsteps.

SECTION THREE:

Total Value of the Upgrade Project

The total cost of the received offer for the upgrade project is **USD 100,700.00** (One Hundred Thousand and Seven Hundred US Dollars) this amount will be supported from the net profit generated by the MIDRMA team from conducting RVSM height monitoring activities and will not burden the MIDRMA's budget.

Upgrade Project Timeline

The Work-packages for the upgrade project mentioned in the first section will start concurrently depending upon the architecture of the software and related activities in respective work packages. There can be significant overlaps in the work packages given the nature of the project, which may require the output of one work-package as input to others.

The expected duration of the project is Six months (after the signature of the contract).

SUMMARY

In summary, the MIDRAS is a custom-made analysis software/tool that has been used by the MIDRMA for the past 10 years. Based on the experience gained by the MIDRMA team, and to keep pace with developments and increase efficiency, an upgrade of the MIDRAS deemed to be necessary. The software developer provided an offer addressing all the identified issues and necessary enhancements. The revenue generated by the MIDRMA monitoring activities are largely covering the required costs for the upgrade. The upgraded version will enhance the deliverables of the MIDRMA according to its functions, and will reduce the time and efforts needed to develop the safety analyses and enhance the Airspace planning of the concerned States and ANSPs. Overall, the new MIDRAS version will contribute to an improved efficiency; and the cost-savings in terms of man power will cover in a relatively short period this investment; in addition to the benefits accrued from the new functionalities/features, including those using Artificial Intelligence (AI).

ATTACHMENTS

Attachment A: Proposed “Project Agreement MIDDLE EAST RISK ASSESSMENT SOFTWARE SYSTEM UPGRADE” by Dr. Sameer Alam.

APPENDIX 4.2A

FOLLOW-UP ACTION PLAN ON RASG-MID/8 CONCLUSIONS AND DECISIONS

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 8/1	9TH ASR That, the Ninth MID Annual Safety Report is endorsed and be posted on the ICAO MID Website.	Sharing the final 9th MID-ASR for the period 2015-2019 with identified safety priorities	MID-ASR 9th Edition published on the ICAO website	RASG-MID/8	Feb 2021	Completed
C. 8/2	SHARING OF SAFETY DATA ANALYSIS That, in order to present an improved version of the 10 th MID-ASR to the MID-ASRG/3 meeting, States, be urged to provide the ICAO MID Office by 30 April 2021 with the number of accidents, serious incidents and incidents, safety data analysis/information, and their associated safety recommendations for the occurrence categories listed in Appendix 4.2D for the past 5 years (2016 – 2020), using the Template in Appendix 4.2E	Collection of safety data for a Harmonized database	Safety data analysis for development of ASR	States	31 May 2021	Completed SL ME4 & ME4/1.6-21/033 dated 18 March 2021 Reminder: 29/4/2021 (Replies: Iran, Iraq, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, UAE, and Yemen)
C. 8/3	MID-RASP 2020-2022 EDITION That, the MID-RASP 2020-2022 Edition is endorsed and be posted on the ICAO MID Website.	Compliance with Assembly Resolution A40-1	MID-RASP 2020-2022 EDITION published on the ICAO website	RASG-MID/8	Feb 2021	Completed

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 8/4	NATIONAL AVIATION SAFETY PLAN (NASP) That, a) be requested to establish a NASP in line with the GASP, MID-RASP, ICAO Doc 10131 and Circular 358; and considering the operational safety needs identified at National level; b) nominate NASP' Focal Points to provide progress/update on the development and implementation of their NASPs; c) consider the recommended MID-RASP SEIs for inclusion in their NASPs, as appropriate; d) be encouraged to participate in the series of webinars on the GASP and NASP implementation organized by ICAO; e) be encouraged to share their experiences related to the development and implementation of their NASPs during the MID NASP Webinar/Workshop to be organized end of 2021 or beginning of 2022; and f) provide a progress report on the development and implementation of their NASPs for presentation to the RASG-MID/9 meeting	Compliance with Assembly Resolution A40-1	State Letter	ICAO States	April 2021 SL FS 1/2 – 21/048 dated 5 April 2021 Reminder: 5/5/2021 <i>(Replies: Bahrain, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan and Syria)</i>	Actioned
D. 8/5	TERMS OF REFERENCE OF THE SEIG That, the Terms of Reference of the SEIG at Appendix 4.2F are endorsed.	TORs	RASG-MID/8	ICAO	Feb. 2021	Completed

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No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 8/6	RASG-MID CART IMPLEMENTATION PLAN OF ACTIONS That, the RASG-MID CART Implementation Plan of Actions at Appendix 4.2G is endorsed,	Support implementation of the MID CART Implementation Plan	RASG-MID CART Implementation Plan of Actions	RASG-MID/ICAO MID	Feb. 2021	Completed
D. 8/7	FREQUENCY OF THE RASG-MID MEETINGS That, the RASG-MID meetings be organized on an annual basis concurrently with the MIDANPIRG in an in-person setting, unless decided otherwise (the meetings could be organized in a virtual or hybrid setting, if decided so by the Groups, considering the circumstances, availability of host, resources, global and regional developments, feedback from States and progress and outcomes of the Groups).	Compliance with new ToRs approved by the President of the Council	Enhancement of RASG-MID work arrangement	RASG-MID	Feb. 2021	Completed
D. 8/8	DISSOLUTION OF THE RSC That, a) the RSC is dissolved; and b) the RASG-MID Organizational Structure be updated as at Appendix 4.3A .	Compliance with new ToRs approved by the President of the Council	Enhancement of RASG-MID work arrangement	RASG-MID	Feb. 2021	Completed Since RASG-MID will meet on an annual basis and considering that the membership/composition of the RSC is identical to that of RASG-MID, the RSC was dissolved

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
D. 8/9	RASG-MID TERMS OF REFERENCE (ToR) That, the RASG-MID Terms of Reference (ToR) be amended as at Appendix 4.3C , in line with the Generic TOR of RASGs approved by the President of the Council on 7 August 2020.	Compliance with new ToRs approved by the President of the Council	Amended RASG-MID TOR	ICAO	Feb. 2021	Completed
D. 8/10	FOURTH EDITION OF RASG-MID PROCEDURAL HANDBOOK That, the ICAO MID Office, in coordination with the RASG-MID Chairpersons, develop a new Edition of the RASG-MID Procedural Handbook, for presentation to and endorsement by the RASG-MID/9 meeting.	Compliance with new ToRs approved by the President of the Council	New Edition of the RASG-MID Procedural Handbook	ICAO	RASG-MID/9 meeting	Completed The Fourth Edition of the RASG-MID Procedural Handbook has been endorsed by RASG-MID/9 meeting.

LIST OF OCCURRENCE CATEGORIES TAXONOMY

Scope: State of Occurrence

The data to be collected be based on scheduled commercial operations involving aircraft having a Maximum Take-off Weight (MTOW) above 5700 kg.

Occurrence Category	ADREP/CICTT taxonomy	Remarks
Runway Excursion (RE)	Veer off or overrun off the runway surface.	
Abnormal Runway Contact (ARC)	Any landing or take-off involving abnormal runway or landing surface contact.	
Loss of Control-Inflight (LOC-I)	Loss of Control while, or deviation from intended flight path, in flight.	
Controlled Flight Into Terrain (CFIT)	Inflight collision or near collision with terrain, water, or obstacles without indication of loss of control.	
MID Air Collision (MAC)/ NMACs	Airprox/TCAS Alerts, Loss of separation as well as NMAC or collisions between aircraft inflight.	
Fire/Smoke (F-NI)	Fire or smoke in or on the aircraft, in flight, or on the ground, which is not the result of impact.	
Runway Incursion (RI)	Any occurrence at aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for landing and takeoff of aircraft.	
System Component Failure –Non-Power Plant (SCF-NP)	Failure or malfunction of an aircraft system or component other than the power plant.	
Turbulence Encounter (TURB)	In-flight turbulence encounter.	
Birdstrike (BIRD)	Occurrences involving collisions/near collisions with bird(s).	
Navigation Errors (NAV)	Occurrences involving the incorrect navigation of aircraft on the ground or in the air	
System Component Failure- Power Plant (SCF-PP)	Failure or malfunction of an aircraft system or components related to the power plant.	

Security related (SEC)	Criminal/Security acts which result in accidents or incidents (per Annex 13 to the Convention on International Civil Aviation).	
Wind shear	Flight into wind shear or thunderstorm	

NB: States may share any other occurrence category or national safety concern.

TEMPLATE FOR THE COLLECTION OF ACCIDENT, SERIOUS INCIDENT AND INCIDENT DATA AND SAFETY ANALYSIS

Name of State:

1- **Occurrences:** *The data to be collected be based on scheduled commercial operations involving aircraft having a Maximum Take-off Weight (MTOW) above 5700 kg.*

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11	Navigation Errors (NAV)															
12	System Component Failure- Power Plant (SCF-PP)															
13	Security related (SEC)															
14	Wind shear															

States should provide the number of accident, serious incidents, and incidents related to each category mentioned in the template above for the past five years (2017-2021)

Scope: State of Occurrence

2- Brief- Safety data Analysis (root-cause analysis, trends, etc.)

3- Identified Top Five safety risks

4- Safety mitigations/Recommendations

Safety Actions- Consolidated List of SEIs with their respective Actions

SEI Code	SEI name	Actions	Owner(s)	Status/Progress	Completion date
Organizational Challenges and Emerging Risks					
Goal 2: Strengthen States' Safety Oversight Capabilities					
G2-SEI-01:	Strengthening of States' Safety Oversight Capabilities	A1- Conduct Capacity Building Activities (Workshops, Training, Webinars, GSI Courses) to promote effective implementation of SARPs, with a focus on the following technical areas: ANS, AGA, and OPS	ICAO	USOAP-CMA webinar conducted on 11 Feb 2021	2022
		A2- Conduct technical assistance and NCLB missions to States	ICAO		2022
		A3- Develop and implement a specific NCLB plan of actions	ICAO and concerned States		2022
G2-SEI-02:	Improve Regional Cooperation for the Provision of Accident & Incident Investigation	A1- Development and signature of the MOU among MENA ARCM States	ICAO, ACAO, and States (TBD)	. The AIIG/1 virtual meeting reviewed the MENA ARCM MoU draft and proposed to be presented to the 5 th DGCA-MID for endorsement. The ARCM MoU endorsed by the 5 th DGCA-MID virtual meeting and has been circulated to the States for signature.	2022
		A2- Conduct AIG Capacity Building Activities	ICAO and ACAO	Aircraft Accident and Incident investigation workshop to be held in Morocco 28 Feb-1 March 2022. Joint event ACAO/ICAO.	2022
G2-SEI-03:	Sharing of Safety Recommendations related	A1- Development of questionnaire to be circulated to MENA States on sharing	ICAO, ACAO, and States (KSA &	The AIIG/1 virtual meeting agreed	2021

	to Accidents and Serious Incidents	safety recommendations on dedicated platform	UAE)	to establish a repository for MENA ARCM Member States to allow sharing and analysis of their safety recommendations and accordingly, the meeting reviewed the draft questionnaire and agreed to its presentation to the RASG-MID/9 meeting for endorsement.	
G2-SEI-04:	Enhance State Oversight on Dangerous Goods	A1- Dangerous Goods (DG)workshop for States 'inspectors	ICAO and ACAO. Supported by FAA	1. Joint ACAO/ICAO Dangerous Good Webinar has been held on 8 Nov 2021. 2. Joint event ACAO/ICAO Dangerous Goods Workshop back to back with Ground handling workshop planned to be held in Casa Blanca during 13-16 Nov 2022.	2022
		A2- Develop guidance material/share best practices to support States' inspectors for the conduct of the oversight for DG	States (Bahrain, Sudan, and Oman)	. To develop a guidance and be presented to SEIG/4 for review.	2022
		A3- Develop guidance material and providing webinar high energy devices	IATA	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022
		A4: Organize DG capacity building training	ICAO		2022

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G2-SEI-05:	Human factors and Competence of Personnel	A1- Advisory Circular: Crew Resource Management Training Programme (CRM). (Action addressed under G1-SEI-04:CFIT)	IATA	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022
		A2- Organize Crew Resource Management Training workshop to share experience and best practices on CRM practical implementation	ICAO and ACAO. Supported by IATA and KSA. KSA: presentation/case study to be delivered by a subject matter expert (HF Investigator). FAA to be confirmed	Crew Resource Management (CRM) Workshop back to back with Team Resource Management (TRM) workshop planned to be held 19-23 June 2022. Joint ACAO/ICAO event and to be supported by KSA, CANSO, FAA and IATA	2022
		A3- Conduct workshop/webinar on fatigue risk management and mental Health best practices	IATA and ACAO. Supported by CANSO, IFALPA, Jordan, and KSA.	1- IATA will provide the tentative dates on Jan 2022 or Q1 2022 2- An online workshop conducted on FRMS jointly by ACAO and CAAS/SAA from 20 to 24 Sep 2021.	2022
		A4- Organize Team Resource Management Training workshop to share experience and best practices on TRM practical implementation	ICAO, ACAO, IATA, CANSO, FAA, and States (TBD)	Crew Resource Management (CRM) Workshop back to back with Team Resource Management (TRM) workshop planned to be held 19-23 June 2022. Joint ACAO/ICAO and supported by FAA and IATA	2022

G2-SEI-06:	Impact of security on safety	A1- Circulate ICAO Doc 10084 Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones	ICAO	SL issued by ICAO July 2021. Completed	2021
		A2- Organize seminar/Symposium to exchange experiences and good practices on assessing the risks and sharing of information related to the overflying of conflict zones in coordination with RASFG-MID and MIDANPIRG	ICAO and ACAO. Supported by IATA, CANSO, States (TBD)	Coordination on-going and planned to be included in ICAO MID Office tentative schedule 2022	2022
		A3- Encourage States to issue NOTAMs to share threats information emanated from conflict zones within their airspaces	ICAO	Maintained as planned and will be issued Dec 2021.	2021
		A4- AIM forum NOTAM standardized template.	ICAO and IATA		2022
Goal 3: Ensure the Appropriate Infrastructure is available to Support Safe Operations					
G3-SEI-01:	Certification of International Aerodromes	A1- Support States on the implementation of the ICAO Annex 14 requirements to achieve compliance with regards to Aerodrome Design and Operations, through Workshops/Training	ICAO and ACI. Supported by ACAO	1. Training course conducted on implementing Annex 14, during period of 8-12 Nov2020 2. Online Workshop on airport certification conducted by ACAO during the period 25-28 Oct 2021	2022
		A2- Enhance capacity building for States CAAs and Airport operators related to aerodromes certification through Workshops/Training	ICAO and ACI	Conducted training on aerodrome certification 15-19 Nov 2021	2022
		A3- Develop guidance material/ share best practices on Apron Management	States (UAE and Egypt)	Reviewed by ASPIG and be presented for endorsement by the RASG-MID/9	2022
		A4 – Deployment of iPack on Aerodrome Re-Start	ICAO	iPack for Aerodrome Restart deployment is on-going for Syria.	2022
G3-SEI-02:	Establish Runway Safety Team (RST) at International Aerodromes	A1- Conduct of assistance missions by the Runway Safety Go-Team (RST)	ICAO. Supported RSP (Runway Safety Programme)	Coordination on going	2022

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			Partners)		
		A2: Support States to implement the Global Reporting Format Methodology through workshops/trainings: (Action addressed under G1-SEI-02: Runway Excursion)	ICAO and ACI. Supported by CANSO, IATA, FAA and Aircraft Manufactures	1.Webinar has been conducted on 27 Oct 20 2.ACI webinar on Implementing GRF at airports with non-winter conditions; dated 27 May 2021 3. Five customized training on GRF implementation conducted.	2022
Goal 4: Expand the Use of Industry Programmes					
G4-SEI-01:	Promote the Use of industry Programmes	A1- Encourage IATA’s IOSA and ISAGO registrations through safety promotion	IATA	6 States signed the MoU 2 potential States to be added to the list 2022	2022
		A2- Encourage the implementation of ACI Airport Excellence (APEX) in Safety Programme	ICAO and ACI	Coordination on Going with ACI	2022
Goal 5: Implementation of Effective SSPs and SMSs					
G5-SEI-01:	Implement an effective Safety Management	A1- Conduct ICAO SSP training course in Cairo	ICAO	SSP course planned for 6-11 March 2022	2022
		A2- Conduct SSP Workshop in coordination with ACAO in Casablanca, Morocco	ICAO and ACAO	1. ACAO/ICAO SSP Implementation Workshop planned 23-27 May 2022. 2. An Event Risk Assessment webinar was delivered on 7 June 2021organised by ICAO MID Office	2022
		A3- Provide SSP/SMS workshops for MID States personnel	ICAO. Supported by IATA, CANSO, ACI, and States (UAE)	1.SSP workshop conducted in Kuwait in March 20. 2.SMS implementation training online course jointly with Singapore CAAS 7-11 Feb 2022	2022
		A4- Develop guidance material/share best practices on occurrence reporting for the CAA personnel on establishing an	States (UAE)	Draft to be completed by Q 1 2022 and be presented to SEIG/4 for	2022

		effective operation of the mandatory and voluntary reporting systems		review	
		A5- Support and guide States in the development of NASPs through workshops and sharing of best practices	ICAO and States (UAE)	1. ICAO organized series of RASP webinars. - MID-RASP Webinar conducted by ICAO on 25 May 2021 2. ICAO organized series of Webinars related to GASP/NASP: - 16 March 2021: ICAO's Global Safety Strategy: the Global Aviation Safety Plan. - 30 March 2021: Introduction to the National Aviation Safety Plan - 13 April 2021: Using the Roadmap to Develop a National Aviation Safety Plan	2022
		A6- Development of guidance/share best practices for the processes and procedures for oversight of SMS	States (UAE)	Guidance material structure has been drafted and an update to be presented to the SEIG/3 meeting Draft to be completed by Q1 2022 and presented to SEIG/4 for review	2022
		A7- Deployment of the Aviation Safety Risk Management iPack	ICAO	Completion of ASRM iPACK related to COVID-19 project with PACA Oman and conducted the closing meeting on 4 May 2021. Completed.	2020
		A-8- Conduct assistance missions by SMIT to support States with SSP implementation	SMIT.	SMIT Handbook Draft is reviewed by the SEIG/3 and will be presented to RASG-MID/9 for endorsement.	2022

Goal 6: Increase Collaboration at the Regional Level to Enhance Safety

	To be developed in the future				
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Regional Operational Safety Risks

Goal 1: Achieve a continuous reduction in Operational Risks

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4.4A-7

G1-SEI-01:	Aircraft upset in flight (LOC-I)	A1- Guidance material on flight crew proficiency	IATA and Aircraft manufacturers	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022
		A2- Advisory Circular: Mode Awareness and Energy State Management Aspects of Flight Deck Automation	IATA and Aircraft manufacturers. Supported by KSA	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022
		A3- Conduct Upset Recovery Workshop	ACAO, IATA, and ICAO. Supported by FAA	ICAO, KSA, and FAA UPRT conducted in Feb 2020	2022
		A4- Develop guidance material/share best practices on Ground Handling Service Provider Certification Process	IATA and KSA	The 1 st guidance material draft to be submitted for SPIG meeting for review and endorsement by RASG-MID/10	2022
		A5- Conduct a Ground Handling workshop	ACAO and ICAO. Supported by IATA	Ground handling Workshop back to back with Dangerous Goods workshop planned to be held in Casablanca during 14-16 Nov 2022. Joint event ACAO/ICAO	2022
G1-SEI-02:	Runway Safety- Runway Excursion	A1- Support States to implement the Global Reporting Format (GRF) Methodology through Webinar/ Workshops/Training	ICAO and ACI. Supported by CANSO, IATA, FAA and Aircraft Manufactures	05 virtual GRF Training classrooms conducted for the MID Region States/Airport Operators	2021
		A2- Guidance material on un-Stabilized Approach	IATA. Supported by CANSO and IFALPA	GM on UA shared by IATA and it will be shared with States	2022
		A3- MID Region Action Plan/Milestones on the Global Reporting Format (GRF) Implementation	ICAO	Completed and submitted for the States	2021
		A4: MID Region customized ACI-ICAO Global Reporting Format (GRF) for Runway Surface Conditions for Airport Operators	ACI, ICAO	05 virtual GRF Training classrooms conducted for the MID Region States/Airport Operators	2021
		A5- Develop guidance material/share best practices on GRF Deployment	UAE supported by IRAN, OMAN, SAUDI ARABIA	to be submitted to the SPIG/4 for its validation.	2022
G1-SEI-03:	Runway Safety- Runway Incursion	A1- Support States to implement aerodrome inspection through workshops/trainings/Webinars	ICAO. Supported by FAA and UAE	Coordination on going with FAA and UAE	2022
G1-SEI-4:	Controlled Flight into	A1- Advisory Circular: Guidance for	IATA and Aircraft	IATA will provide the tentative	2022

	Terrain (CFIT)	Operators to Ensure Effectiveness of GPWS Equipment	manufacturers	dates on Jan 2022 or Q1 2022	
		A2- Advisory Circular: Instrument Approach Procedures Using Continuous Descent Final Approach Techniques	IATA and Aircraft manufacturers	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022
		A3- Circulate ICAO Guidance Doc 10000 on Flight Data Analysis Programme (FDAP) to support States providing oversight to air operators	ICAO	SL on ICAO Guidance Doc 10000 circulated by ICAO during July 2021. Completed	2022
		A4- Advisory Circular: Crew Resource Management Training Programme (CRM)	IATA, Aircraft manufacturers	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022
G1-SEI-05A1:	Loss of separation between civil and military aircraft"	A1- States and regional organizations to share occurrences and/or safety analysis/information related to Near Mid Air Collisions (NMACs) including to the "Loss of separation between civil and military aircraft" and ATM-SG to perform a technical analysis of the reported occurrences and and/or safety analysis/information and then come out with recommendations. The technical analysis of the reported occurrences and recommendations be shared with ASRG.	ICAO. Supported by IATA, CANSO, and States	NMACs analysis to be provided by IATA to the ATM-SG for technical review and then the ATM-SG to provide recommendations for the next course of actions.	2022
		A2: Guidance/raising awareness/ coordination related to the civil and military cooperation in particular over high seas	ACAO and ICAO. Supported by States	CMC webinar is planned to be held 14-16 June 2022	2022
G1-SEI-05A2:	Interference to GNSS Signals	A1: GNSS/GPS interferences	ICAO and IATA	1.RSA developed and circulated in 2020 2.Identify impacted area, identify source of the interference signals, develop RSA including risk management recommendations for preventive and reactive measures and reporting procedures.	2022

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G1-SEI-05B:	Ensure the Safe Operations of UAS (drones)	A1- Circulate ICAO developed guidance and advisory circulars: Regulatory framework for the operation of drones to support states' CAA personnel in the implementation and oversight of UAS operations	ICAO	SL issued on the subject by ICAO MID office July 2021. Completed.	2021
		A2- Organize symposium on Drones related subjects	ICAO, ACAO. Supported FAA	- An ACAO-DfT-TSA Joint Virtual Workshop on Drones has been conducted the 9 & 10 Nov 21 with the attendance of more than 100 participants from 14 Arab States, 5 regional organizations and industry stakeholders. - Symposium Planned to be held in Morocco during 5-7 Dec 2022	2022
		A3- States and regional organizations to share occurrences and/or safety analysis/information involving drones to ASRG to perform a technical analysis of the reported occurrences and come out with recommendations.	ICAO, IATA, ACI, CANSO, and States (TBD)	IATA to provide safety information and safety analysis if available.	2022



ICAO MID

SAFETY

SMIT

Safety Management Implementation Team
(Handbook)



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Amendments

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1. Definitions

Acceptable level of safety performance (ALoSP). The level of safety performance agreed by State authorities to be achieved for the civil aviation system in a State, as defined in its State safety programme, expressed in terms of safety performance targets and safety performance indicators.

Accountable executive. A single, identifiable person having responsibility for the effective and efficient performance of the service provider's SMS.

Change management. A formal process to manage changes within an organization in a systematic manner, so that changes which may impact identified hazards and risk mitigation strategies are accounted for, before the implementation of such changes.

Defences. Specific mitigating actions, preventive controls or recovery measures put in place to prevent the realization of a hazard or its escalation into an undesirable consequence.

Errors. An action or inaction by an operational person that leads to deviations from organizational, or the operational person's, intentions or expectations.

***Hazard.** A condition or an object with the potential to cause or contribute to an aircraft incident or accident.

Risk mitigation. The process of incorporating defences, preventive controls or recovery measures to lower the severity and/or likelihood of a hazard's projected consequence.

Safety. The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

***Safety data.** A defined set of facts or set of safety values collected from various aviation-related sources, which is used to maintain or improve safety.

Note: Such safety data is collected from proactive or reactive safety-related activities, including but not limited to:

- a. accident or incident investigations;
- b. safety reporting;
- c. continuing airworthiness reporting;
- d. operational performance monitoring;
- e. inspections, audits, surveys; or
- f. safety studies and reviews.

***Safety information.** Safety data processed, organized or analyzed in a given context so as to make it useful for safety management purposes.

***Safety management system (SMS).** A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.

Safety objective. A brief, high-level statement of safety achievement or desired outcome to be accomplished by the State safety programme or service provider's safety management system.

Note: Safety objectives are developed from the organization's top safety risks and should be taken into consideration during subsequent development of safety performance indicators and targets.

***Safety oversight.** A function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations.

***Safety performance.** A State's or service provider's safety achievement as defined by its safety performance targets and safety performance indicators.

***Safety performance indicator.** A data-based parameter used for monitoring and assessing safety performance.

***Safety performance target.** The State or service provider's planned or intended target for a safety performance indicator over a given period that aligns with the safety objectives.

***Safety risk.** The predicted probability and severity of the consequences or outcomes of a hazard.

***State safety programme (SSP).** An integrated set of regulations and activities aimed at improving safety.

***Surveillance.** The State activities through which the State proactively verifies through inspections and audits that aviation license, certificate, authorization or approval holders continue to meet the established requirements and function at the level of competency and safety required by the State.

System. An organized, purposeful structure that consists of interrelated and interdependent elements and components, and related policies, procedures and practices created to carry out a specific activity or solve a problem.

Trigger. An established level or criteria value for a particular safety performance indicator that serves to initiate an action required, (e.g., an evaluation, adjustment or remedial action).

2. Introduction

2.1 Background

Safety management seeks to proactively mitigate safety risks before they result in aviation accidents and incidents. Through the implementation of safety management, States can manage their safety activities in a more disciplined, integrative and focused manner. Possessing a clear understanding of its role and contribution to safe operations enable a State, and its aviation industry, to prioritize actions to address safety risks and more effectively manage its resources for the optimal benefit of aviation safety.

The effectiveness of a State's safety management activities is strengthened when implemented in a formal and institutionalized way through a State safety Programme (SSP) and through safety management systems (SMSs) for its service providers. A State's safety Programme, combined with the SMSs of its service providers, systematically addresses safety risks, improves the safety performance of each service provider, and collectively, improves the State's safety performance.

In connection with this, MID Region Safety Management Implementation Roadmap has been developed and endorsed by the RSC/7 meeting on February 2020. The same meeting also established the Safety Management Implementation Team (SMIT) as the main Regional Framework for the provision of assistance to States through Safety Management Assistance Missions; and the ICAO MID Office develops a SMIT handbook.

2.2 Purpose of the Handbook

This Handbook is designed to:

- a. describe the components of an effective SMIT;
- b. serve as a single reference for SMIT activities;
- c. define the SSP assessment process; and
- d. support States with an effective SSP implementation.

2.3 Scope of the Handbook

A successful SMIT requires all key stakeholders to cooperate in a collaborative manner. This document, therefore, is intended to serve as a reference and guidance for SMIT team and the MID Region civil aviation authority interested in implementing the SSP.

2.4 How to use the Handbook

Chapters 3, 4 and 5 provide a general understanding of the processes involved in managing the SMIT Team and conducting an effective SSP assessment.

Appendix B includes a MID Region SSP assessment tool including comprehensive guidance for its use.

3. Safety Management Implementation Team (SMIT)

3.1 Goals and General Description of the SMIT

The primary role of SMIT Team is to assist and support the MID Region States to develop SSP and effective guidance material to SMS for Service Providers.

The SMIT should conduct an assistance mission to the interested State to determine State SSP main achievements and identify opportunities for enhancement which would be culminated with the development of an SSP implementation plan by the State or to be revised.

Although not considered as a regulatory authority, the SMIT is aimed to support States to develop SSP and effective guidance material to SMS for Service Providers by assisting and supporting States to determine State SSP main achievements and identify opportunities for enhancement.

The SMIT could support States in different subjects related to implementation of SSP and SMS, as indicated below:

- Conduct SSP assessment;
- Support States to develop or revise the SSP implementation plan;
- Provide SSP workshops including risk management methodologies, safety performance indicators, SDCPS, safety culture, SMS Assessment;
- Support States in the development of NASPs; and
- Assist and support States in the development of the SSP documentations including processes/procedures development.

3.2 *Terms of Reference (TORs)*

The SMIT is established to assist and support the MID Region States to develop and implement State Safety Programme (SSP) and Safety Management System (SMS) for Service Providers and provide assistance to the MENA RSOO's operations, as needed. The SMIT TORs is at **Appendix A**.

4. **SMIT Organizational Structure**

The assessment should normally be carried out by a SMIT Team that includes a Chairperson with an appropriate level of competence in SSP and technical specialists (Team Members) to support the assessment.

In any case, the initiator for SSP assessment would normally be the State (Regulatory Authority). This chapter provides basic information about the SMIT composition, training and competency, roles and responsibilities.

4.1 *SMIT Composition:*

The SMIT team performing the SSP assessment should be diverse and represent all required oversight activities in a State.

The assessment should normally be carried out by a SMIT Team that includes a Chairperson with an appropriate level of competence in SSP and technical specialists to support the assessment. It is important to structure the assessment in a way that allows interaction with a number of personnel at different levels of the State/organization to determine how effective aspects of the SSP are throughout the organization. SMIT consists of a Chairperson and a number of Team Members (TMs), as required, covering the scope of the SSP assessment activity to be conducted. TMs can be SMEs from ICAO MID Office, States and organizations.

The ICAO MID Office identifies and maintains a list of qualified SMIT SMEs. The members of each SSP assessment activity team are selected from this list, based on their availability, up-to-date and training status to conduct the SSP assessment activities. Assignment of qualified TMs to a SSP assessment activity is made in coordination with their respective organizations and authorities.

4.2 *SMIT Competency Considerations*

It is important that staff are trained and competent to carry out the SSP Assessment and to apply the assessment in a consistent manner. This is likely to involve additional training as the Assessment involves inspectors making judgements that may be subjective.

SMIT team should be trained and competent prior to use the tool as indicated below:

- SSP (based on the ICAO State Safety Management and SSO);
- National Aviation Safety Plan (NASP);
- Differentiating between the NASP and the SSP;
- Interview techniques;
- Understanding of compliance and auditing;
- Understanding of risk management;

- Understanding how safety performance framework and indicators are developed and used in a management system
- Appreciation of the difference between compliance and performance for SSP effectiveness;
- Report writing techniques to allow narrative to be used to summarize the assessment; and
- Ability to support the move from traditional, compliance-based oversight to risk based/performance-based oversight that focuses on how the SSP is performing based on Safety Performance Indicators (SPIs).

4.3 Roles and Responsibilities

The SMIT Chairperson

The Chairperson serves as the coordinator and spokesperson for the team. The roles and responsibilities of the Chairperson may also include a variety of administrative and/or organizational aspects, such as:

- i. Coordination with State;
- ii. Prepare the scope and duration of the State SSP assessment;
- iii. The availability and release of the SMIT TMs;
- iv. Conduct face to face meetings/virtual meetings with SMIT team during the preparation phase, during the on-site mission, and after the assistance mission; and
- v. Submit the final summary report to ICAO MID office.

SMIT Team Members

For the SSP assessment mission to achieve its maximum effectiveness, it is important to share safety information between Chairperson and SMIT TMs in assessing State SSP activities by supporting the SMIT Chairperson on all SSP assessment activities.

State SSP Focal Point

In order to support SSP assessment and facilitate related activities, each State is responsible for designating/nominating one qualified SSP Focal Point (SSP FP) to act as primary point of contact for all SSP assessment processes and activities.

The SSP FP is responsible for submitting, maintaining and/or updating the information to be provided by the State to the SMIT Team on an ongoing basis, including but not limited to:

- i. SSP initial self-assessment;
- ii. Information and documentation; and
- iii. other relevant safety information, as requested by SMIT team.

5. SSP Assessment Process

The SSP assessment process is divided into the following four phases:

- a. the preparation phase;
- b. the on-site conduct phase;
- c. the summary report production phase; and
- d. the development and follow up on the SSP implementation action plan.

a) The Preparation Phase:

During this phase, SMIT Team prepares for the activity by:

- i. confirming the scope and duration of the State SSP assessment;
- ii. confirming the assignments of the Chairperson and all TMs;
- iii. requesting the availability and release of all TMs;
- iv. advising State of the SMIT team's composition before the start of the planned activity;
- v. the Chairperson to forward the State Self-assessment and all available and relevant material and documents to the TMs prior to the meeting and on-site activity in order to provide them with sufficient time for review and preparation;
- vi. reviewing the State initial self-assessment and documents submitted by the State, including to provide their comments/inputs to the SMIT Chairperson;
- vii. holding a face to face meeting/virtual meeting to conduct the final review of the consolidated State initial self-assessment;
- viii. making travel arrangements; and
- ix. managing various administrative issues.

The State should prepare for the activity by:

- i. conducting and completing an initial SSP self-assessment using the MID region Assessment tool at **Appendix B**; however, this should be preceded by a gap analysis of the SSP;
- ii. Submitting the initial self- assessment once completed to the Chairperson including the supporting documentation, three weeks before the on-site activity;
- iii. preparing, updating and organizing evidence and documentation to be submitted to the activity team, including legislation, operating regulations, manuals and/or procedures, records;
- iv. communicating with the Chairperson in a timely manner and providing him/her with all required information and documentation;
- v. identifying and providing the air operator/service provider to be visited during the on-site mission; and
- vi. supporting the Chairperson with travel, transportation and administrative issues and information, as required

b) The On-site Conduct Phase:

During this phase: SMIT team needs to

- i. conduct opening briefing by the Chairperson;
- ii. conduct a systematic and objective assessment of the State's SSP using MID Region SSP assessment tool at **Appendix B**;
- iii. visit the State's air operator/Service Providers;
- iv. determine State SSP main achievements and identify opportunities for enhancements/improvements.;
- v. collect and document evidences submitted by the State that support the implementation of SSP; and
- vi. inform the State of the outcome of the SSP Assessment during a closing meeting or briefing between the SMIT team and State authorities.

In this phase, the State:

- i. ensures that State representatives, counterparts and staff members implicated in the conduct of the activity are available for interviews and discussions with the activity team;
- ii. makes the evidence, information and documentation requested by the SMIT team readily available and submits them to the team in a timely manner;
- iii. facilitates and arranges visits to industry and/or service providers;
- iv. provides a suitable working environment for the activity team; and
- v. arranges daily transportation and administrative issues, as required.

c) The Summary Report Production Phase:

During this phase, the summary report **at Appendix C** needs to determine the State SSP main achievements and identify opportunities for enhancement covering areas of State Safety Programme; State Safety Policy, Objectives and Resources; State Safety Risk management; State Safety Assurance; State Safety Promotion; and safety data and safety information collection, analysis, protection, sharing and exchange.

- i. the TMs submit to the Chairperson their inputs/contribution on the area(s) covered during the onsite assessment maximum 3 days after the onsite mission;
- ii. the Chairperson compiles and performs the technical review of the draft report of the SSP assessment activity and share it with SMIT team for final review before submission;
- iii. the Chairperson produces the final draft report and may pass it to State for review and comment for a sufficient period in advance;
- iv. the Chairperson, upon receiving State's comments, reviews them in coordination with SMIT for incorporation in the final report; sends the final summary report to ICAO MID office; and
- v. ICAO MID Office submits to the State the final summary report at the end of this phase.

d) The Development and Follow up on the SSP Implementation Plan

During this phase States need to:

- i. develop the SSP implementation plan that includes milestones and timeframes if not yet done within maximum three weeks or revise the current SSP implementation plan if it is in place;
- ii. submit to ICAO MID Office the final SSP implementation plan; and
- iii. initiate coordination meetings with ICAO MID Office to support the implementation of the plan, if needed.

ICAO MID Office needs to:

- i. conduct technical assistance missions using the MID Office expertise/resources;
- ii. request in-kind assistance/support from States and organizations/Resource Mobilization;
- iii. provide guidance on TCB projects and capacity building activities; and
- iv. request assistance from SMIT and Safety Enhancement Implementation Group (SEIG).

For continuous improvement, the State may request the SMIT to conduct a follow up SSP assessment mission to ensure the SSP implementation maturity.

APPENDIX A

SaFETY MANAGEMENT IMPLEMENTATION TEAm (SMIT)

TERMS OF REFERENCE

A) Purpose of the SMIT:

The SMIT is established to:

1. Assist and support the MID Region states to develop and implement State Safety Programme (SSP) and Safety Management System (SMS) for Service Providers.
2. Will provide assistance to the MENA RSOO's operations, as needed.

In order to meet its Terms of Reference, the SMIT shall:

1. conduct initial assistance missions to the States to determine States main achievements and identify opportunities for enhancement which will be culminated with the development of an SSP implementation action plan in coordination with the State;
2. assist and support States to complete the SSP gap analysis and SSP implementation plan;
3. provide SSP and SMS workshops for State personnel including risk management, safety assurance, safety culture;
4. assist and support States in the development of the SSP documentations including processes/procedures development, NASPs, etc;
5. meet with States high level decision makers to establish and empower the SSP implementation team;
6. conduct periodic follow-up implementation missions, as deemed necessary; and
7. share the outcome of its missions with the concerned RASG-MID & MIDANPIRG; as appropriate.

B) Composition:

The SMIT is composed of ICAO Officers, MID Region Champion States and stakeholders

C) Roles and Responsibilities:

- RASG-MID Chairperson – Coordinate SMIT activities and provide overall guidance and leadership;
- ICAO – Support; and
- MID Region Champion States – Provide Subject Matter Experts (SMEs) as in-kind contribution by Champion States and assist in the SSP implementation.

MID REGION State Safety Program (SSP) Assessment Tool

November 2021

1. Introduction

The International Civil Aviation Organization (ICAO) Annex 19 promotes a common approach to Safety Management across aviation sectors and domains; both for States and for organizations.

An SSP comprises a range of processes and activities that together provide a State with the means to manage safety and to deliver well-directed safety oversight. An effective SSP assists States to proactively identify hazards and mitigate safety risks at the national level. It is the foundation on which a State builds a proactive approach to national aviation safety.

Effective SSP implementation is a gradual process. The State plans, organizes, develops, implements, maintains, controls and continuously improves the SSP in a manner that meets its safety objectives. The complexity of the air transportation system and the maturity of the State's safety oversight capabilities determine the time required to achieve a fully mature SSP. The level of effective implementation of an SSP in the State affects its relationship with the national aviation safety plan

The MID Region SSP assessment tool is customized from the Safety Management International Collaboration Group (SM ICG) SSP assessment tool. The MID Region State Safety Program (SSP) Assessment Tool in direct support of this common approach. The following guidance explains the background and methodology relevant to the use of the MID Region SSP Assessment Tool.

2. Background and Purpose

The MID Region SSP assessment tool has been designed to be used for assessing State Safety Management responsibilities and an SSP. It can be used for initial self-assessment or continuous improvement of an SSP. The tool is based on a series of questions or expectations that can be used by a State and SMIT to assess the progress achieved by the State on the implementation of SSP. It requires an interaction with all SSP stakeholders, face-to-face discussions and interviews with a cross-section of State personnel as part of the assessment. It has been designed to indicate the State's level of compliance with the ICAO Eight Critical Elements (CE) of a State Safety Oversight (SSO) system, integrate the SSP approach and the CEs of a SSO system where applicable. The goal is to thereby establish a common standard for evaluating compliance and progress achieved by the State on the implementation of the SSP. The tool has been designed to evaluate the maturity of the SSP in a standardized manner in order to give the State an overall picture of its SSP performance.

3. SSP Assessment Process

The SSP assessment process is described in the SMIT Handbook and the process is divided into the following four phases:

- a. the preparation phase;
- b. the on-site conduct phase;
- c. the summary report production phase; and
- d. The development and follow up on the SSP implementation action plan.

4. How to Use the Tool

Effective SSP implementation is a gradual process that requires time and resources to fully mature. Therefore, the size and complexity of the air transportation system, as well as the maturity of the State's aviation safety oversight capabilities are factors to be considered during an SSP assessment. It is also to be noted that the SMIT team will use the maturity levels **“Not Present and Not Planned (NP)”**; **“Not Present but Being Worked On (WO)”**; **“Present”**; **“Effective”** during the assessment.

This assessment tool follows the Eight CEs of an SSO system as laid out in in Annex 19. Guidance to support the determination of maturity levels for each SSP-related PQ

1. **Not Present and Not Planned (NP):** Based on current situation in State
2. **Not Present but Being Worked On (WO):** Based on State's work in progress
3. **Present:** There is evidence that the relevant indicator is documented within the organization's SSP documentation; suitable based on the size, nature, and complexity of the organization, and the inherent risk in its activity; and is in use and an output is being produced
4. **Effective:** there is evidence that the relevant indicator is achieving the desired outcome and has a positive safety impact.

What to look for: This section guides the evaluator when looking at each individual feature and is not meant to be a checklist. The items listed are not specific to an individual Not Present and Not Planned (NP), Not Present but Being Worked On, Present or Effective level but remind the evaluator of areas they may want to consider. Some items in this column may not be relevant depending on the size, type, or nature of the organization.

Objective of the SSP Assessment: The main objective of the MID Region SSP Assessment Tool is to assess the SSP in terms of compliance and effectiveness in a consistent way so that to support and guide States to implement an effective SSP.

MID Region SSP Assessment Tool

State:	Approval/Certificate Reference(s):
Scope of the Assessment:	SMIT Team (Name and Department):
Date of Assessment:	

1.1 STATE SAFETY PROGRAMME

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	1.1.1	The State has established an SSP that is commensurate with the size and complexity of the State’s civil aviation system.					
Guidance	What to look for						
	• Check there is a published high-level national strategic document (e.g. SSP main document) that lays out the State’s methodology, practices and activities to support the implementation of its SSP, including all SSP components. • Check the SSP document to ensure it: ○ Describes all the elements of the SSP (in accordance with Annex 19). ○ Is signed by senior management from all appropriate aviation regulatory organizations. ○ Describes roles and responsibilities of all appropriate State aviation regulatory organizations. ○ Is reviewed periodically for content and currency and updated as appropriate. • Check SSP implementation (including updates to the SSP) to ensure: ○ A gap analysis (based on the Standards and Recommended Practices [SARPs] in Annex 19 or annex updates) was performed and results are available. ○ The gap analysis is reviewed periodically for content and currency. ○ An implementation plan that includes milestones and timeframes based on the SSP gap analysis. ○ Senior management takes action to ensure the implementation plan is accomplished. ○ Coordination amongst all appropriate State organizations.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. The State established and documented an SSP in accordance with Annex 19. The SSP is documented and coordinated with all appropriate State aviation organizations. 2. The SSP gap analysis and implementation plan describes all the elements of the SSP in accordance with Annex 19 and is based on the size and complexity of the aviation system				1. The SSP document, gap analysis, and implementation plan are periodically reviewed for currency and content and updated as appropriate.

			3. State regulatory organizations conduct State safety management-related functions and activities as described in the SSP. When delegated, the delegating State reviews and monitors the performance of the delegated entities.	
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1.2 STATE SAFETY POLICY, OBJECTIVES AND RESOURCES

1.2.1 PRIMARY AVIATION LEGISLATION (CE-1)

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	1.2.1.1	The State has promulgated a comprehensive and effective aviation law, commensurate with the size and complexity of its aviation system.					
	1.2.1.2	The aviation law enables the oversight and management of civil aviation safety.					
	1.2.1.3	The aviation law enables the enforcement of regulations through relevant authorities or agencies.					
	1.2.1.4	The aviation law provides personnel performing safety oversight functions access to the aircraft, operations, facilities, personnel, and associated records, as applicable.					
Guidance	What to look for						
	• Check that the aviation laws address: ○ State authority to regulate the aviation industry. - Verify that the accountable executive has been delegated, as a minimum: 1) authority and accountability, on behalf of the State, for the implementation and maintenance of the SSP across its aviation system, with the exception of the State's accident investigation organization; 2) authority on human resources issues related to the SSP place holder organization; 3) authority on major financial issues related to the SSP place holder organization; 4) authority on service provider certification and safety oversight by the SSP place holder organization; and 5) responsibility for the coordination of all SSP-related issues of the State. ○ SSP document has been completed and approved by the SSP accountable executive. ○ State requirements and responsibilities consistent with the Convention on International Civil Aviation (to include applicable annexes). ○ Oversight and management of civil aviation safety based on size and complexity. ○ Enforcement of regulations through the relevant authorities or agencies. ○ Access to aircraft, operations, facilities, personnel, and associated records, as applicable, of organizations performing an aviation activity. ○ Periodic review for content and currency and updates as appropriate.						

	• Check that the enforcement policies address: - o Conditions and measures under which the State carries out enforcement policies. - o Conditions under which punitive action is considered (e.g., illegal activity, negligence, or willful misconduct). - o Conditions and allowances for service providers to manage and resolve certain safety issues, within the context of an approved SMS. - o Promotion of behaviors consistent with a positive safety culture. - o Periodic review for content and currency and updates as appropriate.			
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There is documented aviation law that provides the authority to regulate the aviation industry. The laws are enforceable and allow for access to regulated entities. 2.The aviation law is consistent with the Convention on International Civil Aviation (to include applicable annexes) and details safety oversight and management of civil aviation based on size and complexity. 3.The aviation industry is regulated consistent with its laws. The enforcement of regulations is performed by relevant authorities having access to regulated entities.	1. The aviation law is comprehensive to provide oversight and management of aviation safety. The aviation law is reviewed periodically for content and currency and updated as appropriate.

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There are documented regulations to address national requirements from primary aviation legislation and procedures to notify ICAO of differences when regulations are not in accordance the ICAO Annexes. 2. Regulations are written to standardize, based on national requirements, operations, procedures, products, services, equipment, and infrastructures based on size and complexity of the aviation system. 3. There is regulatory standardization of operations, procedures, products, services, equipment, and infrastructures throughout the aviation industry. ICAO is notified of differences to ICAO Annexes.	1. Regulations are reviewed periodically for content and currency and updated as appropriate to address specific risks that exist in the State's aviation system.

1.2.3 STATE SYSTEM AND FUNCTIONS (CE-3)

Indicators of compliance and performance		N P	W O	P	E	Comments
Assessment	1.2.3.1	The State established relevant authorities or agencies, as appropriate.				
	1.2.3.2	The relevant authorities or agencies are supported by sufficient qualified personnel and are provided with adequate financial resources for the management of safety.				
	1.2.3.3	The State authorities or agencies have stated safety functions and objectives to fulfil its safety management responsibilities.				
	1.2.3.4	The State ensures that qualified personnel performing safety oversight functions are recruited and retained.				
	1.2.3.5	The State uses a methodology to determine their staffing requirements for personnel performing safety oversight functions, taking into account the size and complexity of the aviation activities in their State.				
	1.2.3.6	Personnel performing State safety oversight functions are provided with guidance that addresses ethics, personal conduct, and the avoidance of actual or perceived conflicts of interest in the performance of official duties.				
Guidance	What to look for					
	- Check that relevant authorities or agencies are established (considering the importance of functional independence). - the State authority in charge of coordinating the implementation and maintenance of the SSP is formally designated by an appropriate governing body. - the responsibilities, governance and documented roles of the State authority in charge of coordinating the implementation and maintenance of the SSP are clearly defined. - the designated authority that is responsible for coordinating the implementation and maintenance of the SSP, including a department or person responsible for day-to-day SSP-related functions, is able to make progress in institutionalizing the SSP within the State - the State identified the accountable executive for the administration and coordination of the implementation and operation of the SSP - the SSP accountable executive coordinate, as appropriate, the SSP activities of the different State regulatory and administrative organizations					

	- o there is an established SSP coordination group at the State level, chaired by the designated authority in charge of coordinating the SSP implementation and maintenance - o all relevant State authorities (including, but not limited to, Civil Aviation Authority, Accident Investigation Authority and Military Aviation Authority) are represented in the coordination group. - o the coordination group addresses both strategic and operational aspects. - o all relevant State authorities actively participate in the SSP coordination group on a regular basis and in a continuous manner - o the coordination group meetings have defined objectives and established meetings frequency - o State has a periodic internal review mechanism for assurance of continuous conformance and improvement of its SSP - o Have a process to determine staffing requirements to ensure sufficient qualified personnel (based on size and complexity). - o Have a process to determine the necessary resources for the management of safety, which is approved by senior management within the State. - o Take the necessary measures to ensure staff recruitment and retention including the remuneration and conditions of service. - o Ensure senior management has the authority and responsibility for the management of safety and the control of the necessary resources. - o Provide guidance to address ethics, personal conduct, and the avoidance of actual or perceived conflicts of interest. - o Periodically review the availability of necessary resources.			
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. The State established and documented relevant authorities or agencies with stated safety functions and objectives. 2. Relevant authorities or agencies are supported by sufficient qualified personnel and the methodology to determine their staffing requirements is based on the size and complexity of the aviation system. 3. Authorities or agencies perform stated safety oversight functions, possess qualified personnel, and are provided with appropriate guidance and adequate financial resources.	1. Authorities or agencies periodically review safety oversight functions and staffing requirements for content and currency and updates them as appropriate.

Indicators of compliance and performance		N P	W O	P	E	Comments
Assessment	1.2.3.7	The State identifies, defines, and documents the requirements, obligations, functions, and activities regarding the establishment and maintenance of the SSP.				
	1.2.3.8	The State established a safety policy and safety objectives that reflect its commitment regarding safety and facilitates the promotion of a positive safety culture with stakeholders				
	1.2.3.9	The safety policy and safety objectives are published and periodically reviewed to ensure that they remain relevant and appropriate to the State.				
Guidance	What to look for					
	• Check for documentation (that identifies, defines, and documents SSP requirements, obligations, functions, and activities). • Check specific activities and responsibilities related to the management of safety of each relevant State authority involved in SSP implementation are documented. • Check there is a published national document (e.g. National Aviation Safety Plan) that addresses the State's specific operational safety risks (and other safety issues) and lays out the activities undertaken by each State authority to improve the overall safety performance • Check that the published national document addresses the State's specific operational safety risks (and other safety issues), and each State authority is actively realizing its designated responsibilities in a manner that contributes positively to the improvement of the overall safety performance • Check that the safety policy: ○ Is signed by senior management and communicated throughout the State ○ Reflects the following senior management commitment: ○ To provide the necessary resources (for the implementation and maintenance of the SSP). ○ To achieve the highest (possible) safety standards. ○ To continuous improvement of the SSP. ○ Cites and explains the State's enforcement policy ○ Outlines actions that are not tolerable (e.g. willful misconduct, gross negligence, etc.). ○ Is communicated both internally and externally. ○ To the promotion of a positive safety culture periodically reviewed for content and currency and updated as appropriate.					

	• Check that safety objectives take into account: - o A mechanism in place to ensure that all relevant stakeholders are involved in the establishment of the safety objectives - o The safety objectives represent the State risk picture - o There is a mix of process and outcome-oriented objectives. - o Safety performance monitoring and measurement. - o The promotion of a positive safety culture in the aviation community. - o Promotion and communication of the safety objectives throughout the aviation community. - o Periodic review for content and currency to ensure the objectives remain relevant and appropriate to the State.			
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. Requirements, obligations, functions, and activities regarding the establishment and maintenance of the SSP are identified, defined, and documented. Safety policy and objectives are established. 2. The established safety policy and safety objectives reflect management commitment and are based on the size and complexity of the aviation system. 3. The SSP, safety policies, and safety objectives accomplish senior management's commitment to achieving the highest possible safety standards and promote a positive safety culture with stakeholders.	1. The State's SSP, safety policies, and safety objectives are periodically reviewed for content and currency and updated as appropriate.

1.2.4 QUALIFIED TECHNICAL PERSONNEL (CE-4)

Assessment	Indicators of compliance and performance		N	W	P	E	Comments
			P	O			
	1.2.4.1	The State established minimum qualification requirements for the technical personnel performing safety-related functions.					
	1.2.4.2	The State provides for appropriate initial and recurrent training to maintain and enhance qualified technical personnel competence at the desired level.					
	1.2.4.3	The State implemented a system for the maintenance of training records for technical personnel.					
Guidance	What to look for						
	• Check for minimum qualification requirements for the technical personnel performing safety-related functions. • Check SSP-related training programme has been developed, including a training needs analysis (TNA) to determine the relevant training needs of each pertinent State authority • Where appropriate, a competency-based approach is applied to address K/S/A (knowledge/skills/attitude) requirements. • Check the SSP-related training Programme caters to the different safety management training needs of different personnel, based on their duties and responsibilities (i.e. inspectorate, data analysts, midlevel management, top management, legal department, AIA, Military, etc.). • Check that the State is able to assess competency of its technical personnel. • Check the training plan addresses both initial acceptance and continuous monitoring of service providers. • Check the training plan addresses scalability and complexity of service providers' SMS. • Check that training is available to maintain and enhance the competence of technical personnel. • Check that the training includes both initial and recurrent training. • Check to ensure a methodology exists to document, review, and maintain training records for technical personnel. • Check that training programs equip technical personnel performing safety-related functions with skills to: - o Assess service providers' SMS. - o Evaluate service provider safety performance. • Check the SSP training plan is formalized and implemented. • Check that the training and qualification program is periodically reviewed for content and currency and updated as appropriate.						

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. Minimum qualification requirements are established and documented, initial and recurrent training is provided, and training records are maintained for qualified technical personnel. 2. Minimum qualification requirements, initial and recurrent training, and maintenance of training records for technical personnel are based on size and complexity of the aviation system. 3. Minimum qualification requirements and initial and recurrent training are established to maintain and enhance qualified technical personnel competence. There is a functioning system to maintain training records for technical personnel.	1. The training and qualification of technical personnel is periodically reviewed for content and currency and updated as appropriate.

1.2.5 TECHNICAL GUIDANCE, TOOLS AND PROVISION OF SAFETY-CRITICAL INFORMATION (CE-5)

Indicators of compliance and performance		N P	W O	P	E	Comments
Assessment	1.2.5.1	The State provides appropriate facilities, comprehensive and up-to-date technical guidance material and procedures, safety-critical information, tools and equipment, and transportation means, as applicable, to the technical personnel to enable them to perform their safety oversight functions effectively.				
	1.2.5.2	States shall provide technical guidance to the aviation industry on the implementation of relevant regulations.				
Guidance	What to look for					
	• Interview technical personnel to ensure that they: ○ Are able to perform safety oversight functions in a standardized manner. ○ Are provided appropriate facilities, equipment, and transportation to conduct safety oversight functions. ○ Are provided guidance materials and procedures to conduct safety oversight functions in a timely manner. ○ Are provided safety-critical information to conduct safety oversight functions. • Check State established an SSP documentation and records ○ Review the SSP document. ○ Review the SSP documentation system. ○ Verify that the documentation system ensures records keeping and the appropriate storage, archiving, protection and retrieval of all documents relating to SSP activities. • Check that technical guidance materials, procedures, and tools on the implementation of SMS are provided to the Service providers as applicable: (Review guidance/procedures) ○ Ensure State developed guidance material on the implementation of SMS for its service providers as applicable ○ Ensure effective implementation of relevant regulations. ○ Are provided in a timely manner to the aviation industry. ○ Are periodically reviewed for content and currency and updated as appropriate.					

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. Facilities, guidance material and procedures, safety-critical information, tools and equipment, and transportation are provided for technical personnel. Guidance material on relevant regulations is provided to the aviation industry. 2. Facilities, guidance material and procedures, safety-critical information, tools and equipment, and transportation (to include guidance on regulatory implementation to industry) are based on the size and complexity of the aviation system. 3. Technical personnel perform safety oversight functions using adequate resources provided by the State. Technical guidance is provided on regulatory implementation.	1. Facilities, guidance material and procedures, safety-critical information, tools and equipment, and transportation (to include guidance to the aviation community) is reviewed for content and currency and updated as appropriate.

1.3 STATE SAFETY RISK MANAGEMENT

1.3.1 LICENSING, CERTIFICATION, AUTHORIZATION AND APPROVAL OBLIGATIONS (CE-6)

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	1.3.1.1	The State implemented documented processes and procedures to ensure that individuals and organizations performing an aviation activity meet the established requirements before they are allowed to exercise the privileges of a license, certificate, authorization, or approval to conduct the relevant aviation activity.					
Guidance	What to look for						
	• Check that processes and procedures are documented to ensure that individuals and organizations meet established requirements. • Check that individuals and organizations meet requirements before they are allowed to exercise privileges of a license, certificate, authorization, or approval. • Check that the processes and procedures are periodically reviewed for content and currency and updated as appropriate.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There are documented processes and procedures to ensure individuals and organizations meet established requirements before they are allowed to exercise the privileges of a license, certificate, authorization, or approval. 2. The processes and procedures for licensing, certifying, authorizing, or approving aviation activities are based on the size and complexity of the aviation system. 3. Individuals and organizations performing an aviation activity are meeting established requirements before they are allowed to conduct the relevant aviation activity.				1. The State’s processes and procedures for licensing, certifying, authorizing, or approving aviation activities are periodically reviewed for content and currency and updated as appropriate.

1.3.2 SAFETY MANAGEMENT SYSTEM OBLIGATIONS

Assessment	Indicators of compliance and performance		N	W	P	E	Comments
			P	O			
	1.3.2.1	The State requires service providers under their authority, as listed in Annex 19, to implement an SMS.					
	1.3.2.2	The State ensures that safety performance indicators and targets established by service providers and operators are acceptable to the State.					
Guidance	What to look for						
	• Check the State has promulgated regulatory requirements to implement SMS acceptable to the State, in accordance with ICAO provisions for the following service providers: - o Approved training organizations, in accordance with Annex 1. - o Operators of airplanes or helicopters authorized to conduct international commercial air transport, in accordance with Annex 6. - o Approved maintenance organizations providing services to operators of airplanes or helicopters engaged in international commercial air transport, in accordance with Annex 6. - o Organizations responsible for the design or manufacture of aircraft, engines, or propellers in accordance with Annex 8. - o Air traffic service (ATS) providers in accordance with Annex 11. - o Operators of certified aerodromes in accordance with Annex 14, Volume I. • Check for guidance material to industry that is related to the implementation of SMS based on the SMS framework in accordance with Annex 19. • Check that SMS regulations and guidance take into consideration the service provider's size and complexity. • Check there is a mechanism in place to determine the initial and continued acceptability of Service providers' SMS. • Check the mechanism enables the implementation of Service providers' SMS in a phased-in approach. • Check there is a mechanism in place to assess the service provider's hazard log, including the data sources that feed and ensure that all hazards that are documented in the hazard log are subjected to a risk assessment. • Check there is a mechanism in place to evaluate the service providers' risk management processes, including residual risks. • Check there is a mechanism in place to ensure the identification of trends, safety risks and emerging issues by the service providers. • Check there is a mechanism in place to ensure the monitoring and analysis of safety occurrences, including mandatory, voluntary and internal reports, by the service providers. • Check that service provider safety performance indicators (SPIs) and their respective alert and target levels are acceptable to the State. – (ensure state-level risks are considered).						

	- Verify effective implementation of the agreement process used to ensure that service providers SPIs, targets and alerts by checking that: - There is a mechanism in place to ensure that service providers' SPIs relate to the S.M.A.R.T objectives - There is a mechanism in place to ensure that individual service providers have balanced their SPIs, incorporating both leading and lagging indicators as well as State-level and self-generated SPIs - There is a mechanism in place to systematically monitor alert levels and to ensure that air operators have defined the actions needed in case an alert level is reached. - Verify that the agreed safety performance indicators are commensurate with the scope and complexity of the service provider's specific operational context.			
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There are documented State requirements for service providers listed in Annex 19 to implement an SMS. 2. Requirements for implementation of SMS and acceptance of service provider safety performance indicators and targets are based on the size and complexity of the aviation system. 3. Service providers, listed in Annex 19 implemented SMS in accordance with the SMS framework. Service provider safety performance indicators are acceptable to the State.	1. The State's SMS requirements and acceptance of safety performance indicators and targets are periodically reviewed for content and currency and updated as appropriate.

1.3.3 ACCIDENT AND INCIDENT INVESTIGATION

Assessment	Indicators of compliance and performance		N	W	P	E	Comments
			P	O			
	1.3.3.1	The State established, as part of the management of safety, an independent accident and incident investigation process					
Guidance	What to look for						
	• Check that there is an accident and incident investigation authority and/or process in accordance with Annex 13. • Check that the independence of the accident and incident investigation authority/process from other government aviation organizations is maintained. • Check that the accident investigation authority has independence in the conduct of investigations and unrestricted authority over the investigation's conduct. • Check that accident and incident investigation authority/process objective is to prevent accidents and incidents and promote a positive and just safety culture. • Check for means to ensure appropriate safety measures are taken after safety recommendations are issued by the accident and investigation authority. • Check the investigation authority ensures that the personnel responsible for addressing safety management-related aspects in aircraft accident and serious incident investigations develop the required competencies • The training plan addresses safety management-related aspects. • Check the guidance material has been established for use by the personnel of the State's accident investigation authority to help ensure that safety management related aspects are appropriately addressed in investigations (when relevant) • Check there is a mechanism in place to ensure that safety management-related aspects are being addressed adequately in the investigation authority investigations ○ Relevant final reports consistently address safety management-related aspects. ○ Interfaces between different organizations' SMS are being addressed. • Check that the accident and incident investigation process is periodically reviewed to ensure it remains relevant to the State.						

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There is an independent accident and incident investigation authority and/or process. 2. An independent accident and incident investigation authority and/or process is established based on the size and complexity of the aviation system. 3. The accident and incident investigation authority and/or process functions independently with the objective of accident prevention and promotion of a positive and just safety culture.	1. The accident and incident investigation process is periodically reviewed for content and currency and updated as appropriate.

1.3.4 HAZARD IDENTIFICATION AND SAFETY RISK ASSESSMENT

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	1.3.4.1	The State established and maintains a process to identify hazards from collected safety data.					
	1.3.4.2	The State developed and maintains a process that ensures assessment of safety risks associated with identified hazards.					
Guidance	What to look for						
	• Check for a detailed process to identify, track, and monitor State-level hazards. • Check for a State process to assess safety risks. • Check that the State possesses personnel with expertise in safety risk management principles. • Check that the hazard identification and risk assessment processes are based on the size and complexity of the State’s aviation system. • The State has processes to prioritize safety risks based on the assessed likelihood and severity. • Check the safety risk management mechanism is based on relevant and accurate (when applicable) data and safety information. • Check there is a mechanism in place to ensure that safety risks identified by air operators/service providers are raised at the State level, feeding the SSP and its risk picture as well as the NASP. • Check there is a hazard identification log at the State level, which is based, amongst others, on hazards and safety issues that have been raised by the air operators’/service providers, and it feeds the SSP and its risk picture. • The process to identify hazards and assess safety risk is periodically reviewed for content and currency and updated as appropriate.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There are documented processes to identify hazards from collected safety data and the assessment of associated safety risks. 2. The process to identify safety hazards and assess safety risks is based on the size and complexity of the aviation system. 3. Safety data collection and processing systems (SDCPS) and other relevant data sources are used to identify hazards and assess safety risks associated with identified hazards.				1. The processes to identify hazards and assess safety risks are reviewed for content and currency and updated as appropriate.

1.3.5 MANAGEMENT OF SAFETY RISKS AND RESOLUTION OF SAFETY ISSUES (CE-8)

Indicators of compliance and performance		N P	W O	P	E	Comments
Assessment	1.3.5.1	The State uses a documented process to take appropriate actions, up to and including enforcement measures, to resolve identified safety issues.				
	1.3.5.2	The State ensures identified safety issues are resolved in a timely manner through a system that monitors and records progress of the actions taken by individuals and organizations performing an aviation activity.				
	1.3.5.3	The State uses a system to monitor and record progress, including actions taken by individuals and organizations performing an aviation activity in resolving such issues.				
Guidance	What to look for					
	- Check for a process, with clearly defined objectives, to take appropriate actions to resolve safety issues that includes: - The types of actions that can be taken. - Timeframes for corrective measures to be completed. - Corrective measures that are tracked, monitored, and evaluated to ensure that service provider deficiencies are corrected. - Requirements for service providers to address non-compliances and identify the root causes of the contributing factors for those non-compliances. - Requirements for service providers to develop corrective actions that ensure non-compliances do not recur by addressing the root causes. - Requirements for service providers to develop corrective actions that ensure the identified non-compliances are corrected in a timely manner. - Check that the process ensure all deficiencies and/or safety issues are addressed in a standardized manner. - Check for a progressive approach of escalation to the actions the State takes, based on the severity of the findings. - Check for a method to take more serious actions when the service provider does not respond appropriately to a request for corrective actions.					

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There is a documented process to take appropriate actions to resolve identified safety issues in a timely manner. 2. The process to take appropriate actions to resolve identified safety issues in a timely manner is based on the size and complexity of the aviation system. 3. Identified safety issues are resolved in a timely manner through a system of monitoring and recording progress of actions taken by individuals and organizations performing an aviation activity.	1. The process to resolve identified safety issues is periodically reviewed for content and currency and updated as appropriate.

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	1.3.5.4	The State has and maintains a process to manage safety risks.					
Guidance	What to look for						
	• Check for a safety risk management process that is documented and maintained. • Check that the safety risk management process assesses root causes and underlying factors associated with risk. • Check that the safety risk management process includes risk management strategies (risk acceptance, risk control, risk avoidance, and/or risk control transfer). • Check for guidance material on the safety risk management process. • Check that the safety risk management process is reviewed for content and currency and updated as appropriate.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There is a process to manage safety risks that includes risk management strategies. 2. Risk management processes are detailed in guidance material and are based on the size and complexity of the aviation system. 3. Safety risks are managed through assessment of root causes and underlying factors and the use of risk management strategies.				1. The process to manage safety risks is periodically reviewed for content and currency and updated as appropriate.

1.4 STATE SAFETY ASSURANCE

1.4.1 SURVEILLANCE OBLIGATIONS (CE-7)

Indicators of compliance and performance		N P	W O	P	E	Comments
Assessment	1.4.1.1	The State has documented and implemented surveillance processes by defining and planning inspections, audits, and monitoring activities on a continuous basis.				
	1.4.1.2	The surveillance processes proactively assure that aviation license, certificate, authorization, and approval holders continue to meet the established requirements.				
	1.4.1.3	The surveillance processes include the surveillance of personnel designated by the Authority to perform safety oversight functions on its behalf.				
	1.4.1.4	The surveillance processes take into consideration the safety performance as well as the size and complexity of its aviation products or services.				
Guidance	What to look for					
	• Check for a surveillance process with clearly stated objectives and documented procedures. • Check the State, as part of its surveillance Programme, periodically assesses Service Providers' SMS, • Check that the surveillance processes: - o Define and plan inspections, audits, and monitoring activities on a continuous basis. - o Ensure aviation license, certificate, authorization, and approval holders meet established requirements and function at the level of competency and safety required by the State. - o Include the surveillance of personnel designated by the State/Authority to perform safety oversight functions on its behalf. - o Take into consideration the safety performance as well as the size and complexity of its aviation services. - o Are reviewed periodically for content and currency.					

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There are documented surveillance processes with clearly stated objectives and procedures. 2. The surveillance processes define and plan inspections, audits, and monitoring of aviation license, certificate, authorization, and approval holders and designees. The surveillance processes are based on the size and complexity of the aviation system. 3. Inspections, audits, and monitoring activities are conducted on a continuous basis to proactively ensure that aviation license, certificate, authorization, and approval holders meet established requirements, to include personnel designated by the State.	1. The surveillance processes are periodically reviewed for content and currency and updated as appropriate.

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	1.4.1.5	The State has procedures to prioritize surveillance activities (inspections, audits, and surveys) towards those areas of greater safety concern or need.					
	1.4.1.6	The State periodically reviews the safety performance of an individual service provider.					
Guidance	What to look for						
	- Check that the surveillance processes are detailed enough to ensure a standardized approach to: - Setting scope and frequency of surveillance activities based on collected safety data and other pertinent information. - Utilization of different approaches of surveillance (inspection, audits, process review, surveys, etc.). - Include both scheduled and unscheduled surveillance activities. - Prioritization of surveillance activities based on service provider risk profiles, hazard identification, risk assessments, and previous surveillance outcomes. - Measure service provider regulatory compliance with established standards. - Assess the effectiveness of risk based surveillance activities. - Documenting and classifying surveillance findings of compliance and non-compliance. - Communicating findings to service providers. - Check for a process to periodically review the safety performance of an individual service provider for content and currency.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There are documented processes and procedures to prioritize surveillance activities towards areas of greater safety concern or need. 2. The procedures to prioritize surveillance activities and review the safety performance of the service provider is based on the size and complexity of its aviation system. 3. Collected safety data and information is used to prioritize surveillance activities. The scope and frequency of surveillance activities utilize different approaches and are prioritized towards those areas of greater safety concern.				1. Procedures for prioritizing surveillance activities and reviewing individual service provider safety performance is periodically reviewed for content and currency and are updated as appropriate.

1.4.2 STATE SAFETY PERFORMANCE

		Indicators of compliance and performance		N	W	P	E	Comments
				P	O			
Assessment	1.4.2.1	The State develops and maintains a process to evaluate the effectiveness of actions taken to manage safety risks.						
	1.4.2.2	The State develops and maintains a process to evaluate the effectiveness of actions taken to resolve safety issues.						
	1.4.2.3	The State evaluates the effectiveness of their individual SSP to maintain or continuously improve their overall level of safety performance.						
Guidance	What to look for							
	• Check that State has a mechanism in place to select and monitor its safety performance indicators (SPIs) ○ There is a mechanism in place to define S.M.A.R.T (specific, measurable, achievable, relevant and timely) SPIs that are based on the safety objectives and the State-level risk picture. ○ SPIs have associated targets and alert levels, where appropriate. ○ There is a mix of leading and lagging indicators. ○ There is a mechanism in place to ensure that all relevant State authorities are providing information that contributes to the formulation of the SPIs ○ There is a mechanism in place to share the State-level SPIs with the relevant stakeholders. ○ Targets and alert levels (when used) are reasonable, and are broken-down into intermediate targets, if needed. ○ There is a mechanism in place to identify the safety performance baseline. ○ safety performance and associated safety indicators are appropriate and relevant to the size and complexity of the State's aviation activities. ○ Check if guidance exists to assess the adequacy and applicability of the safety performance ○ Check that the There is a mechanism in place to ensure that SPIs, targets and alert levels, when used, are being reviewed continuously.							

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Operating	Effective
	Based on current situation in State	Based on State's work in progress	1. There is a documented process to evaluate the effectiveness of actions taken to manage safety risks, resolve safety issues evaluate the SSP to maintain or continuously improve the overall level of safety performance. 2. Evaluation of the effectiveness of actions taken to manage safety risks, resolve safety issues, and continuously improve the overall level of safety performance is based on the size and complexity of the aviation system. 3. There is a mechanism in place to ensure that all relevant State authorities are providing information that contributes to the formulation of the SPIs	1. The effectiveness of actions taken to manage safety risks, resolve safety issues and continuously improve the overall level of safety performance is periodically reviewed for content and currency and updated as appropriate.

1.5 STATE SAFETY PROMOTION

1.5.1 INTERNAL COMMUNICATION AND DISSEMINATION OF SAFETY INFORMATION

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	1.5.1.1	The State promotes safety awareness and the sharing and exchange of safety information within State aviation organizations.					
	1.5.1.2	The State clearly and effectively communicates to all pertinent organizations and individuals on their role in the SSP.					
Guidance	What to look for						
	• Check for processes to share and exchange safety information with relevant State aviation organizations and employees. • Check and interview individuals and employees of State aviation organizations for awareness of shared and exchanged safety information. • Check for a feedback process for State aviation organizations and employees to provide inputs regarding shared or exchanged safety information. • Check for a process to measure the effectiveness of safety information sharing and exchange with its relevant State organizations. • Check for State communication on SSP roles and interview pertinent State organizations and employees on their role in the SSP. • Check for senior management commitment to the SSP through active and visible participation. • The SSP is communicated so that state aviation organizations and employees are made aware of their contributions and obligations with regard to the SSP.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There is a documented process to promote safety awareness and the sharing and exchange of safety information with State organizations. 2. Sharing and exchange of safety information within State aviation organizations and the communication of organizational and individual roles in the SSP is based on the size and complexity of the aviation system.				1. State processes that promote safety awareness and the sharing and exchange of safety information within the State

			3. State aviation organizations share and exchange safety information and communicate to all pertinent organizations and individuals their roles in the SSP	aviation organizations is periodically reviewed for content and currency and updated as appropriate.
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1.5.2 EXTERNAL COMMUNICATION AND DISSEMINATION OF SAFETY INFORMATION

Indicators of compliance and performance		N P	W O	P	E	Comments
Assessment	1.5.2.1	The State promotes safety awareness and the sharing and exchange of safety information with the aviation community.				
	1.5.2.2	The State participates in regional and global aviation safety information sharing and exchange activities.				
	1.5.2.3	The SSP document and its associated safety policy, enforcement policy, and aggregate safety indicators are included in the State's safety information communication and sharing process.				
Guidance	What to look for					
	• Check for processes that promote safety awareness and the sharing and exchange of safety information with the aviation community. • Check that the State facilitates the participation of the aviation community regarding safety information sharing and exchange opportunities. • Check that the process ensures safety information is communicated with the aviation community in a timely manner (e.g., web-based communication). • Check that the process ensures safety information is communicated to the general public. • Check that safety information is updated on a regular basis and is disseminated. • Check for the communication of a positive safety culture in the promotion of safety awareness and the sharing and exchange of safety information. • Check that the State identifies safety training that is accessible to the aviation community. • Check for participation in regional and global conferences, workshops, and training courses. • Check that the SSP document is available to the aviation community. • Check for a means to ensure the aviation community is aware of the SSP documentation. • Check that safety policy, enforcement policy, and aggregate safety indicators from the SSP are in the safety information communication and sharing process.					

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Operating	Effective
	Based on current situation in State	Based on State's work in progress	1. There is a process to promote safety awareness and the sharing and exchange of safety information with the aviation community. 2. The processes to promote the sharing and exchange of safety information and communication of the SSP is based on the size and complexity of the state aviation system. 3. State aviation organizations share and exchange safety information with the aviation community. Safety policy, enforcement policy, and aggregate safety indicators are included in the State's safety information communication and sharing process.	1. State processes to promote safety awareness and the sharing and exchange of safety information with the aviation community periodically reviewed for content and currency and updated as appropriate.

2. SAFETY DATA AND SAFETY INFORMATION COLLECTION, ANALYSIS, PROTECTION, SHARING AND EXCHANGE

2.1 SAFETY DATA COLLECTION AND PROCESSING SYSTEMS

Assessment	Indicators of compliance and performance		N	W	P	E	Comments
			P	O			
	2.1.1	The State established SDCPS to capture, store, aggregate, and enable the analysis of safety data and safety information.					
	2.1.4	The State authorities responsible for the implementation of the SSP have access to the SDCPS as referenced in Annex 19, section 5.1.1 to support their safety responsibilities, in accordance with the principles in Appendix 3.					
	2.1.5	The safety database uses standardized taxonomy to facilitate safety information sharing and exchange.					
Guidance	What to look for						
	• Check for SDCPS that collect: ○ Mandatory and voluntary safety reports. ○ Data/information from surveillance activities. ○ Data/information from accidents and incidents. • Check that Authorities with responsibilities to implement and maintain the SSP have access to relevant portions. • Check for legislation and processes that provide appropriate protection for the data (from disclosure) and the source of the data (from inappropriate action). • Check that data/information in different SDCPS are stored in a manner that facilitates analysis including potential cross-sector hazards.						

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There are SDCPS to capture, store, aggregate, and enable the analysis of safety data and safety information. 2. The SDCPS contains a standardized taxonomy and is based on the size and complexity of the aviation system. 3. State authorities have access to SDCPS to enable the analysis of safety data and information to support their safety activities.	1. SDCPS and the standardized taxonomy are reviewed periodically for currency and content and updated as appropriate.

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	2.1.2	The State established a mandatory safety reporting system that includes the reporting of incidents.					
Guidance	What to look for						
	• Check for a mandatory safety reporting system to include the reporting of incidents as part of its SDCPS. • Check for criteria for the type of mandatory reports to be submitted by service providers. • Check for the use of a standardized taxonomy (e.g., the Accident/Incident Data Reporting [ADREP] system). • Check that mandatory safety reports are stored in SDCPS in a manner that facilitates classification, analysis, and retrieval. • Check that mandatory safety reports are protected from inadvertent disclosure. • Check that mandatory safety reports are promptly submitted by relevant service providers when there is an incident. • Check that service providers’ mandatory reports include sufficient information and details to allow for a detailed analysis. • Check for a process to periodically review the effectiveness of the mandatory reporting system.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There is a mandatory safety reporting system that includes the reporting of incidents 2. The mandatory safety reporting system includes the reporting of incidents as part of the SDCPS and is based on the size and complexity of the aviation system. 3. Mandatory and voluntary safety reports, data/information from surveillance activities, accidents and incidents are collected in SCDPS.				1. Mandatory safety reports and SDCPS are reviewed periodically for currency and content and updated as appropriate.

Assessment	Indicators of compliance and performance		N	W	P	E	Comments
			P	O			
	2.1.3	The State established a voluntary safety reporting system to collect safety data and safety information not captured by mandatory safety reporting systems.					
Guidance	What to look for						
	• Check for a voluntary safety reporting system to include the reporting of incidents as part of its SDCPS. ○ Check for criteria for the type of voluntary reports to be submitted by service providers. ○ Check for a standardized taxonomy (e.g., ADREP). ○ Check that voluntary safety reports are stored in SDCPS in a manner that facilitates classification, analysis, and retrieval. ○ Check that voluntary safety reports are protected from inadvertent disclosure. ○ Check that voluntary safety reports are promptly submitted by relevant service providers when there is an incident. ○ Check that service providers’ voluntary reports include sufficient information and details to allow for a detailed analysis. ○ Check for a process to periodically review the effectiveness of the voluntary reporting system. • Check for awareness in the aviation community of State voluntary reporting systems. The system is known to relevant State authorities and service providers’ personnel, accessible, and easy to use. • Check and interview the aviation industry for trust in and supports for State voluntary safety reporting systems. ○ Check for a process to evaluate the effectiveness of the voluntary reporting system.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There is a voluntary safety reporting system, with documented processes that includes the reporting of incidents. 2. The voluntary safety reporting system includes the reporting of incidents as part of the SDCPS and is based on the size and complexity of the aviation system. 3. Service providers and the aviation community trust and support voluntary safety reporting. Voluntary safety reports are submitted promptly and contain sufficient information and details.				1. Voluntary safety reports and SDCPS are reviewed periodically for currency and content and updated as appropriate.

2.2 SAFETY DATA AND SAFETY INFORMATION ANALYSIS

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	2.2.1	The State establishes and maintains a process to analyze the safety data and safety information from the SDCPS and associated safety databases.					
Guidance	What to look for						
	• Check for processes to analyze the safety data and safety information from the SDCPS and associated safety databases. • Check that the analysis performed by the State is able to identify systemic sector hazards not otherwise identified by individual service providers and operators. • Check that the analysis performed by the State is able to identify systemic cross-sector hazards not otherwise identified by individual sectors. • Check that hazards are analyzed to assess the level of risk associated with each hazard. • Check that the process includes both proactive and reactive methods of safety data analysis. • Check for a process to prioritize hazards based on risk. • Check There is a mechanism in place to ensure that the information is reflected in the SSP main document and the NASP • Check to ensure hazards and are acted upon based on the prioritization of risk. • There is a mechanism in place to ensure that the information is used to refine the State level SPIs. • Check for processes to periodically review the analysis of safety data and safety information from SDCPS and associated databases for content and currency.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There is a process to analyze the safety data and safety information from the SDCPS and associated safety databases. 2. The process to analyze safety data and safety information from the SDCPS and associated safety databases includes both proactive and reactive methods and is based on the size and complexity of the aviation system. 3. The analysis of safety data identifies systemic sector and cross sector hazards. Hazards are assessed for risk and acted upon based on the prioritization of risk.				The process to analyze safety data and safety information from the SDCPS and associated safety databases is periodically reviewed for content and currency and updated as appropriate.

2.3 SAFETY DATA AND SAFETY INFORMATION PROTECTION

Indicators of compliance and performance		N P	W O	P	E	Comments
Assessment	2.3.1	The State protects safety data captured by, and safety information derived from, mandatory and voluntary safety reporting systems and related sources.				
	2.3.2	The State has not made available or used safety data or safety information collected, stored, or analyzed for purposes other than maintaining or improving safety, unless the competent authority determines, in accordance with Appendix 3, that a principle of exception applies.				
	2.3.3	The State was not prevented from using safety data or safety information to take any preventive, corrective, or remedial action that is necessary to maintain or improve aviation safety.				
Guidance	What to look for					
	- Check national laws, regulations, and policies protecting safety data, safety information, and related sources to ensure: - A balance is struck between the need to protect safety data, safety information, and related sources and the need to properly administer justice. - The conditions under which safety data, safety information, and related sources qualify for protection are specified. - Safety data and safety information is made available to the aviation community for the purpose of maintaining or improving aviation safety. - The protection of safety data and safety information extends to mandatory and voluntary safety reporting systems. - Check that, unless a principle of exception (in accordance with Appendix 3) applies, safety data or safety information is not used: - For disciplinary, civil, administrative, or criminal proceedings against employees, operational personnel, or organizations and/or disclosure to the public. - In a way different from the purposes for which they were collected. - Check that when a principle of exception applies, the use of safety data and safety information in disciplinary, civil, administrative, and criminal proceedings will be carried out only under authoritative safeguards. - Check there is a mechanism in place to protect ambient/workplace recordings. - Safety data, safety information and related resources are protected in a continuous manner, including ambient/workplace recordings.					

	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present	Effective
	Based on current situation in State	Based on State's work in progress	1. There are national laws, regulations, and policies protecting safety data, safety information, and related sources. The protection extends to mandatory and voluntary reporting systems. 2. Safety data or safety information is not used for purposes other than maintaining or improving safety and protections in national laws, regulations, and policies are based on the size and complexity of the aviation system. 3. Safety data and information is used to take preventative, corrective, or remedial actions to maintain or improve safety. Protected data and information is not used unless a principle of exception is applied.	1. National laws, regulations, and policies protecting safety data, safety information, and related sources are periodically reviewed for currency and content and updated as appropriate.

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	2.3.5	The State takes necessary measures, including the promotion of a positive safety culture, to encourage safety reporting through the mandatory and voluntary safety reporting systems.					
	2.3.6	The State facilitates and promotes safety reporting by adjusting applicable laws, regulations, and policies as necessary.					
	2.3.7	The State has instituted and made use of appropriate advance arrangements between their authorities and State bodies entrusted with aviation safety and those entrusted with the administration of justice. Such arrangements take into account the principles specified in Appendix 3.					
Guidance	What to look for						
	- Check for measures by the State to encourage mandatory and voluntary safety reporting through SDCPS and other sources. - Check for the adjusting of applicable laws, regulations, and policies, as necessary, to facilitate the promotion of safety reporting. - Check for advance agreements between authorities, State bodies, and organizations responsible for the administration of justice that promote safety reporting. - Check for a process to periodically review the measures, facilitation, and advance agreements instituted by the State for currency and content.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State's work in progress	1. There is a documented process to encourage, facilitate, and promote safety reporting. Advance agreements are instituted between aviation authorities and State bodies entrusted with aviation safety and those entrusted with the administration of justice. 2. The process to encourage, facilitate, and promote safety reporting is based on the size and complexity of the aviation system. 3. State measures, facilitation, and advance agreements promote safety reporting. State laws are adjusted to promote a positive safety culture.				1. The processes to encourage, facilitate, and promote safety reporting and use of advance arrangements is periodically reviewed for currency and content and updated as appropriate.

2.4 SAFETY INFORMATION SHARING AND EXCHANGE

Assessment	Indicators of compliance and performance		N P	W O	P	E	Comments
	2.4.1	When the State, in the analysis of the information contained in its SDCPS, identifies safety matters considered to be of interest to other States, the State forwards such safety information to them as soon as possible.					
	2.4.2	The State promotes the establishment of safety information sharing or exchange networks among users of the aviation system, and facilitates the sharing and exchange of safety information, unless national law provides otherwise.					
Guidance	What to look for						
	• Check for processes by which the State forwards timely safety information in its SDCPS on identified safety matters to other interested States. • Check for agreements with other States on the level of protection and the conditions on which safety information will be shared (see Appendix 3). • Check for promotion of safety information sharing or exchange networks among users of the aviation system. • Check for the facilitation of sharing and exchange of safety information, unless national law provides otherwise. • Check and interview aviation system users for safety information sharing or exchange networks. • Check for a process to review forwarding of safety information to other States and safety information sharing or exchange networks.						
	Not Present and Not Planned (NP)	Not Present but Being Worked On (WO)	Present				Effective
	Based on current situation in State	Based on State’s work in progress	1. There are documented processes to forward safety information of interest to other States and promote safety information sharing and exchange among users of the aviation system. 2. The processes to forward safety information and promote information sharing and exchange is based on the size and complexity of the aviation system. 3. The State identifies and forwards timely safety information to other interested States. Safety information is shared and exchanged through networks among users of the aviation system.				1. The processes to forward safety information and promote information sharing and exchange is based is periodically reviewed for currency and content and updated as appropriate.

MISSION SUMMARY REPORT

Summary Report

Introduction

a. Background

b. Mission Summary

c. Acknowledgments

1.1 State Safety Programme

a. Main Achievements:

b. Opportunities for enhancements:

1.2 State Safety Policy, Objectives and Resources

a. Main Achievements:

b. Opportunities for enhancements:

1.3 State Safety Risk Management

a. Main Achievements:

b. Opportunities for enhancements:

1.4 State Safety Assurance

a. Main Achievements:

b. Opportunities enhancements:

1.5 State Safety Promotion

a. Main Achievements:

b. Opportunities for enhancements:

2. Safety Data and Safety Information Collection, Analysis, Protection, Sharing and Exchange

a. Main Achievements:

b. Opportunities for enhancements:



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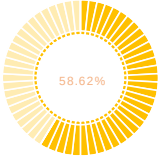
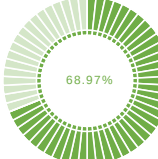
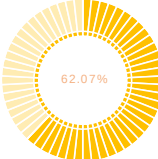
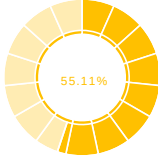
APPENDIX 4.5A

MID Region Aerodromes Safety Dashboard																
State	Country Code	Total # of AD (AOP Table I-I)	City	Aerodrome Name (AOP Table I-I)	Location Indicator (AOP Table I-I)	Designation (AOP Table I-I)	AD Certification Implementation		AD Local RST Establishment		AD Readiness for GRF Deployment		National GRF Implementation Plan Progress	Aerodrome Traffic Density		
							Certified	Level of Implementation	Established	Level of Implementation	Ready	Level of Deployment		Light	Medium	Heavy
Bahrain	BHR	1	Manama	Bahrain International Airport	OBBI	RS										
Egypt	EGY	7	Borg ElArab	BORG ELARAB INT AIRPORT	HEBA	RS										
			Aswan	ASWAN INT AIRPORT	HESN	RS										
			Cairo	CAIRO INT AIRPORT	HECA	RS										
			Hurghada	HURGHADA INT AIRPORT	HEGN	RS										
			Luxor	LUXOR INT AIRPORT	HELX	RS										
			Marsa Alam	MARSA ALAM INT AIRPORT	HEMA	RNS										
			Sharm El Sheikh	SHARM EL SHEIKH INT AIRPORT	HESH	RS										
Iran	IRN	9	Bander Abbas	Bandar Abbas International Airport	OIKB	RS										
			Esfahan	Shahid Beheshti International Airport	OIFM	RS										
			Mashhad	Shahid Hashemi Nejad International Airport	OIMM	RS										
			Shiraz	Shahid Dastgheib International Airport	OISS	RS										
			Tabriz	Tabriz International Airport	OITT	RNS										
			Tehran	Imam Khomeini International Airport	OIE	RS										
			Tehran	Mehrabad Int/ OIII	OIII	RS										
			Yazd	Shahid Sadooghi International Airport	OIYY	RS										
			Zahedan	Zahedan International Airport	OIZH	RS										
Iraq	IRQ	6	Al-Najaf	Al-Najaf Al-Asrafi International Airport	ORNI	RNS										
			Baghdad	Baghdad International Airport	ORBI	RS										
			Basrah	Basrah International Airport	ORMM	RS										
			Erbil	Erbil International Airport	ORER	RS										
			Mosul	Mosul International Airport	ORBM	RS										
			Sulaymaniyah	Sulaymaniyah International Airport	ORSU	RS										
Jordan	HKJ	2	AMMAN	Queen Alia International Airport	OIAI	RS										
			AQABA	King Hussein International Airport	OIAQ	RS										

MID Region Aerodromes Safety Dashboard																
State	Country Code	Total # of AD (AOP Table I-I)	City	Aerodrome Name (AOP Table I-I)	Location Indicator (AOP Table I-I)	Designation (AOP Table I-I)	AD Certification Implementation		AD Local RST Establishment		AD Readiness for GRF Deployment		National GRF Implementation Plan Progress	Aerodrome Traffic Density		
							Certified	Level of Implementation	Established	Level of Implementation	Ready	Level of Deployment		Light	Medium	Heavy
Kuwait	KWT	1	KUWAIT	Kuwait International Airport	OKBK	RS										
Lebanon	LBN	1	BEIRUT	Rafic Hariri International Airport	OLBA	RS										
Libya	LBY	3	BENGHAZI	Benina International Airport	HLLB	RS										
			SEBHA	Sebha International Airport	HLLS	RS										
			TRIPOLI	Tripoli International Airport	HLLT	RS										
Oman	OMN	2	Muscat	Muscat International Airport	OOMS	RS										
			Salalah	Salalah International Airport	OOSA	AS										
Qatar	QAT	2	Doha	Doha International Airport	OTBD	RS										
			Doha	Hamad International Airport	OTHH	RS										

MID Region Aerodromes Safety Dashboard

State	Country Code	Total # of AD (AOP Table I-I)	City	Aerodrome Name (AOP Table I-I)	Location Indicator (AOP Table I-I)	Designation (AOP Table I-I)	AD Certification Implementation		AD Local RST Establishment		AD Readiness for GRF Deployment		National GRF Implementation Plan Progress	Aerodrome Traffic Density		
							Certified	Level of Implementation	Established	Level of Implementation	Ready	Level of Deployment		Light	Medium	Heavy
Saudi Arabia	SAU	4	DAMMAM	King Fahd International Airport	OEDF	RS										
			JEDDAH	King Abdulaziz International Airport	OEJN	RS										
			MADINAH	Prince Mohammad Bin Abdulaziz International Airport	OEMA	RS										
			RIYADH	King Khalid International Airport	OERK	RS										
Sudan	SDN	4	EL OBEID	El Obeid International Airport	H5OB	AS										
			KHARTOUM	Khartoum International Airport	H5SS	RS										
			NYALA	Nyala International Airport	H5NN	AS										
			PORT SUDAN	Port Sudan International Airport	H5PN	RS										
Syria	SYR	3	ALEPPO	Aleppo International Airport	OSAP	RS										
			DAMASCUS	Damascus International Airport	OSDI	RS										
			LATTAKIA	Lattakia International Airport	OSLK	RS										
UAE	ARE	8	ABU DHABI	Abu Dhabi International Airport	OMAA	RS										
			ABU DHABI	Al Bateen International Airport	OMAD	RNS										
			AL AIN	Al Ain International Airport	OMAL	RS										
			DUBAI	Al Maktoum International Airport	OMDW	RS										
			DUBAI	Dubai International Airport	OMBD	RS										
			FUJAIRAH	Fujairah International Airport	OMFJ	RS										
			RAS AL KHAIMAH	Ras Al Khaimah International Airport	OMRK	RS										
Yemen	YEM	5	SHARJAH	Sharjah International Airport	OMSJ	RS										
			ADEN	Aden International Airport	OYAA	RS										
			HODEIDAH	Hodeidah International Airport	OYHD	RS										
			MUKALLA	Riyan International Airport	OYRN	RS										
			SANA'A	Sana'a International Airport	OYSN	RS										
			TAIZ	Taiz International Airport	OYTZ	RS										

MID Region Aerodromes Safety Dashboard												
	Total # of AD (AOP Table I-I)		AD Certification Implementation		AD Local RST Establishment		AD Readiness for GRF Deployment		National GRF Implementation Plan Progress	Aerodrome Traffic Density		
			Certified	Level of Implementation	Established	Level of Implementation	Ready	Level of Deployment		Light	Medium	Heavy
MID REGION AERODROMES SAFETY DASHBOARD	58		34		40		36			38	17	3

General Guidance:

- **Country Code** : ISO 3-Letter Code of the Country
- **City/Aerodrome**: Name of the city and aerodrome, preceded by the location indicator.
- **Designation**: Operability of the aerodrome as indicated on the MID eANP Vol I (AOP Table I-1):

RS : international scheduled air transport, regular use;
RNS : international non-scheduled air transport, regular use;
AS : international scheduled air transport, alternate use;
ANS : international non-scheduled air transport, alternate use.

Note 1 : when an aerodrome is needed for more than one type of use, normally only the use highest on the above list is shown.
[Example : an aerodrome required for both RS and AS use would only be shown as RS in the list.]

Note 2 : when the aerodrome is located on an island and no particular city or town is served by the aerodrome, the name of the island is included instead of the name of a city.

- **Aerodrome certification process:**

Phase 1: Dealing with the expression of interest by an intending applicant for the aerodrome certificate;

Phase 2: Assessing the formal application, including evaluation of the aerodrome manual;

Phase 3: Assessing the aerodrome facilities and equipment;

Phase 4: Issuing or refusing an aerodrome certificate; and

Phase 5: Promulgating the certified status of an aerodrome and the required details in the AIP.

- **Aerodrome Traffic Density**

a) **Light.** The number of movements in the mean busy hour is not greater than 15 per runway or typically less than 20 total aerodrome movements.

b) **Medium.** The number of movements in the mean busy hour is of the order of 16 to 25 per runway or typically between 20 to 35 total aerodrome movements.

c) **Heavy.** The number of movements in the mean busy hour is of the order of 26 or more per runway or typically more than 35 total aerodrome movements.

Note 1. The number of movements in the mean busy hour is the arithmetic mean over the year of the number of movements in the daily busiest hour.

Note 2. Either a take-off or a landing constitutes a movement.

APPENDIX 4.6A

**Questionnaire on Establishing a Platform for
Sharing Safety Recommendations Issued by the MENA States**

Introduction:

You are kindly requested to answer the following questions regarding the State interest and readiness in sharing safety recommendations issued in the Final Reports and any other documents. The outcomes of this survey will assist the taskforce in evaluating the tendency of States, and determining the scope of and shape of the sharing media and the type of database.

State Name:

Name of AIG Organization:

No.	Question	State Reply
1	Does the State have in place regulations relevant to monitoring safety recommendations implementation?	☐ Yes ☐ No If the answer is "Yes", kindly mention the reference:
2	Does the State have in place a guidance and system for how to formulate and address the safety recommendation and monitor its implementation?	☐ Yes ☐ No If the answer is "Yes", kindly mention the reference and the tool utilized:
	If the answer is "Yes", kindly evaluate conformance of the State's guidance with the guidance of ICAO Doc 9756, Part IV, paragraph 1.6, and Appendices 1 and 6 to Chapter 1.	☐ Yes ☐ No If the answer is "Yes", kindly mention the reference:
3	Is your State interested in sharing Final Reports of accidents and serious incidents investigations with other MENA States?	☐ Yes ☐ No
	If the answer is "Yes", what is the State's preferred medium for sharing the Report?	☐ Website ☐ E-mail ☐ Other:
4	Check which of following components does the safety recommendation issued by the State comprise of?	☐ Description of the hazard identified by the investigation ☐ Description of the risk associated with the hazard ☐ The failed risk controls ☐ The recommended risk mitigation actions; and ☐ Identified addressee
5	Is your State interested in sharing information about safety recommendations with other MENA States?	☐ Yes ☐ No
	If the answer is "Yes", does the State prefer to share the safety recommendations as they are stated in the report or revised to another format?	☐ As stated ☐ Revised [If revised explain how].....

	If the answer is “Yes”, what is the State’s preferred medium for sharing the safety recommendation?	☐ E-form in the website ☐ E-mail ☐ Other:
6	In your opinion, how often should sharing occur?	☐ Monthly ☐ Quarterly ☐ Semi-annually ☐ Annually
7	Describe how the State’s safety recommendations are linked to the State Safety Program	Description:
8	Do you agree to conduct periodic meetings to review the progress of safety recommendations with other States?	☐ Yes ☐ No

APPENDIX 4.6B

TERMS OF REFERENCE

FOR

ACCIDENT AND INCIDENT INVESTIGATION GROUP
(AIIG)**1. PURPOSE OF THE AIIG**

The AIIG is established to:

- 1.1 Enhance the effectiveness of MENA States' aircraft accident and incident investigation capabilities through the sharing of knowledge and experience in the field of aircraft accident and incident investigation.
- 1.2 Support and facilitate cooperation among the MENA States through managing the activities of the MENA Accident Investigation Regional Cooperation Mechanism (MENA ARCM).
- 1.3 In accordance with its Terms of Reference (ToR), the AIIG shall:
 - a. Encourage and support the development of aircraft accident and incident investigation common standards, rules and regulations for enhancing effective implementation of SARPs relevant to aircraft accident and incident investigation within MENA States.
 - b. Identify challenges that face the MENA States in the course of aircraft accident and incident investigations, and propose solutions.
 - c. Review the aircraft accident and incident investigation reports and the safety recommendations issued by MENA States, including the identification of possible trends.
 - d. Cooperate and coordinate with all partners for effective use of AIG resources available in the MENA States, including expertise, training capabilities, equipment, investigation know-how and information, standards and guidance, etc.
 - e. Develop an agreed and harmonized MENA States database of accidents and incidents and utilize this database for identifying operational safety risks and their corresponding controls/mitigations to enhance aviation safety.
 - f. Provide safety data and safety information on accidents and incidents to the MID-Annual Safety Report Group (ASRG) for the development of the MID Annual Safety Report.
 - g. Monitor developments in ICAO in respect of aircraft accident and incident investigation issues and propose initiatives to the RASG-MID.
 - h. Coordinate with SEIG on all Safety Enhancement initiatives (SEIs) related to AIG.
 - i. Manage the activities of the MENA ARCM in coordination with MENA ARCM Committee.

1.4 Roles and responsibilities of MENA ARCM Committee:

- i. Advises and update the Chairperson of AIIG on the progress of the MENA ARCM activities.
- ii. Acts as a liaison between their States and the AIIG to establish an agile communication link with the AIIG and to regularly attend AIIG and MENA ARCM meetings and teleconferences/video conferences.
- iii. Contributes with expertise to conduct the work activities of MENA ARCM.
- iv. Develops and update the MENA ARCM plan of action.
- v. Facilitates and support the implementation of MENA ARCM MoU.
- vi. Identifies the assistance requirements of MENA ARCM member States in terms of aircraft accident and incident investigation, training, sharing of information, best practices, etc.
- vii. Promotes and coordinates MENA ARCM activities within the authorities responsible for aircraft accident and incident investigation of States.
- viii. Encourages and recommends to MENA ARCM member States on the implementation of harmonised regulations and procedures.

2. COMPOSITION

The AIIG is composed of Members designated by the following MENA States, MENA ARCM Committee Focal Points (FPs), and Partners/Observers:

- **States:** MENA States/ MENA ARCM FPs
- **MENA ARCM Committee FPs:** Composed of Focal Points to be nominated by MENA ARCM member States.
- **Partners/Observers:** AACO, ACAO, Gulf Flight Safety Council, IATA, IFALPA, IFATCA, International Society of Air Safety Investigations (ISASI), Middle East and North Africa Society of Air Safety Investigators (MENASASI), Experts from relevant aviation industry.

3. ROLES AND RESPONSIBILITIES

- AIIG Chairperson – Coordinate with Secretariat of AIIG for managing activities including the MENA ARCM activities and provide overall guidance and leadership;
- AIIG Vice Chairperson – Assist the Chairperson and when required;
- Members – Accomplish tasks related to AIIG and form representation of their States
- ICAO – Support; and
- Partners/Observers – Provide technical expertise as requested by the AIIG Chairperson.

4. MEETINGS ARRANGEMENTS

- The Chairperson, in close co-operation with the Secretary, shall make all necessary arrangements for the most efficient working of the AIIG. The AIIG shall at all times conduct its activities in the most efficient manner possible with a minimum of formality and paper work (paperless meetings). Permanent contact shall be maintained between the Chairperson, Secretary and Members of the AIIG to advance the work. Best advantage should be taken of modern communications facilities, particularly video-conferencing (Virtual Meetings) and e-mails.
- Face-to-face meetings as well as virtual meeting will be conducted when it is necessary to do so.

APPENDIX 5.2A

FOLLOW-UP ACTION PLAN ON MIDANPIRG/17 CONCLUSIONS & DECISIONS

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/ 1	MID RVSM SAFETY PROTOCOL PROCEDURE That, the MID RVSM Safety Protocol Procedure at Appendix 3.3A , is endorsed.	To address opened safety protocols	Procedure	MIDRMA	2021	Completed
C. 18/2	PROCEDURE FOR TEMPORARY RVSM APPROVAL That, the procedure for granting Temporary RVSM Approvals at Appendix 3.3B , is endorsed.	Initial process of granting RVSM approval for new aircraft type	Procedure	States	2021	Completed
C.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 action.	Monitor and share communication and surveillance specification compliance with the set-out airspace requirements	Provide the granted approvals of registered ACFT Coordinate and shre the information with other RMAs	States MIDRMA	2021	Closed
C. 18/4	MID RVSM SAFETY MONITORING REPORT (SMR) 2019 That, the MID RVSM Safety Monitoring Report (SMR) 2019 at Appendix 3.3C , is endorsed.	To develop the MID SMR 2019	SMR 2019	MIDRMA	2020	Completed

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/5	MID RVSM SAFETY MONITORING REPORT (SMR) 2020 That, the MID RVSM Safety Monitoring Report (SMR) 2020 at Appendix 3.3D , is endorsed.	To develop the MID SMR 2020	SMR 2020	MIDRMA	2019	Completed
C. 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.	To prevent non-RVSM approved aircraft from operating within the MID RVSM Airspace	Develop online search engine Develop bulletin to States Ensure NON-RVSM Aircraft are not allowed to operate within the RVSM Airspace Report to MIDRMA cases of violation	MIDRMA MIDRMA States States	2021	Closed
C. 18/7	MID RVSM SAFETY MONITORING REPORT (SMR) 2021 That,	Develop SMR 2021	State Letter	ICAO	2022	Completed SL AN 6/5.10.15A – 21/090 dated 15 June 2021

5.2A-3

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
	a) the FPL/traffic data for the period 1 – 31 July 2021 and LHD Reports for the period 1 January 2021 to 31 December 2021 be used for the development of the MID RVSM Safety Monitoring Report (SMR 2021; b) only the appropriate Traffic Data as per MIDRMA requirements shall be submitted; any corrupted traffic data will be rejected; c) the traffic data must be submitted to the MIDRMA before 31 August 2021; and d) the final version of the MID RVSM SMR 2021 be ready for presentation to and endorsement by MIDANPIRG/19.		Provide TDS and LHDs SMR 2021	States MIDRMA		SMR 2021 report endorsed (Conc. 19/1)
C. 18/8	MIDANPIRG CART IMPLEMENTATION “PLAN OF ACTIONS” That, in order to ensure States’ ANS and related services provisions continuity, and the preparedness for the recovery phases: a) the MIDANPIRG CART Implementation “Plan of Actions” at Appendix 5.1A is endorsed; and b) States, ANSPs, Airspace users, airport operators and all concerned stakeholders are urged to support the implementation of the Plan of Actions at Appendix 5.1A, and exchange relevant operational data.	Support States’ ANS and related services provisions continuity, and the preparedness for the recovery phases				Closed
C. 18/9	THE MID REGION AIR NAVIGATION REPORT – 2020 That, the MID Region Air Navigation Report – 2020 is endorsed and be posted on the ICAO MID website.	To publish the status of ASBU implementation in the MID Region for 2020	MID AN Report 2020 is endorsed and posted	ICAO	Feb 2021	Completed

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/10	MID REGION AIR NAVIGATION REPORT (2021) That, States be urged to provide the ICAO MID Office, with relevant data necessary for the development of the MID Region Air Navigation Report – 2021, by 30 December 2021.	Monitoring and Reporting of ASBU implementation in the MID Region	State Letter Data for AN Report 2021 Air Navigation Report (2021)		Dec. 2021	Completed SL AN 1/7 – 21/215 dated 18 November 2021 <i>The Web-based MID AN Report 2021 endorsed (Conc. 19/5)</i>
C. 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: - 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); - 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 - 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. 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.	Monitoring of the overall ANS performance	State letter Data provision Consolidation of the results Results to be included in the ANR2021		2021 February 2022	Closed SL AN 1/7 – 21/222 dated 25 November 2021 <i>(Replies: Egypt, Iran, Jordan, Kuwait, Oman, Qatar, S. Arabia and UAE)</i> <i>The Web-based MID AN Report 2021 endorsed (Conc. 19/5)</i>

5.2A-5

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/12	REVISED MID AIR NAVIGATION STRATEGY That the Revised MID Region Air Navigation Strategy (ICAO MID Doc 002) is endorsed and be published on the ICAO MID Office website.	To align the MID Region AN Strategy with the GANP 6 th edition	Revised MID AN Strategy	ICAO	Feb 2021	Completed
C. 18/13	PROPOSAL FOR AMENDMENT TO THE MID eANP VOLUME II, TABLE ATM II-MID-I: MID REGION ATS ROUTE NETWORK That, a) States and airspace users provide the ICAO MID Office with their inputs to the Table ATM II-MID-1 before 30 April 2021; and b) the ICAO MID Office, carry out necessary coordination to consolidate and process a proposal for amendment to the MID ANP Volume II, by 1 June 2021.	To update MID eANP Volume II, Table ATM II-MID-I, based on new PfAs and States comments	Revised eANP Volume II, Table ATM II-MID-I	ICAO	2021	Completed SL ME 3&AN 6/5.8 – 21/057 dated 20 April 2021 <i>(Replies: Bahrain, Egypt, Iran, Jordan, Oman, Qatar, S. Arabia , Sudan, Syria, UAE and Yemen)</i> <i>PfA endorsed by MIDANPIRG (Conc. 19/13)</i>
C. 18/14	PROPOSAL FOR AMENDMENT TO THE MID ANP VOLUME II, PART III - CNS That, the ICAO MID Office, process a proposal for amendment to the MID ANP Volume II, Part III – CNS to amend the CNS Table II-1, Table II-2 and CNS Specific Regional Requirements, as at Appendices 5.2E, 5.2F and 5.2G, respectively.	To mandate the implementation of Regional CNS requirements	PfA	ICAO	2021	Completed
C. 18/15	AMENDMENT TO THE MID eANP VOLUME III That, That, the MID eANP Volume III be amended as at https://www.icao.int/MID/Documents/eANP/MID%20eANP%20VOL%20III.pdf .	To update the MID eANP VOL III	Updated MID eANP VOL III	ICAO	Feb 2021	Completed

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/16	AMENDMENT OF THE eANP VOLUME III PART 0 AND PART I That, the ICAO MID Office, carry out necessary coordination with ICAO HQ and other Regional Offices to amend the Regional Air Navigation Plans, Vol III, Part 0 and Part I to keep pace with the latest developments, including the alignment with the GANP 6th Edition.	To update the eANP VOL III Part 0 & Part 1	Updated MID eANP VOL III	ICAO	2022	Ongoing
D. 18/17	DIGITAL DATASETS IMPLEMENTATION AD-HOC WORKING GROUP (DDI-AD-HOC WG) That, the Digital Datasets Ad-hoc Working Group (DDI Ad-hoc WG): a) is tasked to develop a detailed Regional Implementation Plan for Digital Datasets and update the MID Doc 008, for review by the AIM SG; and b) be composed of Abdulla Hasan AlQadhi (Bahrain), Moataz Abdel Aziz Ahmed (Egypt), Rouhahah Salehi (Iran), Mohammad Hussien Al Anezi (Kuwait), Bassem Ali Nasser (Lebanon), Faisal Al Busaidi (Oman), Pamela Erice (Qatar), Hind A. Almohaimeed (Saudi Arabia), Maram Khaled and Sayed Samiullah (UAE) ; and ICAO MID Office.	Development of a Regional Implementation Plan for Digital Datasets Update the MID Doc 008 - Guidance for AIM Planning and Impl in MID	Regional Digital Datasets Implementation Plan; and MID Doc 008 - Guidance for AIM Planning and Impl in MID	MIDANPIRG/18	Dec. 2022	Actioned <i>Revised Version of MID DOC 008 was endorsed (Conc. 19/7)</i> The detailed Regional Implementation for Digital Datasets is under development.
C. 18/18	EAD CHARGING MECHANISM That, the ICAO MID Office, with the support of concerned Sates, initiate discussions with EUROCONTROL/EAD, in order to reconsider the charging mechanism to add a lower/upper limit for charging States that are willing to migrate to EAD.	Reconsideration of the charging mechanism to add a lower/upper limit for charging States that are willing to migrate to EAD	SoD ICAO MID-Eurocontrol EAD	ICAO	April 2021	Completed SL ME 3/2.5.1 – 21/123 dated 25 July 2021 <i>EAD-MIDAD Coordination Meeting held on 27 April 2021</i> <i>MIDAD TF/6 held on 13 September 2021.</i>
C. 18/19	MID REGION AIM IMPLEMENTATION ROADMAP That,	Planning for AIM	MID Region	MIDANPIRG/18	June 2021	Completed SL AN 8/4 – 21/071 dated 19 May

5.2A-7

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
	a) the MID Region AIM Implementation Roadmap be updated, as at Appendix 5.2H ; and b) States be urged to provide the ICAO MID Office with their updated National AIM Implementation Roadmap, using the Template at Appendix 5.2I .	implementation in the MID Region	AIM Implementation Roadmap			2021 <i>(Replies: Bahrain, Egypt, Iran, Jordan, Kuwait, Oman, Qatar, S. Arabia, and UAE)</i>
C. 18/20	AIR NAVIGATION DEFICIENCY RELATED TO NON-IMPLEMENTATION OF TOD AREA 2A/TOFP AND OLS That, States that have not yet provided Terrain and Obstacle Data (TOD) for area 2a, the take-off flight path area and the area bounded by the lateral extent of the aerodrome obstacle limitation surfaces (OLS) at International Aerodromes, be included in the List of Air Navigation Deficiencies.	Updated list of deficiencies in the AIM field	MID Air Navigation Deficiency Database (MANDD)	MIDANPIRG/18	February 2021	Completed MANDD updated.
C. 18/21	AIM WEBINARS That, Webinars on the NOTAM proliferation and needs for improvement, as well as on the AIM/QMS Functions Systems and Processes be organized in 2021.	Raising awareness on QMS in AIM and reduction of the old/very old NOTAM	Webinars on the NOTAM improvement and QMS in AIM	MIDANPIRG/18	2021	Completed MID ICAO AIM/QMS Functions Systems and Processes webinar held on 29 April 2021; ICAO MID Regional Webinars on NOTAM Improvement (COVID-19 and old NOTAMs) held on 1 June, 16 August & 15 Dec 2021
C. 18/22	ACTION PLAN FOR THE IMPLEMENTATION OF RNAV TO RNP CHART NAMING CONVENTION That, States, that have not yet done so, be urged to provide the ICAO MID Office with their Action Plan for the implementation of RNAV to RNP Chart naming convention, including the status/plans of implementation by September 2021 .	Monitoring and Reporting of RNAV to RNP Chart naming convention implementation and status in the MID Region	State Letter Dashboard of RNAV to RNP Chart naming convention status in the MID Region	ICAO (File Ref : AN 6/29 – 21/072 dated 19 May 2021) States	Sep. 2021	Closed SL AN 6/29 – 21/072 dated 19 May 2021 <i>(Replies: Bahrain, Kuwait and UAE)</i>

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/23	PBN SIDs AND STARS IMPLEMENTATION That, PBN SIDs and STARS be implemented at all runway ends of international aerodromes listed in the MID Air Navigation Plan as per the agreed targets in the MID Region Air Navigation Strategy (APTA Thread).	Monitoring and Reporting of APTA THREAD /B0/2 Element PBN SID and STAR procedures (with basic capabilities) implementation and status in the MID Region	State Letter APTA THREAD /B0/2 Element PBN SID and STAR procedures (with basic capabilities) status in the MID Region	States	Sep. 2021	Closed SL AN 6/28 – 21/076 dated 19 May 2021 <i>(Replies: Bahrain, Egypt, Iran, Oman, Qatar, Saudi Arabia, UAE and Yemen)</i>
C. 18/24	STATES NEEDS FOR THE BBB-AOP IMPLEMENTATION That, in order to support the implementation of the BBB for Airport Operations and prioritize the necessary technical assistance in line with the MID Region NCLB Strategy: a) States requiring assistance are urged to provide the ICAO MID Office, by March 2021 , with their Needs for the BBB-AOP Implementation using the Table at Appendix 5.2J ; and b) States and stakeholders having the required experience and expertise are encouraged to volunteer to joint efforts with ICAO for the provision of necessary technical assistance.	Monitor the MID States BBB-AOP Implementation needs	Survey on MID States BBB-AOP Implementation needs	States	August 2021	Closed SL: ME 4/1.8 -20/019 dated 14/01/2020 and Email Reminder dated 5/8/2021 (States didn't reply yet: Libya, Oman, and Yemen)
C. 18/25	AIRPORT PLANNING SEMINAR That, ICAO organize an Airport Planning Seminar in 2022 and States are encouraged to participate actively in this event.	Prepare States to the upcoming requirements on Airport Master plan	Airport Planning Seminar	ICAO	December 2022	Closed Workshop planned for 2022

5.2A-9

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/26	A-SMGCS IMPLEMENTATION SEMINAR That, a) ICAO organize an A-SMGCS Implementation Seminar/Workshop in 2021-2022; and b) States are encouraged to participate actively in this event.	Ensure proper Implementation of the A-SMGCS on Aerodromes as part of the ASBU Block 0 SURF module of the GANP 6th Edition	A-SMGCS Implementation Seminar/Webinar	ICAO	December 2022	Closed Workshop planned for 2022
C. 18/27	MID REGION ACDM IMPLEMENTATION PLAN That, by March 2021 , concerned States (according to the applicability area included in the MID Region Air Navigation Strategy) be urged to: a) provide the ICAO MID Office with the contact details of their designated National ACDM Implementation Focal Points; and b) populate the Questionnaire on ACDM Implementation Plan, using the template at Appendix 5.2K .	Ensure proper implementation of the ASBU Block 0 ACDM module of the GANP 6th Edition	List of MID States ACDM focal points & Survey on ACDM Implementation Plan	States	August 2021	Closed SL AN 5/23 – 21/037 dated 23 March 2021 and Email Reminder dated 5/8/2021 <i>(States didn't reply yet: Bahrain, Kuwait and Oman)</i>
C. 18/28	MID REGION ATFM CONOPS That, the MID Region ATFM CONOPS V1.0 is endorsed and be published as MID Doc 014 on the ICAO MID website.	Develop Regional multi-Nodal ATFM implementation reference	ATFM CONOPS 1.0	ATFM TF	2021	Completed
C. 18/29	ATM OPERATIONAL DATA EXCHANGE That, in order to ensure better coordination between ANSPs and improve ATS planning: a) the MID ATM Operational Data Exchange process at Appendix	Develop a process to ensure ANS units readiness for the planned traffic	OPS Data exchange process	ATFM TF	2021	Closed SL ME 3 & ME 3/2.1.1 – 21/058 dated 21 April 2021 <i>(Replies: Bahrain, Egypt, Iran,</i>

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
	5.2L, is endorsed. b) Airspace users are invited to share with the ICAO MID Office the data related to their “Intention To Operate (ITO)” on monthly basis, for posting on the ICAO MID Office Secure Portal (Group “RO-MIDITO”); c) States be urged to nominate Focal Points/Coordinators for ATM data exchange; in order to be granted access to the ITO data available on ICAO MID secure portal; d) ICAO MID Office to organize periodic coordination meetings for ANSPs to exchange ATM operational data; and e) States ensure that the ITO and ATM Operational data are used solely for airspace management and ATC planning purposes during the recovery phase, and should not be shared outside the ATM community as it contains operational and financial sensitive data.					<i>Iraq, Jordan, Kuwait, Lebanon, Qatar, S. Arabia, Syria and UAE)</i> Included as part of the MID Doc. 014: MID ATFM Plan (V2.0) endorsed by MIDANPIRG (Conc. 19/14).
C. 18/30	MID REGION RVSM AIRSPACE SAFETY ASSESSMENT RELATED TO THE FWC 2022 That, the MIDRMA conduct a MID Region RVSM airspace safety assessment, to ensure that the overall risk is meeting the ICAO TLS; and identify the peak periods, hotspots, bottlenecks, etc., based on a worst case scenario, using the forecasted traffic during the FWC 2022 period and all historical LHD reports available within the MIDRMA database.	Develop RVSM Airspace assessment related to FWC 2022 forecasted traffic movements	Provide forecasted traffic data Develop the assessment using the current Airspace Structure Share the results to the concerned States	Qatar MIDRMA ICAO MID	2021	Completed

5.2A-11

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
D. 18/31	MID CMC/FUA ACTION GROUP That, the MID CMC/FUA Action Group: a) review the newly published ICAO Doc 10088, in order ensure that the regional requirements related to Civil Military Cooperation and implementation of FUA Concept, including State aircraft operations under Due Regard in particular over the high seas, are covered; and b) if necessary, draft, by 30 September 2021, complementary guidance.	Develop guidance material for CIV/MIL Cooperation, FUA and due regard over high seas	Guidance material	ATM SG/7	Dec 2019	Closed An Action Group composed of experts from Bahrain, Egypt, Iraq, Jordan, Oman, Qatar, Saudi Arabia, UAE and ICAO was established Replaced and superseded by Dec. 19/19
D. 18/32	HIGH LEVEL AIRSPACE CONCEPT ACTION GROUP (HLAC AG) That, the Terms of Reference and Work Programme of the MIDAMC STG be updated as at Appendix 6.2T. 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 31 August 2021 , for presentation to the ATM SG/7 meeting and endorsement by the MIDANPIRG/19 meeting.	Revised version of the MID Region High level Airspace Concept	Draft Revised version of the MID Region High level Airspace Concept	ATM SG/7	2021	Closed AG established and started drafting the amendment. <i>Replaced and superseded by Dec. 19/20</i>
C. 18/33	USE OF ATC SIMULATORS That, a) States are invited to provide the ICAO MID Office by 30 April 2021 with their practices and experience on the use of ATC Simulators for refresher courses, competency checks and examination/assessment purposes to continuously ensure the level of proficiency during extended abnormal traffic periods (pandemics, crisis and similar events); and b) ICAO MID Office to consolidate the inputs from States to be shared with States and ICAO HQ, for appropriate action.	Share practices to mitigate ATC skills and proficiency fadeout	Consolidated MID State practices	MID States	2021	Closed SL ME 3 & AN 6/16 – 21/059 dated 21 April 2021 <i>(Replies: Bahrain, Egypt, Jordan, Kuwait, Qatar, S. Arabia, Sudan and UAE)</i>

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/34	MIDAMC OPERATION EFFICIENCY That, in order to enhance the MIDAMC operation efficiency, States are encouraged to: a) update their MIDAMC focal point(s); b) register MIDAMC users on the EUR AMC as external AMC operator, in coordination with the MIDAMC Team by 1 March 2021; c) note that the MIDAMC web application will be withdrawn by 1 April 2021; and d) nominate SMEs to join the MIDAMC Team. A training on MIDAMC operation will be arranged for new MIDAMC members.	To avoid duplication of efforts and increase the efficiency of the AFS Network	Updated MIDAMC focal points	ICAO States	February 2021	Closed SL ME 3/2.2.1-21/053 dated 19 April 2021 <i>(Replies: Bahrain, Egypt, Iraq, Jordan and UAE)</i>
C. 18/35	AMC OPERATION WEBINAR That, in order to provide the MIDAMC users with the required knowledge on the use of the AMC functions and tools, a Webinar on AMC operation be organized in March 2021 , by the ICAO MID Office and the MIDAMC Team.	To refresh the knowledge of the MIDAMC operators in the MID Region	Awareness webinar	ICAO MIDAMC	March 2021	Completed
C. 18/36	AFTN/CIDIN/AMHS ROUTING DIRECTORY That the AFTN/CIDIN/AMHS Routing Directory in the MID Region, Edition February-2021 at Appendix 5.2Q , is endorsed.	To minimized the looping issues in the AFS network	Updated AFTN/AMHS Routing Directory	ICAO	Feb 2021	Completed
C. 18/37	ALTERNATIVE SOLUTION TO ESTABLISH MID IP NETWORK That, the ICAO MID Office, with the support of concerned Sates, initiate discussions with EUROCONTROL, in order to explore the possibility of joining the PENS project as an alternative solution for establishing a MID IP Network.	To establish MID IP Network	Coordination with EUROCONTR OL to explore	ICAO	2021	Actioned/Ongoing SL ME 3/2.2.1-21/084 dated 2 June 2021 <i>(Replies: Bahrain, Egypt, Jordan,</i>

5.2A-13

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
			the possibility of joining the NEW PENS			<i>Kuwait, Lebanon, Oman, S. Arabia and UAE)</i>
D. 18/38	TERMS OF REFERENCE OF THE MIDAMC STG That, the Terms of Reference of the MIDAMC STG be updated as at Appendix 5.2R.	To update the MIDAMC TOR	MIDAMC TOR is updated	ICAO	2021	Completed
C. 18/39	FLIGHT INSPECTION AND PROCEDURE VALIDATION SYMPOSIUM That, a Flight Inspection and Procedure Validation Symposium be organized in 2021.	To increase awareness on FIPV	Flight Inspection and Procedure Validation Symposium	ICAO	2021	Closed The Symposium was postponed to 2022
D. 18/40	GNSS GUIDANCE AD-HOC ACTION GROUP That, the GNSS Guidance Ad-hoc Action Group be: a) established to review and prepare a revised version of the Guidance on GNSS Implementation in the MID Region (MID Doc 011), to be presented to MIDANPIRG/19 for review and endorsement; and b) Composed of: Mr. Saleh Al-Harthy (Oman, CNS SG Chairman) Mr. Ahmed Saied (Egypt) Mr. Khaled Eltanany (Oman) Mr. Emad Jadallah (Saudi Arabia) Mr. Jehad Al-Faqir (IATA) ICAOMID Office	To provide guidance on GNSS implementation in the Region	The GNSS Ad- hoc AG is establish	ICAO	2021	Actioned/ Ongoing Revised Version of MID DOC 011 will be presented to MIDANPIRG/20 for review and endorsement

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 18/41	UPDATE OF THE GNSS IMPLEMENTATION GUIDANCE IN THE MID REGION (MID DOC 011) That, the ICAO MID Doc 011 – GNSS Implementation Guidance in the MID Region, Edition February 2021 is endorsed and be posted on the ICAO MID Office website.	To provide guidance on GNSS implementation in the Region	Revised version of the Guidance on GNSS Implementation	ICAO	2021	Completed
C. 18/42	NAV MON PLAN AD-HOC ACTION GROUP That, the NAV. MON Plan Ad-hoc Action Group be: a) established to develop a template for NAV MON Plan to be presented to the CNS SG/11 for further review and enhancement; and b) Composed of: Mr. Saleh Al-Harthy (Oman, CNS SG Chairman) Mr. Ahmed Abdelwahab (Egypt) Ms. Amena Dodin (Jordan) Mr. Khaled Eltanany (Oman) Mr. Khaled Al-Harby (Saudi Arabia) Mr. Jacob Avis (UAE) Mr. Jihad Al-Faqir (IATA) ICAO MID Office	To develop NAV MON Plan template	NAV MOD AD AG is established NAV MON Plan template is developed	ICAO States	2021 2023	Actioned/Ongoing Initial draft Template of the MON NAV Plan will be presented to CNS SG/11
C. 18/43	UPDATE OF THE MID REGION SURVEILLANCE PLAN (MID DOC 013) That, the ICAO MID Doc 013 - MID Region Surveillance Plan, Edition February 2021 is endorsed and be posted on the ICAO MID Office website.	To develop a plan for optimizing Surveillance network	MID Region Surveillance Plan is endorsed & published	ICAO	2021	Completed
C. 18/44	WRC23 PREPARATORY WORKSHOP That, a WRC23 preparatory Workshop be organised in 2022 jointly	To support ICAO	WRC23	ICAO	2022	Closed WRC23 preparatory Webinar is

5.2A-15

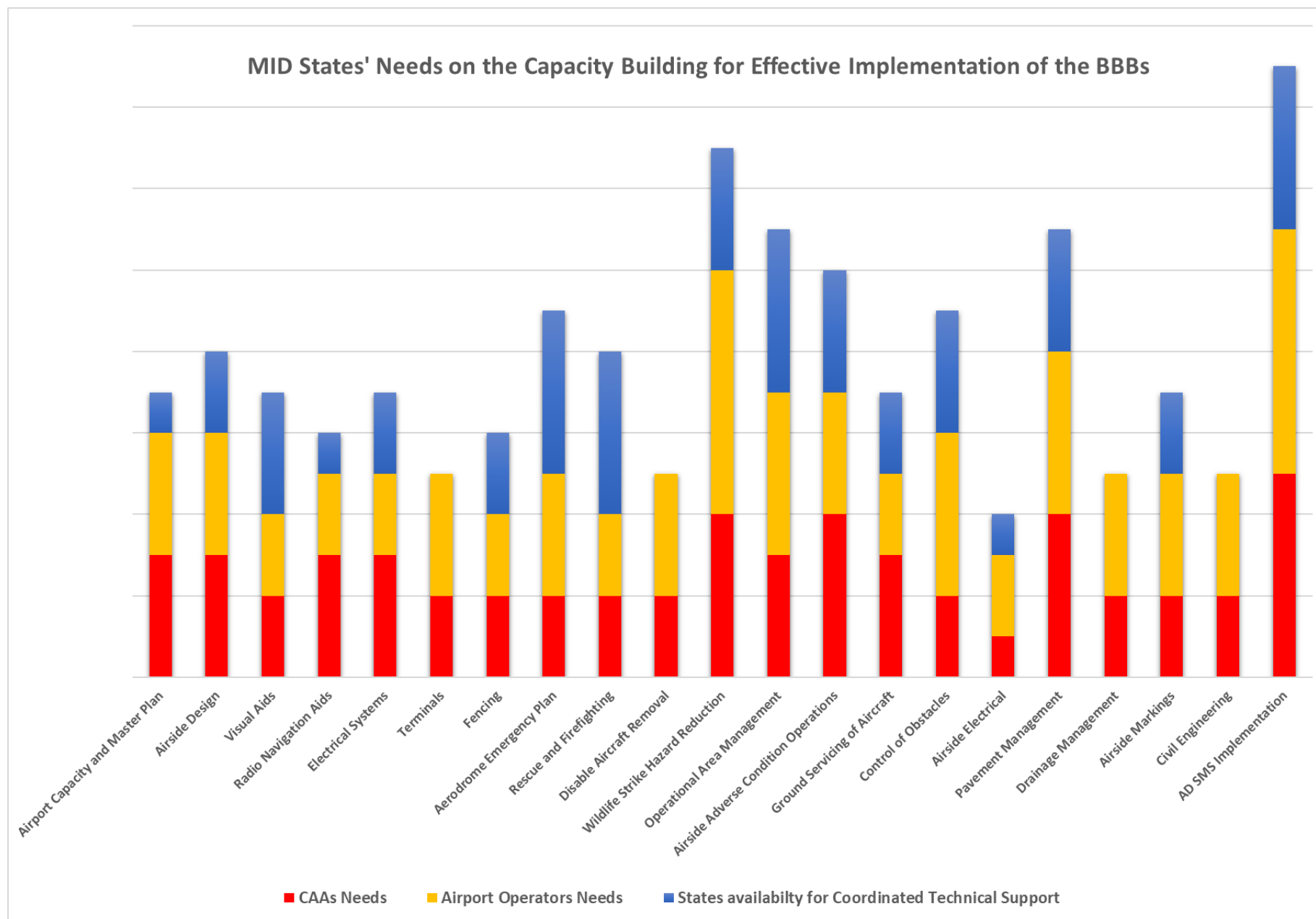
No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
	with ACAO, the Arab Spectrum Management Group (ASMG) and AFI Region.	position for the WRC23	Webinar			planned in 2022
C. 18/45	FREQUENCY COORDINATION PROCESS IN THE MID REGION That, in order to enhance the frequency coordination process in the MID Region, States be invited to: a) use the latest version of the FF tool in frequency coordination process; b) provide ICAO with updated frequency list for COM VHF and NAV (with accurate information); c) provide feedback on the FF tool; d) nominate Frequency Management Focal Points, if not yet done so; and e) participate actively in the frequency management workshop planned for 2021.	To update the ICAO Global frequency database	ICAO Global frequency database is updated	States	2021	Ongoing Frequency Management Workshop postponed to 2022
C. 18/46	LONG-TERM FREQUENCY ASSIGNMENT PLAN IN THE MID REGION That, in order to secure adequate spectrum for VHF-COM, ILS, VOR, DME and GBAS/VDB facilities and meet the operational requirements up to 2030, the Frequency Management Ad-hoc Working Group (FM WG) is tasked with the development of a rolling frequency assignment plan in coordination with concerned parties.	To resolve the issue of NAV frequencies saturation in the MID Region	frequency assignment plan	FM WG	2022	Ongoing
C. 18/47	0.25 DEGREE WAFS HAZARD DATA That, the SADIS users be invited to start integrating the new 0.25 degree WAFS hazard data into their systems and software as soon as possible, but not later than 17 March 2021.	Increased spatial resolution of WAFS hazard data	State Letter	ICAO	2022	Closed SL issued

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C.18/48	NOVEMBER 2023 WAFS UPGRADES That, the SADIS users familiarize themselves with the proposed WAFS and SADIS changes planned for November 2023, and commence preliminary discussions with their technical departments about how their organization could adapt to these technological changes.	Improved WAFS products (increased temporal and spatial resolutions and new data delivery system that is SWIM compliant) will enable users to customize the meteorological data sets that are downloaded	State Letter	ICAO	2022	Closed SL issued
D.18/49	FREQUENCY OF MIDANPIRG MEETINGS That, the MIDANPIRG meetings be organized on an annual basis concurrently with the RASG-MID in an in-person setting, unless decided otherwise (the meetings could be organized in a virtual or hybrid setting, if decided so by the Groups, considering the circumstances, availability of host, resources, global and regional developments, feedback from States and progress and outcomes of the Groups).	To determine the frequency of MIDANPIRG meeting	MIDANPIRG is organized annually	ICAO	2021	Completed Revised MIDANPIRG Procedural handbook was and endorsed by MIDANPIRG/19 (Dec. 19/27)
D. 18/50	DISSOLUTION OF THE MSG AND THE MAEP BOARD That, a) the MSG and MAEP Board are dissolved; and b) the MIDANPIRG Organization Structure be updated accordingly.	To update MIDANPIRG Organization structure	MSG and MAEP board are dissolved	MIDANPIRG	2021	Completed
D. 18/51	CHAIRPERSONS' ELECTION GUIDELINES That, the MIDANPIRG Procedural Handbook be updated to include additional Guidelines related to the Chairperson and Vice-	To enhance the efficiency of	MIDANPIRG Procedural	ICAO	2021	Completed

5.2A-17

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
	Chairpersons responsibilities; and the professional background and personal qualities required for the election of Chairpersons, as at Appendix 5.4A.	MIDANPIRG chairmanship	Handbook is updated			
D. 18/52	MIDANPIRG TERMS OF REFERENCE That, the MIDANPIRG Terms of Reference (ToR) be amended as at Appendix 5.4B , in line with the PIRGs Generic ToR approved by the President of the Council on 7 Aug.2020.	To update the MIDANPIRG TOR	MIDANPIRG TOR is updated	MIDANPIRG	2021	Completed
D. 18/53	TERMS OF REFERENCE OF THE AIM SG That, the Terms of Reference of the AIM SG be updated as at Appendix 5.4C .	updated ToRs of the AIM SG	ToRs of the AIM SG	MIDANPIRG/18	Feb. 2021	Completed
D. 18/54	TERMS OF REFERENCE OF THE ATM SG That, the Terms of Reference of the ATM SG be updated as at Appendix 5.4D .	updated ToR of the ATM SG	ToRs of the AIM SG	MIDANPIRG/18	Feb. 2021	Completed
D. 18/55	TERMS OF REFERENCE OF THE CNS SG That, the Terms of Reference of the CNS SG be updated as at Appendix 5.4E .	To update the CNS TOR	CNS TOR is updated	MIDANPIRG/18	2021	Completed
D. 18/56	TERMS OF REFERENCE OF THE MET SG That, the Terms of Reference of the MET SG be updated as at Appendix 5.4F .	Updated ToR of MET SG	ToRs of the MET SG	MIDANPIRG/18	Feb. 2021	Completed
D. 18/57	TERMS OF REFERENCE OF THE PBN SG That, the Terms of Reference of the PBN SG be updated as at Appendix 5.4G .	Updated ToRs of the PBN SG	ToRs of the PBN SG	MIDANPIRG/18	Feb. 2021	Completed
D. 18/58	NEW EDITION OF THE MIDANPIRG PROCEDURAL HANDBOOK That, the Secretariat, in coordination with the Chairpersons of the Group, develop a new Edition of the MIDANPIRG Procedural	To update the New Edition of the	New Edition of the	ICAO	2022	Completed New Edition of the MIDANPIRG Procedural Handbook was

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
	Handbook, to be presented to MIDANPIRG/19 for endorsement.	MIDANPIRG Procedural Handbook	MIDANPIRG Procedural Handbook is developed			endorsed (Dec. 19/27)

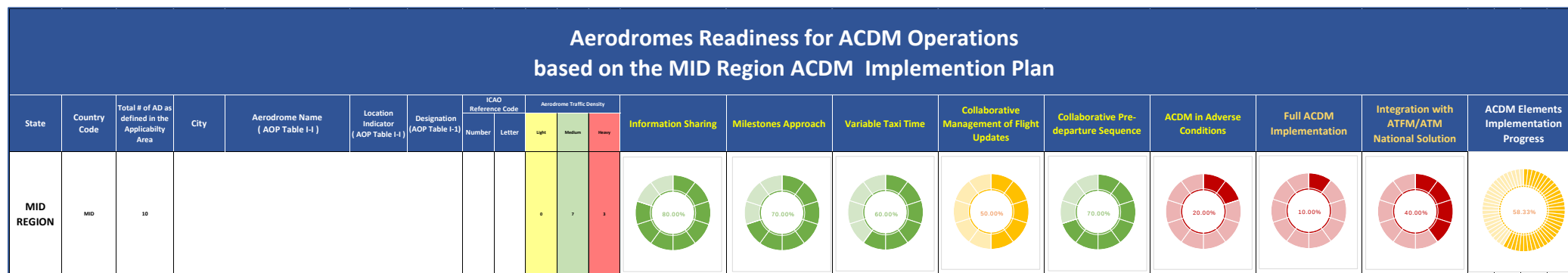


Aerodromes Readiness for ACDM Operations based on the MID Region ACDM Implementation Plan																				
State	Country Code	Total # of AD as defined in the Applicability Area	City	Aerodrome Name (AOP Table I-1)	Location Indicator (AOP Table I-1)	Designation (AOP Table I-1)	ICAO Reference Code		Aerodrome Traffic Density			Information Sharing	Milestones Approach	Variable Taxi Time	Collaborative Management of Flight Updates	Collaborative Pre-departure Sequence	ACDM in Adverse Conditions	Full ACDM Implementation	Integration with ATFM/ATM National Solution	ACDM Elements Implementation Progress
							Number	Letter	Light	Medium	Heavy									
Bahrain	BHR	1	Manama	Bahrain International Airport	OBBI	RS	4	F				✓	✓	✗	✓	✓	✗	✗	✓	

This Dashboard is based on the MID States inputs as of March 2022

Aerodromes Readiness for ACDM Operations based on the MID Region ACDM Implementation Plan																				
State	Country Code	Total # of AD as defined in the Applicability Area	City	Aerodrome Name (AOP Table I-I)	Location Indicator (AOP Table I-I)	Designation (AOP Table I-1)	ICAO Reference Code		Aerodrome Traffic Density			Information Sharing	Milestones Approach	Variable Taxi Time	Collaborative Management of Flight Updates	Collaborative Pre-departure Sequence	ACDM in Adverse Conditions	Full ACDM Implementation	Integration with ATFM/ATM National Solution	ACDM Elements Implementation Progress
							Number	Letter	Light	Medium	Heavy									
Qatar	QAT	1	Duha	Hamad International Airport	OTHH	RS	4	F												
Saudi Arabia	SAU	2	Jeddah	King Abdulaziz International Airport	OEJN	RS	4	F												
			Riyadh	King Khalid International Airport	OERK	RS	4	E												
UAE	ARE	2	Abu Dhabi	ABU DHABI/Abu Dhabi Intl	OMAA	RS	4	F												
			Dubai	Dubai International Airport	OMBD	RS	4	F												

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Useful links:

- [Global Air Navigation Plan \(GANP\)](#)
- [MID eANP](#)
- [MID Air Navigation Strategy](#)
- [MID Air Traffic Flow Management - Concept of Operations](#)
- [MID Air Navigation Report](#)

This Dashboard is based on the MID States inputs as of March 2022

AMENDMENT PROPOSAL

PROPOSAL FOR AMENDMENT OF THE ICAO MID AIR NAVIGATION PLAN (DOC 9708), VOLUME II

(Serial No. MID-II-22/01-ATM)

- a) **Plan:** MID Air Navigation Plan Volume II – Part IV-ATM
Specific Regional Requirements
- b) **Proposed amendment:** Editorial note: Amendments are arranged to show “deleted text” using strikeout (~~text to be deleted~~), and “added text” with grey shading (**text to be inserted**)

TABLE ATM II-MID-1 MID REGION ATS ROUTE NETWORK

EXPLANATION OF THE TABLE

Column

1	<i>Designator of ATS route and Type (Conventional, RNAV5 or RNAV1 etc.)</i>
2	<i>Significant points defining the ATS routes. Only prominent locations have been listed. Additional points where facilities are provided to complete navigational guidance along a route, but not otherwise marking significant characteristics of the route (change of heading of centre line, intersection with other routes, etc.) have normally not been included. Locations shown in parentheses indicate significant points outside the Region.</i>
Note 1.	<i>Not representing the operator's requirements. Operator's required route and/or nav aids are shown in square brackets ([]).</i>
Note 2.	<i>Subject to further study. Including the associated navigation aid coverage.</i>
Note 3	<i>Subject to military agreement.</i>
Note 4.	<i>Not acceptable at present.</i>
Note 5.	<i>At present, implementation possible only during specific periods (e.g. weekends, nights, etc., as published).</i>
Note 6.	<i>At present, implementation of the RNAV route only possible above FL 300, or as published.</i>
Note 7.	<i>Unidirectional use.</i>
Note 8.	<i>For ATS route or part thereof is RNAV 1</i>
Note 9.	<i>ATS route activated by NOTAM</i>

- 1) **Amend** requirements for ATS routes A16, A408, A411, A412, A416, A422, A424, A453, A454, A727, A775, A777, A788, B12, B121, B400, B403, B404, B407, B411, B413, B415, B416, B417, B419, B424, B441, B451, B457, B505, B524, B526, B535, B538, B540, B544, B549, G183, G202, G208, G216, G452, G462, G650, G652, G660, G662, G663, G665, G666, G667, G669,

G670, G674, G775, G781, G782, G783, G792, G795, G799, L124, L125, L200, L223, L300, L301, L305, L306, L308, L314, L315, L319, L321, L333, L417, L425, L430, L443, L444, L513, L519, L550, L551, L556, L564, L566, L572, L601, L602, L604, L607, L612, L613, L617, L620, L631, L677, L681, L695, L768, L883, M203, M300, M301, M303, , M309, M316, M318, M319, M320, M321, M425, M428, M430, M434, M440, M444, M449, M550, M551, M557, M559, M561, M574, M600, M628, M634, M651, M677, M681, M686, M688, M690, M691, M762, M860, M861, M863, M872, M999, N300, N302, N303, N310, N315, N316, N318, N319, N324, N438, N440, N563, N569, N571, N629, N685, N687, N697, N764, N767, N881, P146, P300, P304, P307, P312, P316, P323, P430, P513, P517, P552, P557, P559, P560, P567, P570, P574, P634, P693, P699, P751, P891, P899, P975, R2, R219, R401, R402, R462, R650, R652, R654, R655, R659, R660, R661, R777, R784, R785 and R794;

- 2) **Add** requirements for ATS routes A410, A414 (W4), A415 (Q415), A647, A780 (Z151), A791, B402 (T602), B414 (T444), B418 (Q18), B422 (Z622), B527, B537 (Z627), B541 (W141), B543 (Z515), G55, G482, G656, G780 (Z680), L311, L313, L317, L320, L323, L324, L427, L554, L557 (T557), L558, L559 (T509), L560, L561, L570, L692, L703, L704 (Y604), L710, L713 (Q13), L721, L852, L934, M317, M323 (M320), M324, M434 (W136), M554, M555 (J5), M556 (Y856), M562, M564, M565, M568, M572, M701 (T301), M708 (T308), M715 (T215), M718 (T218), M719 (Q19), M720, M855, N39, N72, N311, N312, N314, N317, N320, N321, N558, N565 (Q52), N568, N570 (Z350), N572 (T872), N574, N636, N700 (T665), N705, N710, P302 (T202), P309, P313, P315, P319 (T319), P322, P440, P550 (T430), P555, P556, P565, P566, P568, P572 (P562), P708, P715 (T975), P752, P753, R611, R651 (Z151), R665 (Z675), R670 (Z670) and R775.
- 3) **Delete** requirements for ATS routes A1, B12, M312, UA1, UA16, UA408, UA411, UA412, UA416, UA418, UA422, UA424, UA453, UA454, UA727, UA775, UA788, UB12, UB121, UB400, , UB403, UB404, UB407, UB411, UB412, UB413, UB415, UB416, UB417, UB419, UB424, UB441, UB451, UB457, UB526, UB535, UB538, UB544, UB549, UG202, UG216, UG452, UG462, UG650, UG652, UG660, UG662, UG663, UG665, UG666, UG667, UG669, UG670, UG674, UG775, UG781, UG782, UG783, UG792, UG795, UG799, UL124, UL125, UL126, UL200, UL223, UL300, UL301, UL305, UL306, UL308, UL310, UL314, UL315, UL319, UL321, UL333, UL417, UL425, UL430, UL438, UL440, UL443, UL444, UL513, UL519, UL550, UL551, UL555, UL556, UL564, UL566, UL572, UL573, UL601, UL602, UL604, UL607, UL612, UL613, UL617, UL620, UL631, UL677, UL681, UL695, UL764, UL768, UL883, UM203, UM300, UM301, UM303, UM305, UM309, UM312, UM316, UM318, UM319, UM320, UM321, UM425, UM428, UM430, UM434, UM440, UM444, UM449, UM550, UM551, UM557, UM559, UM561, UM573, UM574, UM600, UM628, UM634, UM651, UM677, UM681, UM686, UM688, UM690, UM691, UM860, UM861, UM863, UM872, UM877, UM999, UN300, UN302, UN303, UN307, UN310, UN315, UN316, UN318, UN319, UN324, UN430, UN438, UN440, UN563, UN569, UN571, UN629, UN638, UN685, UN687, UN694, UN697, UN764, UN767, UN881, UN929, UP146, UP300, UP304, UP307, UP312, UP316, UP323, UP425, UP430, UP517, UP552, UP557, UP559, UP560, UP561, UP562, UP563, UP567, UP570, UP574, UP634, UP693, UP699, UP751, UP891, UP899, UP975, UR2, UR205, UR219, UR401, UR402, UR462, UR650, UR652, UR654, UR655, UR659, UR660, UR661, UR674, UR777, UR784, UR785, UR794 and UR799.

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
A1	METRU 340000N 0250900E SOKAL 323601N 0273706E KATEX 320701N 0282436E BOPED 312939N 0292655E ALEXANDRIA (NOZ) 311113N 0295701E MENKU 310531N 0301806E CAIRO (CVO) 300532N 0312318E	UA1	METRU 340000N 0250900E SOKAL 323601N 0273706E KATEX 320701N 0282436E BOPED 312939N 0292655E ALEXANDRIA (NOZ) 311113N 0295701E MENKU 310531N 0301806E CAIRO (CVO) 300532N 0312318E
A16	RASDA 330600N 0305700E MELDO 320201N 0310406E BALTIM (BLT) 313144N 0310721E DEGDI 311429N 0311035E CAIRO (CVO) 300532N 0312318E	UA16	RASDA 330600N 0305700E MELDO 320201N 03104406E BALTIM (BLT) 313144N 0311035E DEGDI 311429N 0311035E CAIRO (CVO) 300532N 0312318E
A408	(ADDIS ABABA) GWZ 090622N 0384612E (SOLIR 135224N 421918E) SALEH 140000N 042002500E ORNIS 141615N 0423657E HODEIDAH (HDH) 144622.1N 0425911.1E	UA408	(ADDIS ABABA) GWZ 090622N 0384612E SALEH 140000N 0420000E ORNIS 1416.215N 0423657.9E HODEIDAH (HDH) 1446.4N 04259.2E 144622N 0425911E
A410	KAFIA 084400N 0233100E ALMAM 093345N 0244451E RADAG 110340N 0270020E ELOBEID (OBD) 130640.53N 0301335.25E IMSUT 142048N 0312230E RADKA 145006N 0315040E VATEN 153358N 0323312E		
A411	(MITBA 333919N 0111142E) TANLI 332938N 0113000E CLAMS 331700N 0120800E DERKA 330900N 0132202E KAVOX 325700N 0145603E GARUS 324000N 0170000E PRAWN 324000N 0180500E BENINA (BNA) 320728N 0201513E MKILY 315900N 0222000E NASER 315112N 0235518E LOSUL 314100N 0250800E SIDI BARANI (BRN) 313432N 0260020E	UA411	BENINA (BNA) 3207.28N 0201513E NASER 3151.12N 0235518.3E LOSUL 314100N 250800E SIDI BARANI (BRN) 3134532N 0260020E
A412	TANF (TAN) 332857900N 038394520E RAFIF 331247N 0381919E ZELAF 325656700N 037112180000E DAXEN 3244445N 0374105E ASLON 321211N 0365111E NADEK 322728N 0371429E NADEK 322728N 0371429E ASLON 321211N 0365111E KUPRI 320825N 0364530E LUDAN 320256N 0363713E GETUP 315833.47N 0363037.47E QUEEN ALIA (QAA) 314423.41N 0360926.59E OSAMA 315550N 0353706E	UA412	TANF (TAN) 332857N 0383915E ZELAF 325656N 0371121E DAXEN 324444N 0374105E ASLON 321211N 0365111E NADEK 322728N 0371429E KUPRI 320825N 0364530E LUDAN 320256N 0363713E QUEEN ALIA (QAA) 314423N 0360926E
A414	DEBER 375006N 0580200E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	BOJNORD (BRD) 372942.2N 0571923.8E EGLUL 372407N 0564855E ORSEK 370517N 0551109E ALNIT 370022N 0544645E GORGAN (GGN) 365544.7N 0542233.3E IMPIR 364958N 0535846E DATOL 364717N 0534706E DASHT-E-NAZ (DNZ) 363853.6N 0531120.1E LABET 360950N 0530127E BUBUX 353023N 0524814E DEHNAMAK (DHN) 351515.0N 0524312.0E		
A415	TONVO 250500N 0563200E *Note 7 (UMEVU - TONVO) LUBAT 250223N 0561749E IMPED 245824.5N 0560406.2E UKVAK 245147N 0553329E GEVIV 244118N 0545000E IMLIP 243648N 0543549E KUGTO 243231N 0542224E UKILI 243815.5N 0535636.4E ALNEV 244601N 0534122E KAXOB 245423N 0532450E UMEVU 250545N 0530653E		
A416	TABRIZ (TBZ) 380853.5N 0461247.5E EGVON 381647N 0475421E ARDABIL (ARB) 381856.5N 0482605.1E GIVTA 380050N 0484744E GABMI 374115N 0491052E RASHT (RST) 371935.8N 0493657.1E KOBUB 370621N 0501031E EGMAN 370311N 0501827E RAMSAR (RSR) 365412.5N 0504050.49.6E ALKUP 364702N 0510409E NOSHAHR (NSR) 363935.46.1N 0512805.751.4E IMKER 363938N 0515239E MODEK 363918N 0523407E DASHT-E-NAZ (DNZ) 363853.6N 0531120.1E GORGAN (GGN) 365544.7N 0542233.3E LOVEN 363926N 0553355E ODKOL 363136N 0560702E SABZEVAR (SBZ) 361011N 0573415.4.9E LOXED 355854N 0580609E RIBUX 360112N 0582647E MASHHAD (MSD) 361352.2N 0593904.2E SOGES 351600N 0595822E SOKAM 331316N 0603754E	UA416	TABRIZ (TBZ) 380853N 0461247E ARDABIL (ARB) 381856N 0482605E RASHT (RST) 371935N 0493657E RAMSAR (RSR) 365412N 0504050E NOSHAHR (NSR) 363935N 0512805E DASHT-E-NAZ (DNZ) 363855N 0531120E SABZEVAR (SBZ) 361011N 0573415E MASHHAD (MSD) 361352N 0593901E SOKAM 331316N 0603754E
A418	KUMUN 254000N 0551515E PAPAR 264000N 0542700E *Note 7 (OI and OM) Segment KUMUN-PAPAR SHIRAZ (SYZ) 293224N 0523520E	UA418	KUMUN 254000N 0551515E PAPAR 264000N 0542700E *Note 7 (OI and OM) Segment KUMUN-PAPAR SHIRAZ (SYZ) 293224N 0523520E
A422	UROMIYEH (UMH) 374001.114N 0450343.503.7E	UA422	UROMIYEH (UMH) 374001N 0450343E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	RABEM 374841N 0452949E SETNA 375615N 0455522E TABRIZ (TBZ) 380853.5N 0461247.6E MURID 382744N 0463525E DARUN 383339N 0464235E DASDA 384135N 0465214E PARSABAD-E-MOGHAN (PAD) 393443N 0475803E PARSU 393748N 0480448E KARAD 40181814.3N 0500356 04929.5E (BAKU)		SETNA 375615.3N 0455522.4E TABRIZ (TBZ) 380853N 0461247E PARSABAD (PAD) 393443N 0475803E PARSU 39374.8N 048044.8E KARAD 40181814.3N 0500356 04929.5E (BAKU)
A424	LOVEK 322208N 0444001E LOTAN 295942N 0433848E RAFHA (RAF) 28195093713N 046074632953E LUDEP 290948N 0430646E TAMRO 283838N 0424047E SIKLI 275801N 0420721E HAIL (HIL) 272530N 04140589E *Note 7 (JDW-HIL) HAMED 265133N 0411706E LAKRO 263051N 0410241E ORMAD 260353N 0404401E GOMRA 253656N 0402534E MIXUG 251537N 0401104E MADINAH (PMA) 243251N 0394219E DEGVU 234245N 0393941E ORMEK 233454N 0393917E RULEB 230059N 0393731E DATAP 223927N 0392910E ASTOL 2255.00N 03935.12E JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E	UA424	LOVEK 322208N 0444001E LOTAN 295942.7N 04338.48E RAFHA (RAF) 293718N 0432953E HAIL (HIL) 272530N 0414058E MADINAH (PMA) 243251N 0394219E ASTOL 2255.00N 03935.12E KING ABDULAZIZ (JDW) 214244N 0390723E
A453	(GADER 294100N 0612800E) PIRAN 293407N 0612809E ZAHEDAN (ZDN) 292912.3N 06054065.7E ULOVI 291948N 0603429E DANOV 291444N 0602357E PEKES 285929N 0595221E NABOX 281630N 0582601E DAVEP 274226N 0572009E BANDAR ABBAS (BND) 271149.4N 0562200.3E PAVON 270206N 0561149E GHESHM ISLAND (KHM) 264547.1N 05554287.6E *Note 7 (KHM-BAH) SERDU 264715N 0545757E ROSUM 264741N 0543637E BANDAR LENGHEH (LEN) 263210N 0545104E KISH (KIS) 263131N 0535745E KAPIP 264322N 0521403E MIDSI 264142N 0515442E BOTOB 263350N 0514505E ALMOK 262832N 0513840E SOLOB 262241N 0513132E	UA453	PIRAN 2934076N 06128096E ZAHEDAN (ZDN) 292912N 0605406E BANDAR ABBAS (BND) 271149N 0562200E GHESHM (KHM) 264547N 0555428E *Note 7 (KHM, BAH) BANDAR LENGHEH (LEN) 263210N 0545104E KISH (KIS) 263131N 0535745E MIDSI 264142.7N 0515442.5E BOTOB 263350N 0514505E ALMOK 262832N 0513840E SOLOB 262241N 0513132E TOBLI 262134N 0512301E SOGAT 262029N 0511443E ASTAD 261811N 0505646E BAHRAIN (BAH) 261551N 0503856E *Note 7 (OB, OI) ELSO 262409N 0503550E EGMOR 264210N 0502906E LOTOR 264854N 0502200E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	TOBLI 262134N0512301E SOGAT 262029N 0511443E RIKET 261952N 0510954E ASTAD 2618142N 0505646E BAHRAIN (BAHR) 26155430N 0503856919E *Note 7 (OB, OI) ELOSO 262409N 05035591E EGMOR 2642101N 05029067E LOTOR 264854N 0502200E RAMSI 270249N 0500714E ORNAK 2728534N 0493248E SOLEM 275229N 0491136E KUMBO 281705N 04985526E AWADI 283430N 0484354E GESAK 283430N 0484353E DEBTI 2844067N 04829245E KUWAIT (KUA) 291306457N 0475903717E		RAMSI 270249N 0500714E ORNAK 272853N 0493248E SOLEM 275229N 0491136E KUMBO 281705N 0495526E AWADI 283430N 0484354E DEBTI 284406N 0482924E KUWAIT (KUA) 291306N 04759036E KARACHI (KC) 245443.6N 0671054.6E *Note 7 (KC PASOV) BEGIM 2443.02N 06700.01E *Note 7 (OO, OP) MELOM 2503345.0N 06631342.0E PUNEL 25183520.0N 06522453.0E PARET 2525187.2N 0645102.5E TAPDO 242400N 0612000E VUSET 235540N 0590812E PASOV 243841N 0565037E
A454	(KARACHI (KC) 245443.523.80N 06710540936.28E) *Note 7 (KC PASOV) BEGIM 2443023N 0670001E *Note 7 (OO, OP) MELOM 250334N 0663134E PUNEL 251835N 0652245E (PARET 252518N 0645102E) *Note 7 (PARET-PASOV) TAPDO 242400N 0612000E VUSET 235540N 0590812E UMEKO N240620 E0583450 BORER N242623 E0573048 PASOV 243841N 0565037E	UA454	
A647	NAZAR 363929N 0601926E MASHHAD (MSD) 361352.2N 0593902.0E SABZEVAR (SBZ) 361011.0N 0573414.9E MITUS 360535N0565748E ULANO 354937N 0550052E ODKAT 354650N 0544146E MIRUR 354221N 0541139E RAPKI 353454N 0532208E BUBUX 353023N0524814E VARAMIN (VR) 352033.6N 0513813.8E IMAMKHOMAINI (IKA) 352434.8N 0511042.5E RUDESHUR (RUS) 352643.7N 0505419.3E LOXAM 350415N 0491601E HAMADAN (HAM) 345200.8N 0483301.0E KERMANSHAH (KMS) 342023.0N 0471008.9E RAGET 333048N 0455348E		
A727	PAXIS 335706N 0272000E OTIKO 313421N 0293636E ALEXANDRIA (NOZ) 311115N 0295703E MENKU 310531N 0301806E CAIRO (CVO) 300532N 0312318E SOLAM 294201N 0313106E	UA727	(PAXIS 335706.1N 02720.00E OTIKO 313421.3N 02936.36E ALEXANDRIA (NOZ) 311115N 0295703E MENKU 310531.5N 0301806.1E CAIRO (CVO) 300532N 0312318E LUXOR (LXR) 254458N 0324607E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	RASMI 285901N 0314506E SEMRU 280200N 0320306E NABED 271801N 0321706E LUXOR (LXR) 254458N 0324607E BOVAR 244140N 0322419E LOPID 231900N 0315530E ABU SIMBLE (SML) 222118N 0313719E NUBAR 220000N 0313806E SOMAK 190301N 0314717E MEROWE (MRW) 18265949N 031490749E ALPOX 171131N 0320831E GOPDA 161115N 0325135 GAGNI 135430N 0324706E KHARTOUM (KTM) 153358N 0323312E KENANA (KNA) 130141N 0325423E LODWAR (LOV) 030627N 0353646E (AVONO 092606N 0335418E) KUTOP 080407.80N 0341704.20E NAKURU (NAK) 001817S 0360919E EPSIX 063808N 0344002E NAIROBI (NV) 011800S 0365715E AMATO 051836N 0350124E KILIMANJARO (KV) 032540S 0370624E ANTAX 040000N 0352248E LODWAR (LOV) 030627N 0353646E		ABU SIMBLE (SML) 222118N 0313719E NUBAR 220000N 0313806.1E MEROWE (MRW) 182659N 0314907E KHARTOUM (KTM) 153358N 0323312E KENANA (KNA) 130141N 0325423E LODWAR (LOV) 030627N 0353646E NAKURU (NAK) 001817N 0360919E NAIROBI (NV) 011800S 0365715E KILIMANJARO (KV) 032540S 0370624E
A775	REXOD 211230N 0613830E TUMET 222307N 0595702E IMDEK 224647N 0592217E OBTIN 230216N 0585920E *Note 7 (OBTIN-KUSRA) KUSRA 2317262426N 05854022611E	UA775	REXOD 211230N 0613830E TUMET 222307N 0595702E IMDEK 224647N 0592217E OBTIN 230216N 0585920E KUSRA 231726N 0585102E
A777	TONVO 250500N 0563200E *Note 7 (TONVO-VAXIM) BUBAS 245938N 0570003E *Note 7 (OO) NADSO 244957N 0574926E MUNGA 242516N 0584533E MIXOL 240618523N 0592739959E VAXIM 231900N 0611100E		
A780	*Note 9 (KHM-MIXAM) GHESHM ISLAND (KHM) 264547.1N 0555427.6E ULDUN 262429N 0560924E BOTOV 252812N 0564307.80E GIDIL 251742N 0564923E BUBAS 245938N 0570003E GERAR 240600N 0573616E MIXAM 234139N 0575523E		
A788	HALAIFAH (HLF) 262603N 0391609E LOXOR 270903N 0410002E HAIL (HIL) 272530N 04140589E ORNIL 273503N 0422443E TOTAD 275043N 0433904E	UA788	HALAIFAH (HLF) 262603N 0391609E HAIL (HIL) 272530N 0414058E HAFR AL BATIN (HFR) 281950N 0460746E *Note 7 (HFR-PATIR) WAFRA (KFR) 283715.3N 0475729.5E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	LOXOM 275648N 0440832E LOTOK 280834N 0450402E HAFR AL BATIN (HFR) 2849502126N 046074603E *Note 7 (HFR-PATIR) DERKO 282751N 0465213E SOROR 283417N 0473932E WAFRA (KFR) 283715N 0475729E DEBTI 284407N 0482925E BOXIK 284814N 0484734E DANAL 285128N 0490450E RETEL 285236N 0491048E PATIR 285606N 0492923E KHARK ISLAND (KHG) 291550N 05019040.7E IVERA 292303N 0511540E RUBAK 292617N 0514218E SHIRAZ (SYZ) 2932254.6N 052352019.6E		PATIR 285606N 0492923E KHARK (KHG) 291550N 0501901E SHIRAZ (SYZ) 293225N 0523520E
A791	LALDO 251806N 0563600E GIDIL 251742N 0564923E IMLOT 251708N 0570804E KATUS 251600N 0574700E PEDEX 251211N 0592131E KINOX 250945N 0600942E EGPIC 250811N 0603730E EGRON 250444N 0613245E (BIVIN 250349.80N 0614744.40E)		
B12	TANSA 340000N 0264900E SOKAL 323601N 0273706E EL DABA (DBA) 310041N 0282801E KATAB 292501N 0290506E BOPOS 264318N 0300722E DEPNO 262438N 0301413E EL KHARGA (KHG) 252654N 0303527E ABU SIMBEL (SML) 222118N 0313719E	UB12	TANSA 340000N 0264900E SOKAL 323601N 0273706E EL DABA (DBA) 310041N 0282801E KATAB 292501N 0290506E BOPOS 264318N 0300722E DEPNO 262438N 0301413E EL KHARGA (KHG) 252654N 0303527E ABU SIMBEL (SML) 222118N 0313719E
B121	OXADU 350837N 0511226E RUDESHUR (RUS) 3526443.7N 0505419.3E VEBER 354209N 0504400E DAVMI 355657N 0503401E PAXID 361703N 0502021E ALTIV 364131N 0500330E RARTA 365323N 0495516E RASHT (RST) 3719354.8N 0493657.1E SIVIT 373553N 0490511E DASDA 384135N 0465214E MAGRI 385408N 0462300E	UB121	RUDESHUR (RUS) 352644N 0505419E RASHT (RST) 371935N 0493657E MAGRI 385408N 0462300E
B400	MUSCAT (MCT) 233528.04N 0581536.48E ITURA 232351N 0580720E GEPOT N232351 E0580720 GEVED N231446 E0580053 IZKI (IZK) 2253198.6N 05745432.73E DARAT N222000 E0572830 KEBAS N214330 E0570948	UB400	MUSCAT (MCT) 233528N 0581536E ITURA 232351N 0580720E IZKI (IZK) 225319N 0574543E HAIMA (HAI) 195813N 0561651E ASTUN 180832N 0551040E DAXAM 171612N 0544715E MUTVA 165325N 0543201E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ITSAG N213720 E0570640 MEVLI N211632 E0565606 VUTAP N205411 E0564449 ORSIT N202306 E0562915 HAIMA (HAI) 195813.31N 05616540.82E *Note 7 (HAI-DAXAM) KUKDI N193022 E0555953 ITUVO N190315 E0554328 LABED N182135 E0551827 ASTUN 180832N0551040E DAXAM 171612N 0544715E MUTVA 165325N 0543201E IMKAD 155245N 0535147E NODMA 152603N 05333589E RIGAM 143932N 0530414E RAPDO 132317N 0521532E VEDET 120134N 05124420E (MOGADISHU) MOGDU 020024N 0451736E		IMKAD 155245N 0535147E NODMA 152603N 0533358E RIGAM 143932N 0530414E RAPDO 132317N 0521532E VEDET 120134N 0512410E (MOGADISHU) MOGDU 020024N 0451736E
B402	*Note 9 (TUMAK-ROTOX) TUMAK 255031N 0531108E *Note 7 (TUMAK-RAGAS) VEDOM 260109N 0524456E ORLUP 260651N 0523216E VELAK 261307N 0521821E LABOP 261907N 0520429E ALTOM 262230N 0515639E BOPOV 262430N 0515043E ALMOK 262832N 0513840E GITBO 263527N 0511750E VEDOS 264106N 0510045E MOGAS 264800N 0503909E TOLMO 265504N 0502927E EGLIT 270256N 0502006E TOKMA 270939N 0501159E ORSOL 272135N 0500208E ITNAS 274644N 0493957E GODRI 280257N 0494308E ROTOX 283323N 0494809E		
B403	MANDERA (MAV) 035625N 0415151E (MOGADISHU) (AXIKU 112332N 0493519E) BOMIX 121002N 0502757E ODBEN 123747N 0505648E KAVAN 133250N 0515431E RIGAM 143932N 0530414E	UB403	MANDERA (MAV) 035625N 0415151E BOMIX 121002N 0502757E ODBEN 123747N 0505648E KAVAN 133250N 0515431E RIGAM 143932N 0530414E
B404	HARGA (HARGEISA) 093112N 0440530E (ESTIK 112206N 0471854E) DEMGO 120258N 0483040E PURKA 131208N 0503042E GESIX 134440N 0512823E RIGAM 143932N 0530414E	UB404	HARGA (HARGEISA) 093112N 0440530E DEMGO 120258N 0483040E PURKA 131208N 0503042E GESIX 134440N 0512823E RIGAM 143932N 0530414E
B407	JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E	UB407	KING ABDULAZIZ (JDW) 214244N 0390723E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	DENBU 210129N 0382031E KAROX 205717N 0381547E MAHDI 202600N 0373918E PORT SUDAN (PSD) 192404.12N 0371430.21E		KAROX 205717N 0381547E MAHDI 2026.00N 0373918.3E (PORT SUDAN) (PSD) 192404N 0371430E
B411	ROVAR 292438N 0345711E TAKSU 293625N 0343623E *Note 7 (TAKSU-ULINA) KARIK 2927633N 03446541E ULINA 292451N 03458178E ELETA 293201N 0352900E LORIK 293640N 0354840E TAMIM 293640N 0354840E PETRA 294206N 0362210E DEESA 294509N 0364102E OBSOT 295451N 0373455E AL SHIGAR (ASH) 300722N 0384753E NEVOL 302446N 0393841E KAVID 303552N 0401147E ARAR (AAR) 305429N 0410832E MURIB 311337N 0415136E RALTI 314208N 0430001E RUKAM 315008N 0431938 ELODI 320256N 0435126E LOVEK 322208N 0444001E LONOR 323839N 0450458E NOLDO 324932N 0452129E PAPUS 325334N 0452707E PAXAT 332056N 0460519E ILAM (ILM) 333442.3N 0462455.4E KERMANSIAH (KMS) 342023N 0471009E YASER 335850N 0470456E IVELI 343459N 0482952E DAXIL 345135N 0493454E SAVEH (SAV) 350107.8N 0502217.9E [TEHRAN] (TRN) 354149N 0511702E ESOGOL 350829N 0503128E OXADU 350837N 0511226E NAGIN 350619N 0515308E *Note 1 DEHNAMAK (DHN) 351514.5N 0524313.2E *Note 7 (DHN-MSD) GIBAB 353213N 0543656E ITELO 353534N 0550052E SABZEVAR (SBZ) 361011N 0573415E ERABAM 355442N 0572955E LOXED 355854N 0580609E RIBUX 360112N 0582647E MASHHAD (MSD) 361352.2N 0593902E TANBU 353422N 0603430E PAMTU 351006N 0610806E	UB411	ROVAR 292438N 0345711E TAKSU 293625N 0343623E *Note 7 (TAKSU-ULINA) KARIK 292733N 0344641E ULINA 292451N 0345817E ELETA 293201N 0352900E LORIK 293640N 0354840E DEESA 294509N 0364102E AL SHIGAR (ASH) 300722N 0384753E ARAR (AAR) 305429N 0410832E MURIB 311337N 0415136E LOVEK 322208.1N 0444001.0E NOLDO 324932.5N 0452129.5E PAXAT 332056N 0460519E ILAM (ILM) 333442N 0462455E KERMANSIAH (KMS) 342023N 0471009E SAVEH (SAV) 350107N 0502217E [TEHRAN] (TRN) 354149N 0511702E *Note 1 DEHNAMAK (DHN) 351514N 0524313E SABZEVAR (SBZ) 361011N 0573415E MASHHAD (MSD) 361352N 0593902E
B412	HALAIFA (HLF) 262603N 0391609E RABIGH (RBG) 224731N 0390550E KING ABDULAZIZ (JDW) 214244N 0390723E	UB412	HALAIFA (HLF) 262603N 0391609E RABIGH (RBG) 224731N 0390550E [KING ABDULAZIZ] (JDW) 214244N 0390723E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
B413	LADEN 185342N 0380506E (DULAB 181006N 0390018E) LADEN 185342N 0380506E EKOBAS 170428N 0402029E DANAK 160800N 0412900E RIBOK 154700N 0415230E ERSAL 151352N 0422905E MIPIN 150608N 0423735E HODEIDAH (HDH) 144622.10N 0425911.10E UKNAN 141839N 0432901E ULBIR 135919N 0434940E TAIZ (TAZ) 134150N 0440819E GOMRI 131816N 0443224E ADEN (KRA) 124952.20N 0450125E UMEBU 121559N 0452325E ZIZAN 115136N 0453912E AVIMO 033252.9N 0505239.6E	UB413	LADEN 185342.7N 0380506.1E 1608.00N 04129.00E HODEIDAH (HDH) 144622N 0425911E TAIZ (TAZ) 134150N 0440819E ADEN (KRA) 124952N 0450125E ZIZAN 1151.36N 04539.12E AVIMO 033252.9N 0505239.6E
B414	*Note 9 (ROTOX-DENVO) ROTOX 283323N 0494809E *Note 7 (DENVO-ROTOX) GEPUT 281307N 0493423E DAMUR 280137N 0492638E GIRSI 274126N 0493311E ORDAN 271706N 0495442E RAMSI 270249N 0500714E LOTOR 264854N 0502200E EGMOR 264211N 0502907E DESBU 263240N 0503241E ELOSO 262409N 0503551E BAHRAIN (BHR) 261530N 0503919E TULUB 260644N 0510041E DENVO 260452N 0510509E		
B415	DOHA HAMAD INTL (DOH) 251459.66N 05136354.80E *Note 8 (DOH-BUNDU) KUPSA 250445N 0521151E BUNDU 250024N 0522924E *Note 7 (BUNDU-ADV SIXIV) ASNAX 245659N 0524054E EGPOG 244727N 0531950E UKILI 243815.5N 0535636.4E KUGTO 243231N 0542224E LAGMI 245709N 0524148E RURAL 243045N 0543156E GADVO 244126N 0534300E SIXIV 242009N 0550439E KUNGU 243754N 05356.274E ABU DHABI ADV 242508N 0544024E	UB415	DOHA HAMAD INTL (DOH) 251459N 0513635E *Note 8 (DOH-BUNDU) KUPSA 250445N 0521151E BUNDU 250024N 0522924E *Note 7 (BUNDU-ADV) LAGMI 245709N 0524148E GADVO 2441264N 0534300E KUNGU 243754N 05356.274E ABU DHABI ADV 242508N 0544024E
B416	KUWAIT (KUA) 291306457N 0475903717E *Note 7 (KUA-KUVER) BOXIK 284814N 0484734E IMDOX 283455N 0491438E	UB416	KUWAIT (KUA) 291306N 0475803E AMBIK 283222N 0492025E *Note 8 (AMBIK-KUVER) TESSO 282852N 0492723E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	AMBIK 283222N 0492025E *Note 8 (AMBIK-KUVER) TESSO 282852N 0492723E GEVAL 282101N 0494300E GOGMA 281421N 0495612E KUVER 280924N 0500600E IMDAT 274100N 0511100E DURSI 271219N 0520144E PEGET 270434N 0521515E EGMIT 263340N 0530825E LEVNA 261535N 0533857E ORSAR 260430N 0535730E PEBAT 255153N 0542357E DESDI 253603N 0544230E		GEVAL 282101N 0494300E GOGMA 281421N 0495612E KUVER 280924N 0500600E IMDAT 274100N 0511100E ORSAR 260430N 0535730E PEBAT 255153N 0542357E DESDI 253603N 0544230E
B417	EGVEL 344258N 0503005E UKITA 330657N 0500041E IMKEN 314407N 0493611E BANDAR MAHSHAHR (MAH) 303323.8N 0490858E UKNAR 295538N 0490450E TULAX 293853N 0490301E DESLU 292800N 0490150E EGVAL 292448N 0484545E ALVIX 2949182030N 0482422E KUWAIT (KUA) 291306457N 0475903717E *Note 3 BONIM 285929N 0472925E BOSID 284234N 0465228E HAFR AL BATIN (HFR) 2849502126N 046074603E KING SAUD AB (KMC) 275250N 04533201E EMARO 273342N 0451330E ALKIR 270758N 0444343E RARLO 265939N 0443410E ASNID 264600N 0441835E GASSIM (GAS) 261753N 0434647E *Note 7 (JDW-GAS) AMBIV 254816N 0431649E KINOB 253146N 0430018E KURDO 245306N 0422158E BIR DARB (BDB) 241951N 0414928E ASVIV 235458532N 041232121E TAGNA 231652N 0403851E EDASOR 234116N 0410459E PATOR 231639N 0403657E EGREP 222754N 0395007E JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E	UB417	MAHSHAHR (MAH) 303323N 0490858E TULAX 2938 53N 04903 01E DESLU 2928.00N 0490150.8E ALVIX 2949.318N 04824.12E KUWAIT (KUA) 291306N 0475803E *Note 3 HAFR AL BATIN (HFR) 281950N 0460746E KING SAUD AB (KMC) 275250N 0453320E GASSIM (GAS) 261753N 0434647E BIR DARB (BDB) 241951N 0414928E ASVIV 235458N 0412321E TAGNA 231652N 0403851E KING ABDULAZIZ (JDW) 214244N 0390723E
B418	PAXER 345612N 0551237E ITELO 353534N 0550052E SOMAD 372645N 0543255E		
B419	DHAHRAN (DHA) 261538N 0500824E *Note 8 (DHA-RAMSI)	UB419	DHAHRAN (DHA) 261538N 0500824E *Note 8 (DHA-RAMSI)

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	KING FAHD (KFA) 2621539.51N 0494910643E *Note 7 (KFA-RAMSI) NAGTO 263717N 0495137E KASES 264538N 0495709E ITESA 265016N 0500014E METLA 265645N 0500433E RAMSI 270249N 0500714E		KING FAHD (KFA) 262153N 0494910E *Note 7 (KFA-RAMSI) METLA 265645N 0500432E RAMSI 270249N 0500714E
B422	NARMI 261802N 0501939E *Note 7 (NARMI-TOSNA) TOSTA 262746N 0504913E SOLOB 262241N 0513132E VEDED 260558N 0514628E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E		
B424	ITOLI 152825N 0450927E MEGPA 160017N 0461653E LABRA 161813N 0465113E IMTAN 163253N 0471943E ALSOD 164203N 0473753E TASBI 165853N 0481118E KANEM 173700N 0492655E IMPOS 183137N 0511848E SABEL 185158N 0520339E NOVNO 193313N 0535858E OTISA 201000N 0554556E KASIN 201853N 0555742E VELIK 203322N 0561656E TUBSA 204029N 0562626E VUTAP 205411N 0564449E *Note 7 (VUTAP-GISKA) GISKA 213503N 0574014E	UB424	ITOLI 152825N 0450927E SABEL 185158200N 0520339.7E OTISA 201000N 0554556E GISKA 213503N 0574014E
B441	NABOX 281630N 0582601E SILKO 295558N 0584138E BOPAG 304413N 0584929E KUVAV 313426N 0585747E BIRJAND (BJD) 325820.7N 0591200.5E BOPEB 331913N 0591448E ASVIS 334633N 0591828E NOTSO 351416N 0593034E MASHHAD (MSD) 361352.2N 05939042E ALMUX 362736N 0605121E OTRUZ 363108N 0610956E MARAD 363730.6N 06127.48E	UB441	MASHHAD (MSD) 361352N 0593901E OTRUZ 363108N 0610956E MARAD 363730.6N 06127.48E
B451	DEHNAMAK (DHN) 351514.5N 05243132E RAPKI 353454N 0532208E ITMEL 360729N 0542812E SHAHROUD (SHR) 362522.3N 0550519.5E RIBOB 371705N 0565226E BOJNORD (BRD) 372943.2N 0571923.8E	UB451	DEHNAMAK (DHN) 351514N 0524313E BOJNORD (BRD) 372943N 0571923E DOLOS 375006N 0580200E (ASHGABAT) (ASB) 380011N 0582008E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	DOLOS 375006N 0580200E 0580200E (ASHGABAT) (ASB) 380011N 0582008E		
B457	NARMI 261802N 0501939E BAHRAIN (BAHR) 26155430N 0503855919E TULUB 260644N 0510041E DENVO 260452N 0510509E PATOM 2558221N 0511836E EMISA 254658N 05142067E	UB457	NARMI 261802N 0501939E BAHRAIN (BAH) 261551N 0503855E DENVO 260452N 0510509E PATOM 255822N 0511836E EMISA 254658N 0514206E
B505	LALDO 251806N 0563600E *Note 7/8 (Q LALDO-PASNI) NADSO 244957N 0574926E ITLOB 244325N 0590701E EGTAL 243458N 0603724E APELO 243455N 0612000E (PASNI (PI) 251717N 0632055E)		
B524	NADSO 244957N 0574926E *Note 7 (NADSO-ALPOR) DAMUM 243236N 0591307E ASLOM 242113N 0600552E VEKAN 241235N 0604454E ALPOR 2404421N 0612000E		
B526	KHARTOUM (KTM) 153358N 0323312E DENDI 153006N 0341642E KASSALA (KSL) 152427.47N 0362014.05E TESON 152054N 0371042 (ASMARA (ASM) 151704.01N 03854032.92E) (ZULAC 150136N 0410106E) (ASMARA) (ASM) 151704N 0385403E(PURAD 145500N 0415354E) FARES 145400N 0420100E EMABA 145138N0421943E HODEIDAH (HDH) 144622.10N 0425911.10E UMILI 144609N 0435133E SOKAT 144606N 0440145E PAVEN 144602N 0441112E OBNAM 144541N 0444448E PEBIX 144447N 0454637E DASIT 144412N 0462931E IVORA 144342N 0470342E MEGPO 144257N 0473438E RASBA 144124N 0484128E MUKALLA (RIN) 144015.30N 0492329.30E DANAN 144010N 0495334E KUSOL 144009N 0501534E TATNA 144000N 0515200E RIGAM 143932N 0530414E	UB526	ASMARA) (ASM) 151704N 0385403E HODEIDAH (HDH) 144622N 0425911E MUKALLA (RIN) 144015N 0492329E RIGAM 143932N 0530414E
B527	KHARTOUM (KTM)153358N 0323312E SUVRI 135436N 0321800E RABAK 130110N 0320957E MALAKAL (MLK) 093347.40N 0313911.41E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	JUBA (JUB) 045234N 0313559E OVELA 040000N 0311454E (GOTOD 014501.20N 0305149.80E)		
B535	JUBA (JUB) 045234N 0313559E TAPOS 055408N 0332002E DAGAP 062400N 0341200E (EPSIX 064014N 0343956E) (IMTOR 064641N 0345102E) (APKOD 074053N 0362448E) (KOFTA 081258N 0372041E) (ITPOT 084406N 0380951E) (GAWASA (GWZ) 090622.33N 0384611.71E) (ASOLE 095626N 0401357E) (NIDEG 103632N 0412400E) (LAKBE 110224N 0420939E) (DJIBOUTI (DTI) 1132545.67N 043053376.77E) (DJIBOUTI (DTI) 113255N 0430537E) (KASOL 115248N 0433546E) TORBA 121036N 0440206E KATAN 122724N 0442728E ADEN (KRA) 124952.20N 0450125E BANAR 130604N 0453855E TAMIM 134751N 0471703E ULAXI 141524N 0482317E BAROM 142432N 0484533E MUKALLA (RIN) 144015.30N 0492329.30E NAKAD 150056N 0500402E EGMIX 151811N 0503810E NANRI 160754N 0521603E ASMAK 162327N 0524634E KAPET 163322N 0530614E LADAR N165324 E0534655 SALALAH (SLL) 170259.35N 05406576.91E *Note 7 (ASTUN-SLL) DARAB 174632N 0544902E ASTUN 180832N 0551040E	UB535	(DJIBOUTI (DTI) 113255N 0430537E) ADEN (KRA) 124952N 0450125E MUKALLA (RIN) 144015N 0492329E KAPET 1633 22N 0530614E SALALAH (SLL) 170259N 0540657E ASTUN 180832N 0551040E
B537	RANRU 300115N 0610048 LUDAX 295658N 0604101E PEKES 285929N 0595221E (OGOGO 302457N 0630904.20E)		
B538	ALEPPO (ALE) 3610476.86N 03712343.76E KARIATAIN (KTN) 3412487.82N 0371551.15E	UB538	ALEPPO (ALE) 361047N 0371234E KARIATAIN (KTN) 341248N 0371551E
B540	GERAR 240600N 0573616E *Note 7 (GERAR-MIVEK) DEGNU 242734N 0570613E PASOV 243841N 0565037E KUPMA 245148N 0562648E BUBIN 245742N 0560642E ORKOB 245309N 0562421E MIVEK 245240N 0561516E		
B541	LAR (LAR) 274030.7N 0542454.7E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	NABEX 271157N 0541334E DELBU 265021N 0540506E KISH ISLAND (KIS) 263130.6N 0535744.7E ORSAR 260430N 0535730E		
B543	LADLI 132724N 0451604E DASIT 144412N 0462931E GIBIT 154849N 0473804E KANEM 173660N 0492655E SILPA 184953N 0510158E *Note 7 (SILPA-PUTSO) MEDMO 194837N 0521027E METNO 201418N 0524050E DAXUT 203706N 0530802E SEMSI 204455N 0531724E DASAP 212047N 0540045E DEBIN 214716N 0543309E DARER 221152N 0550332E MIDGU 222706N 0552230E ITKUN 223731N 0553934E KATAK 224811N 0555708E EGVAN 230127N 0561907E GENIR 231111N 0563630E		
B544	(GAZIANTEP) (GAZ) 365705N 0372823E (KILIS) 364213N 0372402E TUSYR 363915N 0372341E ALEPPO (ALE) 361047N 0371234E TUDMU 343100N 0380754E TANF (TAN) 332857900N 038394539E NAMBO 331826N 0383939E DAPUK 330139.44N 0384026.29E MODAD 323539.88N 0384138.14E SODAR 315532602N 038434726E TURAIF (TRF) 3141346N 03844058E ORKAS 304725N 0384617E AL SHIGAR (ASH) 300722N 0384753E LABAD 291922N 0385411E ENABI 290639N 0385550E SOBAS 275600N 0390453E HALAIFA (HLF) 262603N 0391609E *Note 7 (PMA-HLF) BELAL 254629N 0392523E ALTEP 252157N 0393103E MADINAH (PMA) 243251N 0394219E *Note 7 (PMA-JDW) SISUD 234505N 0392538E ASLAD 233742N 0392305E RABIGH (RBG) 224731N 0390550E NOMDA 224257N 0390556E JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E *Note 7 (NOBSU-JDW) BOSUT 204705N 0393158E LOVIL 201553N 0394537E	UB544	(GAZIANTEP) (GAZ) 365705N 0372823E ALEPPO (ALE) 361047N 0371234E TANF (TAN) 332857N 0383915E NAMBO 331826N 0383939E SODAR 315532N 0384317E TURAIF (TRF) 314136N 0384405E AL SHIGAR (ASH) 300722N 0384753E HALAIFA (HLF) 262603N 0391609E MADINAH (PMA) 243251N 0394219E RABIGH (RBG) 224731N 0390550E KING ABDULAZIZ (JDW) 214244N 0390723E QUNFIDAH (QUN) 192211N 0410429E ABHA (ABH) 181431N 0423925E NOBSU 171554N 0431318E ADEN (KRA) 124952N 0450125E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	TORBI 195514N 0401610E QUNFIDAH (QUN) 192211N 0410429E RABGO 191452N 0411452E ITESO 184436N 0415732E ABHA (ABH) 181431N 0423925E LALGI 173029N 0430453E NOBSU 171554N 04313185E MIXON 163035N 0432931E IMSIL 155738N 0434112E IMKAR 153511N 0435039E MUTEX 152524N 0435445 NAGIL 152024N 0435651E MISAN 150001N 0440522E PAVEN 144602N 0441112E GEVEL 141229N 0442547E MOGEM 132655N 0444529E ADEN (KRA) 124952.20N 0450125E		
B549	THAMUD 171700N 0495500E ITEL 171310N 0502605E GOGRI 170752N 0510857E TONRO 165850N 0522235E PUTRA 165432N 0525631E LADAR 165324N 0534655E MUTVA 165325N 0543201E KIVEL 165306N 0553633E	UB549	THAMUD 171700N 0495500E ITEL 171310N 0502605E GOGRI 170752N 0510857E TONRO 165850N 0522235E PUTRA 165432N 0525631E LADAR 165324N 0534655E MUTVA 165325N 0543201E KIVEL 165306N 0553633E
G55	ABADAN (ABD) 302231.1N 0481314.2E UKNAR 295538N 0490450E KHARK ISLAND (KHG) 291550.0N 0501900.7E BUSHEHR (BUZ) 285704.7N 0504933.5E TOTNO 291052N 0515336E SHIRAZ (SYZ) 293224.6N 0523519.6E		
G183	(KAROL 3252.00N 03229.00E) PASOS 311300N 0330600E NADOL 311734N 0334100E EL ARISH (ARH) 310423N 0334955E TABA (TBA) 293624N 0344751E		
G202	(VELOX 3349.00N 03405.00E) SILKO 3347.9N 03435.0E ELIKA 334455N 0343500E KHALDEH (KAD) 334827N 0352910E *Note 4 (OS) DAKWE 3338.957N 03554595.0E DAMASCUS (DAM) 332154N 0362807E SOFIA 332301N 0364941E ABBAS 332610N 0374320E SULAF 332718N 0381027 TANF (TAN) 332857900N 038394520E MODIK 332806.1N 0390100E RAPLU 332300N 0414530E PUSTO 332100N 0424500E DELMI 331918N 0431328E LAGLO 3315389N 0441457E	UG202	(VELOX 3349.00N 03405.00E) SILKO 3347.9N 03435.0E ELIKA 334455N 0343500E KHALDEH (KAD) 334827N 0352910E *Note 4 (OS) DAKWE 3338.957N 03554595.0E DAMASCUS (DAM) 332154N 0362807E TANF (TAN) 332857N 0383945E MODIK 332806.1N 03901.00E RAPLU 3323.00N 0414530.5E PUSTO 3321.00N 04245.00E DELMI 331918.31N 04313287.59E LAGLO 331538N 0441457E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ITOVA 331951N 0444129E SINKA 332137N 0444753E RAGET 333048N 0455348E ILAM (ILM) 333442.3N 0462455.4E ALTET 333209N 0470047E MIPON 332801N 0475344E KHORAM ABAD (KRD) 332603.1N 04817340.7E UKSIS 332159N 0484002E NOTSA 331745N 0490315E RASLA 331202N 0493409E UKITA 330657N 0500041E BOMID 325904N 0504029E IMRAG 325142N 0511643E ESFAHAN (ISN) 334449.1N 05149440.8E PARUG 324704N 0522947E LABOT 324839N 0530053E ALNER 325124N 0540202E MITET 325226N 0542850E NODLA 325330N 0545850E ORSOK 325502N 0554532E IMSOG 325636N 0564649E ROSOS 325815N 0584814E BIRJAND (BJD) 3258240.7N 0591200.5E KAMAR 323900N 0604400E		ITOVA 331950.91N 0444128.97E RAGET 3330.48N 04553.48E ILAM (ILM) 333442N 0462455E KHORAM ABAD (KRD) 332603N 0481731E ESFAHAN (ISN) 334449N 0514941E NODLA 325330N 0545850E BIRJAND (BJD) 325821N 0591200E (KAMAR 3239.00N 06044.00E)
G208	(PANJGUR (PG) 265710.21N 0640813.06E) KEBUD 273552N 0625024E DANIB 290706N 0611717E ZAHEDAN (ZDN) 292912.3N 06054065.7E DAPAP 294630N 0602554E TOVUS 300643N 0595235E BOPAG 304413N 0584929E DARBAND (DAR) 314659.4N 0565940.4E NIVRA 315905N 0563810E SOGOT 324008N 0552339E NODLA 325330N 0545850E ANARAK (ANK) 333215N 0534347E EROVAD 333131N 0535240E TEHRAN (TRN) 354149N 0511702E ERADAL 345423N 0522023E ELEDI 350136N 0520356E IMAM KHOMAINI (IKA) 352434.8N 0511042.5E VEBER 354209N 0504400E GOLNU 355711N 0502052E PAROT 361128N 0495841E LOXUB 363640N 0484942E ZANJAN (ZAJ) 3646476.8N 04821121.9E AMBEX 370356N 0472143 GETOB 371227N 0465129E PARAS 373133N 0454134E TOTBO 373455N 0452858E UROMIYEH (UMH) 374001114N 0450343503.7E ALRAM 374230N 0443736E (SIIRT)		
G216	LAKLU 232235N 0570401E	UG216	LAKLU 232235N 0570401E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	*Note 7 (OO/OP) (MCT KC) IVAKU 232919N 0574103E MUSCAT (MCT) 233528.04N 0581536.48E *Note 7 (LAKLU-SIDKA) ITILA 234055N 0584817E SODEB 234747N 0593023E DORAB 235033N 0594746E DERTO 235033N 0594746E ALPOR 240441N 0612000E LATEM 243144N 0644944E (SIDKA 240844N 0614745E) KARACHI (KC) 245443N 0671054E		*Note 7 (OO/OP) (MCT KC) MUSCAT (MCT) 233528N 0581536E ITILA 234055N 0584817E SODEB 234747N 0593023E DORAB 235033N 0594746E ALPOR 240441N 0612000E LATEM 243144N 0644944E KARACHI (KC) 245443N 0671054E
G452	SHIRAZ (SYZ) 293224.60N 052352019.60E NALBI 294650N 0535357E RIKAS 295337N 0543224E DAVUT 300214N 0552301E GETIS 301145N 0562226E KERMAN (KER) 301706658.1N 04656372.3E ALKES 301045N 0573025E ORDAD 300608N 0575454E SILKO 295558N 0584138E DANUS 293628N 0602030E ZAHEDAN (ZDN) 292912.3N 06054065.7E DERBO 292542N 0611701E (RAHIM YAR KHAN) (RK) 282156N 0701623E (SOKIR 290801N 0642502E)	UG452	SHIRAZ (SYZ) 293224N 0523520E KERMAN (KER) 301706N 0465637E ZAHEDAN (ZDN) 292912N 0605406E DERBO 292542.7N 06117.01E (RAHIM YAR KHAN) (RK) 282156N 0701623E
G462	ROVOS 241825N 0552143E *Note 7 (ROVOS-ITROK TUMAK) NIBAX 245748N 0541437E TUBGO 242403N 0551219E RAGTA 250850N 0535840E ULODA 243530N 0545301E KUVDA 244309N 0543909E ORBOL 245134N 0542348E UKUVO 251228N 0534707E ALSOK 252607N 0533904E OXARI 252535N 0533458E ITROK 253557N 0532751E PURLI 253644N 0532436E TUMAK 255031N 0531108E	UG462	ROVOS 241825N 0552143E *Note 7 to (ROVOS-ITROK) NIBAX 245748N 0541437E RAGTA 250850N 0535840E ALSOK 252607N 0533904E ITROK 253557N 0532751E TUMAK 255031N 0531108E
G482	TABRIZ (TBZ) 380853.5N 0461246.6E MAGRI 385408N 0462300E		
G650	JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E RIBAM 204231N 0390551E RASKA 190732N 0390329E ASMARA (ASM) 151704N 0385403E (DULAB 181006N 0390018E)	UG650	KING ABDULAZIZ (JDW) 214244N 0390723E RASKA 190732N 0390329E ASMARA (ASM) 151704N 0385403E
G652	ADEN (KRA) 124952.20N 0450125E IVOSO 131734N 0453107E BORIL 132617N 0454029E	UG652	ADEN (KRA) 124952N 0450125E IMPOS 183136N 0511848E DUDRI 190000N 0520000E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	IVORA 144342N 0470342E MEMTA 150322N 0472434 DEKMA 152226N 0474553E NABUP 155417N 0482143E DANIN 160544N 0483438E GIBAX 162047N 0485137E IVINA 163253N 0490514E THAMD 171700N 0495500E IMPOS 1831367N 0511848E DUDRI 190000N 0520000E *Note 7 & 8 (DUDRI-NALKI-TOKRA-DUDRI) DAVOX 194400N 0524817E MIPUB 200004N 0530607E GEROL 201443N 0532243E OBSUS 203905N 0534952E LONOV 211856N 0543516E KOBES 214504N 0550526E TOKRA 220925N 0553350E *Note 7 (NALKI - TOKRA) DEBAV 221532N 0554617E DATBU 222243N 0560054E NAMVA 223309N 0562223E NALKI 224928N 0565614E TULBU 230005N 0571827E GEPOT 231446N 0580053E KUSRA 232426N 0582611E SODEB 234747N 0593023E *Note 7 (TAPDO-SODEB) VEKAN 241235N 0604454E TAPDO 242400N 0612000E		*Note 8 (DUDRI-TOKRA) TOKRA 220925N 0553350E TAPDO 242400N 0612000E
G656	JUBA (JUB) 045234N 0313559E ATUGA 040000N 0314800E		
G660	(ARBEG 131355N 0205740) GENEI 132859N 0222748E EL FASHIR (FSR) 133554.09N 0251810.66E EL OBEID (OBD) 130640.53N 0301335.25E IMSUT 142048N 0312230E RADKA 145006N 0315040E KHARTOUM (KTM) 153357.93N 0323312.16E BOPID 163948N 0335142E PORT SUDAN (PSD) 192404.12N 0371430.21E BOGUM 200636N 0380300E MIPOL 203322N 0382145E *Note 7 (MILPO-JDW) EGMEG 205130N 0383336E JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E	UG660	(PORT SUDAN) (PSD) 192404N 0371430E BOGUM 200636N 0380300E MIPOL 203322N 0382145E KING ABDULAZIZ (JDW) 214244N 0390723E
G662	BUSRA 322000N 0363700E KUPRI 320826N 0364530E DESLI 314900.10N 0365900.60E ALKOT 313254N 0371122E GURIAT (GRY) 312445N 0371712E *Note 7 (ASH-GRY)	UG662	BUSRA 322000N 0363700E KUPRI 3208265.87N 0364530.21E ALKOT 313254.22N 03711221.51E GRY 312445.8N 0371712E AL SHIGAR (ASH) 300722N 0384753E HAIL (HIL) 272530N 0414058E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	AL SHIGAR (ASH) 300722N 0384753E ODBAT 293221N 0392626E NIMAR 290635N 0395425E EGVOP 275458N 0411024E HAIL (HIL) 272530N 04140589E DAROP 270505N 0421936E MODIV 263842N 0430840E GASSIM (GAS) 261753N 0434647E *Note 7 (GAS-KIA) KUSRO 255138N 0444328E VELOS 252126N 0454712E KING KHALID (KIA) 245310N 0464534E		GASSIM (GAS) 261753N 0434647E KING KHALID (KIA) 245310N 0464534E KING KHALID (KIA) 245310N 0464534E
G663	UMENA 262832N 0483952E KING KHALID (KIA) 245310N 0464534E 262837N 0484325E SILNO 264024N 0475742E *Note 7 (TABTA- ULADA) *Note 7 (KIA-KFA) GIBUS 255724N 0472829E *Note 8 (GIBUS-ALSER) KING FAHD (KFA) 262453951N 0494910643E RABKA 263531N 0495728E *Note 8 (GIBUS-ALSER) ULADA 2645267N 05016234E LOTOR 264854N 0502200E RAKAK 265221N 0502618E TOLMO 265504N 0502927E KOBOK 265839N 0503349E ITIXA 270141N 0503735E GETAL 27040910N 050403940E *Note 7 (DASDO-GETAL) VEDOR 270855N 0504630E ALSER 271100N 0504900E IMDAT 274100N 0511100E DEPSU 283409N 0515047E DASDO 285401N 0520551E SHIRAZ (SYZ) 293224.6N 052352019.6E KINOT 303207N 0531731E DEDAK 305600N 0533439E BONEG 312826N 0535815E YAZD (YZD) 3153521.6N 05416587.7E BOMIT 321257N 0544414E DANEM 322854N 0550717E NODLA 325318N 0545848E SOGOT 324008N 0552339E ORSOK 325502N 0554532E ALMUD 331758N 0561941E RIBEN 332902N 0563620E TABAS (TBS) 334021.2N 05653340.9E PATEN 340825N 0572334E TASLU 342531N 0574131E RAMIL 352909N 0584941E MASHHAD (MSD) 361352.2N 05939042E	UG663	SILNO 264024N 0475742E *Note 7 (KIA-KFA) GIBUS 255724N 0472829E *Note 8 (GIBUS-ALSER) KING FAHD (KFA) 262153N 0494910E ULADA 264526N 0501623E LOTOR 264854N 0502200E RAKAK 265221N 0502618E TOLMO 265504N 0502927E KOBOK 265839N 0503349E ITIXA 270141N 0503735E GETAL 270409N 0504039E VEDOR 270855N 0504630E ALSER 271100N 0504900E SHIRAZ (SYZ) 293224N 0523520E YAZD (YZD) 315352N 0541658E NODLA 325318N 0545848E TABAS (TBS) 334021N 0565331E MASHAD (MSD) 361352N 0593901E
G665	ARAR (AAR) 305429N 0410832E	UG665	ARAR (AAR) 305429N 0410832E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	ABADAN (ABD) 30224631.1N 048134214.2E DEMPO 301717N 0484329E VATAN 300800N 0493533E BOTAS 295241N 0505515E KAVIL 294820N 0511704E EGSIR 294615N 0512735E SHIRAZ (SYZ) 293224.6N 052352019.6E *Note 5 (OI) VAVAS 291650N 0535340E BOTUX 285828N 0552205E SOLAK 285156N 0555215E ASMET 284758N 0561019E NANTO 284140N 0563831E RIGUT 283136N 0572226E NABOX 281630N 05825601E LOXOL 274556N 0604538E ASVIB 265724N 0631812E (PANJGUR) (PG) 265710.21N 0640813.06E)		ABADAN (ABD) 302216N 0481342E SHIRAZ (SYZ) 293224N 0523520E *Note 5 (OI) NABOXD 281630.1N 0582501.8E LOXOL 274556.9N 0604538.6E ASVIB 265724N 0631812E (PANJGUR) (PG) 265710N 0640813E
G666	SHIRAZ (SYZ) 293224.6N 052352019.6E KUPTO 282418N 0525432E LAMERD (LAM) 272222.2N 0531102.3E LAVAN ISLAND (LVA) 264843.4N 0532121.1E *Note 7 (OI) DATUT 263332N 0533538E ELIRA 262105N 0534502E ORSAR 260430N 0535730E ITITA 254410N 0541839E ELUDAM 255508N 0535859E SINBI 250842N 0543741E KIVUS 254522N 0540032E TOTKU 253534N 0540410E ULIVA 252647N 0540611E ABU DHABI (ADV) 242508N 0544024E VEGEK 251837N 0540803E REVAV 250909N 0541012E ITOMI 250152N 0541151E ELOVU 245721.3N 0542017.5E	UG666	SHIRAZ (SYZ) 293224N 0523520E LAMERD (LAM) 272222N 0531102E LAVAN (LVA) 264843N 0532121E *Note 7 (OI) ORSAR 260430.5N 0535730.5E ITITA 254410N 0541839E SINBI 250842N 0543741E ABU DHABI (ADV) 242508N 0544024E
G667	PUTMA 374800N 0515736E NOSHAHR (NSR) 36393546.1N 0512805751.4E DANEH 362001N 0512408E NAGMO 360214N 0512055E TEHRAN (TRN) 354149.1N 05117021.6E RUDESHUR (RUS) 352643.7N 0505419.3E SOGOL 350829N 0503128E SAVEH (SAV) 3501076.8N 05022176.9E ARAK (ARK) 3408143.9N 04951143.8E RASLA 331202N 0493409E ALTAX 323014N 0492142E NAGRO 321015N 0491549E RABIM 315839N 0491225E EGVAX 314337N 0490802E AHWAZ (AWZ) 312015.3N 0484552.5E GABSU 305319N 0483035E ABADAN (ABD) 30224631.1N 048134214.2E	UG667	PUTMA 3748.00N 05157.36E NOSHAHR (NSR) 363935N 0512805E TEHRAN (TRN) 354149N 0511702E SAVEH (SAV) 350107N 0502217E MIS ARAK (ARK) 340814N 0495114E AHWAZ (AWZ) 312015N 0484552E ABADAN (ABD) 302216N 0481342E ALSAN 295707N 0481456E FRALKA 292611N 0481819E KUWAIT (KUA) 291306N 0475803E WAFRA (KFR) 283715N 0475729E *Note 7 (KFR MGA) COPPI 275033N 0474359E *Note 8 (COPPI AVOBO) EMENI 273232N 0473849E MUSKO 272640N 0473708E ALSAT 270611N 0473118E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ALSAN 295707N 0481456E RALKA 292611N 0481819E KUWAIT (KUA) 291306457N 0475903717E WAFRA (KFR) 283715N 0475729E *Note 7 (KFR-MGAKIA) KATOD 283141N 0475554E COPPI 275033N 0474359E *Note 8 (COPPI-AVOBO) EMENI 2732324N 04738498E MUSKO 272640N 0473708E ERADGI 272640N 0473708E ALSAT 270611N 0473118E EMANNI 270812N 0473152E LUGAL 26453603N 0472528235E MAGALA (MGA) 261720N 0471225E AVOBO 260334N 0470719E ESRAT 255117N 0470247E KING KHALID (KIA) 245310N 0464534E MUNTO 235345N 0463459E DEBAS 231059N 0462728E KITUB 224922N 0462342E TABNA 211842N 0453653E WADI ALDAWASIR (WDR) 203019N 0451219E TASMU 190016N 0450120E NEJLAN (NEJ) 173625N 0442456E NETAS 172600N 0442305E ELONA 165753N 0442124E LABDO 164842N 0442032E XABIP 161001N 0441653E ASREM 154637N 0441443E SANAA (SAA) 153000N 0441311E MISAN 150001N 0440522E SOKAT 144606N 0440145E DEPDA 143206N 0435807E ULBIR 135919N 0434940E PARIM 123142N 0432712E (DJIBOUTI (DTI) 1132554.67N 04305376.77E)		LUGAL 264533N 0472528E MAGALA (MGA) 261720N 0471225E AVOBO 260334N 0470719E KING KHALID (KIA) 245310N 0464534E WADI ALDAWASIR (WDR) 203019N 0451219E NEJLAN (NEJ) 173625N 0442456E SANAA (SAA) 153000N 0441311E PARIM 123142.7N 0432712E DJIBOUTI (DTI) 113255N 0430537E
G669	AL SHIGAR (ASH) 300722N 0384753E AL JOUF (AJF) 294722N 0400418E VELAL 294602N 0403821E PAXAN 294418N 0411833E TOKLU 294213N 0420220E RAFHA (RAF) 2819593713N 046074632953E NISER 293030N 0441825E *Note 3 (OK) SOLAT 290942N 0463810E BUBER 291118N 0470057E KUWAIT (KUA) 291306457N 0475903717E SESRA 290803N 0485453E SESRU 290909N 0485450E NANPI 290457N 0493157E VELUT 291001N 0495341E KHARK ISLAND (KHG) 291550N 05019040.7E IVERA 292303N 0511540E RUBAK 292617N 0514218E	UG669	AL SHIGAR (ASH) 300722N 0384753E AL JOU (AJF) 294722N 0400418E RAFHA (RAF) 293713N 0432953E NISER 293030.5N 0441825.4E *Note 3 (OK) SOLAT 290942N 0463810E KUWAIT (KUA) 291306N 0475803E SESRA 290803N 0485453E NANPI 290457N 0493157E KHARK (KHG) 291550N 0501901E SHIRAZ (SYZ) 293224N 0523520E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	SHIRAZ (SYZ) 293224.6N 052352019.6E		
G670	RASHT (RST) 3719354.8N 0493657.1E MODIL 374925N 0494117E LALDA 381615N 0494511E (BAKU) GYD	UG670	RASHT (RST) 371935N 0493657E LALDA 3817.1N 04943.0E (BAKU) GYD
G674	MADINAH (PMA) 243251N 0394219E *Note 7 (BPN-PMA) KUKNI 245451N 0403140E EMURI 250545N 0405627E ROSUL 253945N 0421519E MUNPI 260112N 0430621E GASSIM (GAS) 261753N 0434647E MOBAD 263607N 0442629E SERPU 264608N 0444833E BOPAN (BPN) 270314N 0452643E	UG674	MADINAH (PMA) 243251N 0394219E GASSIM (GAS) 261753.9N 0434647.8E BOPAN (BPN) 270314N 0452643E
G775	ASHGHABAT (ASB) 380011N 0582008E ORPAB 374200N 0583430E MIDMO 370543N 0590124E MASHHAD (MSD) 361352.2N 05939042E NOTSA 351416N 0593034E ASVIS 334633N 0591828E BOPEB 331913N 0591448E BIRJAND (BJD) 3258240.7N 0591200.5E *Note 1 ODBES 323050N 0592556E ELOKA 312325N 0595922E LUDAX 295658N 0604101E ZAHEDAN (ZDN) 292912.3N 06054065.7E	UG775	(ASHGHABAT) (ASB) 380011N 0582008E ORPAB 374200N 0583430.5E MASHHAD (MSD) 361352N 0593901E [BIRJAND] (BJD) 325821N 0591200E *Note 1 ZAHEDAN (ZDN) 292912N 0605406E
G780	RIKOP 374026N 0581450E BOJNORD (BRD) 372942.2N 0571923.8E ODKOL 363136N 0560702E IBRAV 362041N 0555430E ULANO 355228N 0552043E ITELO 353534N 0550052E		
G781	(VAN) BONAM 380256300N 0441759800E TUDNU 375301N 0444447E UROMIYEH (UMH) 374001114N 0450343503.7E TUBAR 373018N 0452609E ROVON 371601N 0455322E ZANJAN (ZAJ) 3646476.8N 04821121.9E LABKA 364142N 0504342E NOSHAHR (NSR) 36393546.1N 0512805751.4E	UG781	(VAN) BONAM 380256.9N 04417598.0E UROMIYEH (UMH) 374001N 0450343E ROVON 371601N 0455322E ZANJAN (ZAJ) 364647N 0482112E NOSHAHR (NSR) 363935N 0512805E
G782	JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E *Note 7 (KFR-JDW) KAPAV 220645N 0394620E VEMEM 221554N 0400118E BOPEV 225127N 0410011E DAFINAH (DFN) 231658N 0414310E	UG782	KING ABDULAZIZ (JDW) 214244N 0390723E DAFINAH (DFN) 231658N 0414310E RAGAHBA (RGB) 235533N 0443547E KING KHALID (KIA) 245310N 0464534E MAGALA (MGA) 261720N 0471225E *Note 7 (MGA-KFR)

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ASMUN 233116N 0424514E TUKVU 234626N 0435319E RAGAHBA (RGB) 235533N 0443547E DURMA 242710N 0454610E KING KHALID (KIA) 245310N 0464534E ESRAT 255117N 0470247E AVOBO 260334N 0470719E MAGALA (MGA) 261720N 0471225E *Note 7 (MGA-KFR) LUGAL 26453603N 0472528235E LUGAL 264533N 0472528EMAANI 270812N 0473152E RADGI 272640N 0473708E EMENI 273234N 0473848E COPPI 275033N 0474359E KATOD 283141N 0475554E WAFRA (KFR) 283715N 0475729E KUWAIT (KUA) 291306457N 0475903717E		LUGAL 264533N 0472528E WAFRA (KFR) 283715N 0475729E KUWAIT (KUA) 291306N 0475803E
G783	PURDA 210805N 0510329E ASNUR 212654N 0514335E SILBU 214512N 0522304E ALROK 215400N 0524217E IMGOV 221828N 0533624E DANUX 223605N 0541558E TANSU 224136N 0542828E RIGIL 230146N 0551430E UKRAG 233056N 0552306E ELUDA 235107N 0552905E ASPED 240036N 0553154E ALN VAVIM 241535.1N 05536232.9E *Note 7 (GIDIS-VAVIM) DESVU 242222N 0554253E GIDIS 243600N 0555600E BUBIN 245742N 0560642E	UG783	PURDA 210805N 0510329E TANSU 224136N 0542828E RIGIL 230146N 0551430E ELUDA 235107N 0552905E ALN 241535N 0553623E GIDIS 243600N 0555600E BUBIN 245742N 0560642E
G792	BODKA 3939.0N 05130.0E GIRUN 380612N 0562018E BOJNORD (BRD) 3729432.2N 0571923.8E SILPO 370806N 0580006E BOTEK 364755N 0583734E MASHHAD (MSD) 361352.2N 05939042E TANBU 353422N 0603430E PAMTU 351006N 0610806E	UG792	BODKA 3939.0N 05130.0E GIRUN 3806.12N 0562018.3E BOJNORD (BRD) 372943N 0571923E MASHAD (MSD) 361352N 0593901E
G795	RALKA 292611N 0481819E *Note 7 (RALKA-BSR) TASMI 300120N 0475505E BASRAH (BSR) 303132.30N 0472112.10E RAFHA (RAF) 293713N 0432953E	UG795	FRALKA 292611N 0481819E TASMI 300120N 0475505E BSR 303132.4N 0472112E RAFHA (RAF) 293713N 0432953E
G799	MADINAH (PMA) 243251N 0394219E *Note 7 (ELONU-PMA) DAFINAH (DFN) 231658N 0414310E ELONU 240942N 0403053E	UG799	MADINAH (PMA) 243251N 0394219E DAFINAH (DFN) 231658N 0414310E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
L124	(VAN) BONAM 380256.300N 0441759800E URUMIYEH (UMH) 374001N 0450343E TUDNU 375301N 0444447E PARAS 373133N 0454134E GETOB 371227N 0465129E AMBEX 370356N 0472143 ZANJAN (ZAJ) 364647.8N 04821121.9E TULGU 362836N 0484235E SAVEH (SAV) 350107.6N 0502217.9E EGVEL 344258N 0503005E DISEL 332904N 0510118E PEKAM 332904N 0510118E SIVUD 330119N 0520009E PARUG 324704N 0522947E RANDU 323240N 0525917E YAZD (YZD) 3153521.6N 05416587.7E BOMUN 313648N 0544555E UKVEV 310557N 0553718E ALMOB 303434N 0562824E KERMAN (KER) 301706658.1N 04656372.3E PEKES 285929N 0595221E SODOK 281113N 0613652E KEBUD 2735582N 06250284E (PANJGUR (PG) 265710.21N 0640813.06E)	UL124	(VAN) BONAM 380256.9N 04417598.0E URUMIYEH (UMH) 374001N 0450343E ZANJAN (ZAJ) 364647N 0482112E SAVEH (SAV) 350107N 0502217E DISEL 332904N 0510118E YAZD (YZD) (R654) 315352N 0541658E KERMAN (KER) 301706N 0465637E KEBUD 273558N 0625028E (PANJGUR) (PG) 265710N 0640813E
L125	(NAKHCHIVAN (NAX) 390954.30N 0452909.40E) DULAV 385700N 0453800E RABDI 384804N 0454431E SIBVU 384444N 0454657E TABRIZ (TBZ) 380853N 0461247E BUDED 375313N 0472032E ZANJAN (ZAJ) 364647N 0482112E MURPU 373043N 0480319E ASPOK 365918N 0484948E PAROT 3609401128N 0495756841E GOLNU 355711N 0502052E VEBER 354209N 0504400E TEHRAN (TRN) 354149N 0511702E IMAM KHOMAINI (IKA) 352434.8N 0511042.5E ELEDI 350136N 0520356E RADAL 345423N 0522023E ANARAK (ANK) 333215N 0534347E EROVAD 333131N 0535240E NODLA 325330N 0545850E SOGOT 324008N 0552339E NIVRA 315905N 0563810E DARBAND (DAR) 314659.4N 0565940.4E BOPAG 304413N 0584929E TOVUS 300643N 0595235E DAPAP 294630N 0602554E ZAHEDAN (ZDN) 292912.3N 06054065.7E DANIB 290706N 0611717E KEBUD 2735582N 06250284E	UL125	DULAV 385700N 04538007.9E TABRIZ (TBZ) 380853N 0461247E ZANJAN (ZAJ) 364647N 0482112E PAROT 360940N 0495756E TEHRAN (TRN) 354149N 0511702E ANARAK (ANK) 333215N 0534347E DARBAND (DAR) 314659N 0565940E ZAHEDAN (ZDN) 292912N 0605406E DANIB 290706N 0611717E KEBUD 273558N 0625028E
L126	PUSTO 3321.00N 04245.00E	UL126	PUSTO 3321.00N 04245.00E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	SOGUM 3412.12N 0435454.9E SIGNI 340006.1N 0444200.2E MIGMI 334554.9N 0452724.4E ILAM (ILM) 333442N 0462455E		SOGUM 3412.12N 0435454.9E SIGNI 340006.1N 0444200.2E MIGMI 334554.9N 0452724.4E ILAM (ILM) 333442N 0462455E
L200	OSAMA 315550N 0353706E AMMAN (AMN) 320014.65N 0360357.55E LOXER 320256N 362500E MESLO 320231N 0363148E LUDAN 320256N 0363713E KUPRI 320825N 0364530E ASLON 321211N 0365111E NADEK 322728N 0371429E DAXEN 324444N 0374105E ORNAL 324755N 0375153E KAREM 325110N 0380324E KUMLO 325811N 0382807E DAPUK 330139N 0384026E PASIP 330600N 0385600E GIBUX 330715500N 0411625100E SIGBI 330200N 0422000E SILBO 325900N 0432900E	UL200	LOXER 320256N 362500E LUDAN 320256N 0363713 E KUPRI 320825N 0364530 E ASLON 321211N 0365111E NADEK 322728N 0371429E DAXEN 324444N 0374105E ORNAL 324755N 0375153E KAREM 325110N 0380324 E KUMLO 325811N 0382807 E DAPUK 330139N 0384026 E PASIP 330600N 0385600E GIBUX 330715N 0411625E SIGBI 330200N 0422000E SILBO 325900N 0432900E
L223	(AGRI (ARI) 393844.90N 0430137.50E) *Note 7 (ARI-DASIS) DASIS 3854345N 044122930E *Note 7 (UMH-DASIS) *Note 7 (OI OM OO SIR LAKLU) UROMIYEH (UMH) 374004114N 0450343503E KAPES 372520N 0452004E REXAN 355850N 0463935E SANANDAJ (SNJ) 351420N 0470028E TAVNI 353807N 0465631E TUKLO 351014N 0471751E KHORAM ABAD (KRD) 332603N 0481731E UKSIS 332159N 0484002E MESVI 312920N 0495701E ALTAX 323014N 0492142E KIXOB 310917N 0502459E EGSIR 294615N 0512735E RUBAK 292617N 0514218E TOTNO 291052N 0515336E DASDO 285401N 0520551E LAGSA 283306N 0522056E LAMERD (LAM) 272222.2N 0531102.3E KISH ISLAND (KIS) 263130.6N 0535744.7E SIRRI (SIR) 255452N 054320611E *Note 7 (OI OM OO SIR LAKLU) NALTA 250242N 0553955E TATLA 254753N 0544008E *Note 7 (TATLA-TARDI) TARDI 243418N 0560915E VUTEB 253644.6N 0545149.4E LAKLU 232235N 05704 01E LOVEM 252645.4N 0551440.4E IVOXI 251239.6N 0552513.1E	UL223	DASIS 38543410N 044122930E UROMIYEH (UMH) 374001N 0450343E SANANDAJ (SNJ) 351420N 0470028E KHORAM ABAD (KRD) 332603N 0481731E MESVI 312920N 0495701E LAMERD (LAM) 272222N 0531102E SIRRI (SIR) 255452N 0543206E *Note 7 (OI OM OO SIR LAKLU) NALTA 250242N 0553955E TARDI 243418N 0560915E LAKLU 232235N 05704 01E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	LAGTA 250602N 0553315E ANVIX 244655.0N 0555616.0E PEDUL 244116N 0560205E KIPOK 243611N 0560719E TARDI 243418N 0560915E LAKLU 232235N 05704 01E		
L300	LUXOR (LXR) 254458N 0324607E *Note 7 (YEN-LXR) MEMPO 252518N 0335457E OTEMO 250341N 0350810E GIBAL 243713 N0363443E YENBO (YEN) 240858N 0380219E	UL300	LUXOR (LXR) 254458N 0324607E MEMPO 252518N 0335457E GIBAL 243713.2N0363443.7E YENBO (YEN) 2408.58N 03802193.9E
L301	(ANKOX 220256N 0662842E) RASKI 230330N 0635200E VAXIM 231900N 0611100E *Note 7 (VAXIM-RAGMA) RAGMA 232301N 0603846E	UL301	AURANGABAD (AAU) 19514053N 0752419338.6E NOBAT 2109032.5N 06880000.1E LADOT 220502N 0660001 RASKI 230330N 0635200E VAXIM 231900N 0611100E RAGMA 232301N 0603846E
L305	DOHA HAMAD INTL (DOH) 251459.66N 05136354.80E *Note 7 (DOH- ITTAEMOTA) *Note 8 (DOH-ASTOG) ORMAL 252304N 0522201E ENANO 252348N 0522559E ALSEM 252703N 0524322E ASTOG 252822N 0525025E ITTA 54410N 0541839E PURLI 253644N 0532436E GODKI 254122N 0534347E KIVUS 254522N 0540032E ITBUL 254910N 0541227E EMOTA 255254N 0542414E	UL305	DOHA HAMAD INTL (DOH) 251459N 0513635E *Note 7 (DOH-ITTA) *Note 8 (DOH-ASTOG) ORMAL 252304N 0522201E ENANO 252348N 0522559E ALSEM 252703N 0524322E ASTOG 252822N 0525025E ITTA 254410N 0541839E
L306	TOKRA 220925N 0553350E *Note 7 (TOKRA-LAKLU) DEMKI 224941N 0562308E LAKLU 232235N 0570401E	UL306	TOKRA 220925N 0553350E *Note 7 (OO) DEMKI 224941N 0562308E LAKLU 232235N 0570401E
L308	EGNOV 270301N 0474713E EDAROR 270244N 0495815E *Note 7 (EGNOV-NAGSA- SERSADAROR) *Note 8 (EGNOV-OBNET) JUBAIL (JBL) 270220N 04924267E EGREX 270433N 0492158E SILBA 270554N 0485301E RAMSI 270249N 0500714E EGESOR 270322N 0475751E GASSI 270257.9N 0502229.5E SIBLI 265459N 0462334E TOSDA 270005N 0505629E ALMUL 262943N 0450553E	UL308	EGNOV 270301N 0474713E *Note 7 (EGNOV- SERSA) *Note 8 (EGNOV- OBNET) JUBAIL (JBL) 270220N 04924267E RAMSI 270249N 0500714E GASSI 270257.9N 0502229.5E TOSDA 270005N 0505629E TORBO 265223N 0511024E SOGAN 263915N 0515408E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	TORBO 265223N 0511024E NAGSA 261811N 0443117E SOGAN 263915N 0515408E GASSIM (GAS) 261753N 0434647E DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E DESDI 253603N 0544230E RAGOL 252743N 0550739E SERSA 251945N 0553118E TUKLA 251936N 0554010E NADNI 251915N 0555658E LALDO 251806N 0563600E IMLOT 251708.1N 0570804.1E KATUS 2516005.9N 05747.00E DIVAB 2510.7N 05952.1E EGPIC 2508.6N 06029.5E (JIWANI) (JI) 250350N 0614744E LATEM 243144.7N 0644944.7E		DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E DESDI 253603N 0544230E RAGOL 252743N 0550739E SERSA 251945N 0553118E TUKLA 251936N 0554010E NADNI 251915N 0555658E LALDO 251806N 0563600E IMLOT 251708.1N 0570804.1E KATUS 2516005.9N 05747.00E DIVAB 2510.7N 05952.1E EGPIC 2508.6N 06029.5E (JIWANI) (JI) 250350N 0614744E LATEM 243144.7N 0644944.7E
L310	BOXAK 244536N 0540032E *Note 7 & 8 to LALDO SIGBO 245526.4N 0545653.9E NALTA 250242.7N 0553955.8E AVAMI 250554.9N 0555647.8E LALDO 251806N 0563600E	UL310	BOXAK 244536N 0540032E *Note 7 & 8 to LALDO SIGBO 245526.4N 0545653.9E NALTA 250242.7N 0553955.8E AVAMI 250554.9N 0555647.8E LALDO 251806N 0563600E
L311	KAROX 205717N 0381547E MAHDI 202600N 0373918E PASIL 161331N 0332010E VATEN 153358N 0323312E RADKA 145006N 0315040E IMSUT 142048N 0312230E ELOBEID (OBD) 130640.53N 0301335.25E RADAG 110340N 0270020E ALMAM 093345N 0244451E KAFIA 084400N 0233100E		
L313	TARDI 243418N 0560915E KIPOK 243611N 0560719E IMPED 245824.5N 0560406.2E KULBA 251326N 0560153E EGPEP 255746.8N 0555822.5E		
L314	NABAN 163124N 0430148E DAROV 160637N 0431338E GOBLO 154050N 0432550E LUDOX 152034N 0433524E RAMLO 151033N 0434007E UMILI 144609N 0435133E DEPDA 143206N 0435807E GOMRI 131816N 0443224E	UL314	NABAN 163124N 0430148E GOMRI 131816N 0443224E
L315	CAIRO (CVO) 300532N 0312318E *Note 7 (CVO- HGD) OBTAV 280120N 0330657E	UL315	CAIRO (CVO) 300532N 0312318E HURGHADA (HGD) 271040N 0334747E GIBAL 243713.2N 0363443.7E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	SOKOT 273104N 0333127E HURGHADA (HGD) 271040N 0334747E SOBEL 265011N 0341040E *Note 7 (GIBAL- SOBEL) MOGAP 260055N 0350455E GIBAL 243713N 0363443E		
L317	MAHDI 202600N 0373918E AZAZA 173046N 0335009E ASNON 150818N 0305312E ITGAL 125209N 0281244E KAPIB 104917N 0255200E LOVAB 100147N 0245828E KAFIA 084400N 0233100E		
L319	BAHRAIN (BAHR) 26155130N 0503855919E *Note 7 (BAH- DASDO) DAVRI 264936N 05057342E OBTAR 265934N 0510309E DASDO 285401N 0520551E IMGOD 301419N 0513050E RADID 302444N 0512613E NOTSA 331745N 0490315E KEBEP 350454N 0474014E PAREX 360527N 0465154E ROVON 371601N 0455322E PARAS 373133N 0454134E TUDNU 375301N 0444447E BONAM 380300N 0441800E	UL319	BAHRAIN (BAH) 261551N 0503855E DAVRI 264936N 0505731E OBTAR 265934N 0510309E
L320	KAROX 205717N 0381547E RAKTA 190506N 0352358E SOGAD 171404N 0324125E DATIM 152833N 0301323E DELAM 144001N 0290644E HASAN 130129N 0265813E KISAL 101811N 0232526E		
L321	KATAB 292501N 0290506E OBRAN 302957N 0290522E *Note 7 (SML- OBRAN) REXUM 301822N 0291917E KUNKI 290726N 0291949E SOBAM 264529N 0301336E EGNAM 262856N 0301942E GIBAD 253635N 0303807E KUNAK 252745N 0304112E LUGAV 224205N 0313722E ABU SIMBEL (SML) 222118N 0313719E	UL321	KATAB 292501N 0290506E KUNKI 290726N 0291949E KUNAK 252745.7N 03041.12E LUGAV 224205N 0313722E ABU SIMBEL (SML) 222118N 0313719E
L323	TONTU 223446N 0284313E SISID 220000N 0280838E ASKOL 154854N 0240005E		
L324	(TEZAK 332750.40N 0314711.60E) LAKTO 323800N 0320500E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	GENIV 314831N 0330714E		
L333	(DORUK 391645N 0421107E) DASIS 3854345N 044122930E BORES 382829N 0452137E VUVAG 382529N 0452926E TABRIZ (TBZ) 380853.5N 04612476.6E RAKED 375621N 0470712E BUDED 375313N 0472032E RALGO 372840N 0490112E RASHT (RST) 3719354.8N 0493657.1E KOBUB 370621N 0501031E EGMAN 370311N 0501827E RAMSAR (RSR) 365412.5N 0504049.6E ALKUP 364702N 0510409E NOSHAHR (NSR) 363946.1N 0512751.4E LABET 360950N 0530127E MIRUR 354221N 0541139E GIBAB 353213N 0543656E ALRAS 3511.3N 05541.6EALROT 351116N 0554136E LUBIX 345214N 0563219E TASLU 342632531N 0574234131E ALPEX 340919N 0582221E ASVIS 334633N 0591828E SOKAM 331316N 06037524E (DANOD 322422N 0620032E)	UL333	DASIS 385431N 0441229E TABRIZ (TBZ) 380853N 0461247E RASHT (RST) 371935N 0493657E GIBAB 3532137.0N 05436560.9E ALRAS 3511.3N 05541.6E TASLU 342632N 0574234E SOKAM 331316N 0603752E
L417	VUSEB 361637N 0434800E DAXOG 354612N 0434527E UMESA 351741N 0434307E MUTAG 343003N 0433834 E LAGLO 3351538.6 0441457.0E ELOS 330800N 0441800E LOVEK 322208.1N 04440.01E ELIBA 320915N 0444645E NADOX 310505N 0451851E	UL417	VUSEB 361637N 0434800E UMESA 351741N 0434307E MUTAG 343003N 0433834 E LAGLO 3351538.6 0441457.0E ELOS 330800N 0441800E LOVEK 322208.1N 04440.01E ELIBA 320915N 0444645E NADOX 310505N 0451851E
L425	KING ABDULAZIZ (JDW) 214244N 0390723E BOSUT 204705N 0393158E *Note 7 (BOSUT- BSH) AMBAL 202506N 0401625E GODSA 201258N 0404040E TONBO 205502N 0394911E AL BAHA (BHA) 201733N 0413745E BISHA (BSH) 195840N 0423728E KATIX 200212N 0425406E WADI ALDAWASIR (WDR) 203019N 0451219E EGREN 202236N 0464422E DENKU 201123N 0484331E ASTIN 200410N 0495320E DIRAS 195235N 0513704E MEDMO 194837N 0521027E DAVOX 194400N 0524817E GOBRO 193622N 0534741E NOVNO 193313N 0535858E	UL425	KING ABDULAZIZ (JDW) 214244N 0390723E TONBO 205502N 0394911E AL BAHA (BHA) 201733N 0413745E BISHA (BSH) 195840N 0423728E WADI ALDAWASIR (WDR) 203019N 0451219E EGREN 202236N 0464422E ASTIN 200410N 0495320E DIRAS 195235N 0513704E GOBRO 193622N 0534741E NOVNO 193313N 0535858E ITUVO 190315N 0554328E DEDSO 185811N 0560041E BOVOS 182230N 0575844E ASPUX 174406N 0600006E (TRIVANDRUM) (TVM) 082831N 0765531E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ITUVO 190315N 0554328E DEDSO 185811N 0560041E BOVOS 182230N 0575844E ASPUX 1744064N 06000064E (TRIVANDRUM) (TVM) 082831N 0765534E(MAMIG 164100N 0614641E)		
L427	KAROX 205717N 0381547E BILAL 184044N 0330227E ASRAV 172442N 0301943E BOXIG 155958N 0272606E GIPSA 150616N 0253946E ELGENIENAD (GNA)132824.39N 0223207.30E		
L430	VAXIM 231900N 0611100E ASLOM 242113N 0600552E MESPO 244936817N 05934115040E PEDEX 251211N 0592131E NOVSU 263407N 0573849E MELMI 264625N 0572300E VELAP 272556N 0565950E TAVNO 281112N 05632523E ASMET 284827758N 05608061019E SIRJAN (SRJ) 2933232.5N 055392337E	UL430	VAXIM 231900N 0611100E MESPO 244936N 0593411E MELMI 264625N 0572300E TAVNO 281112N 0563252E ASMET 284827N 0560806E SIRJAN (SRJ) 293323.4N 0553923.6E
L438	LONOS 283027N 0491713E LOPOL 281849N 0492845E ATBAG 280842N 0493844E GODRI 280256N 0494307E RAKSO 275326N 0495032E GOGRA 274918N 0495344E OBNAX 272650N 0501103E DEKTA 271605N 0501946E VELOG 270215N 0503055E KOBOK 265839N 0503349E MOGAS 264759N 0503909E TOSTA 262746N 0504912E ASTAD 261811N 0505646E	UL438	LONOS 283027N 0491713E LOPOL 281849N 0492845E ATBAG 280842N 0493844E GODRI 280256N 0494307E RAKSO 275326N 0495032E GOGRA 274918N 0495344E OBNAX 272650N 0501103E DEKTA 271605N 0501946E VELOG 270215N 0503055E KOBOK 265839N 0503349E MOGAS 264759N 0503909E TOSTA 262746N 0504912E ASTAD 261811N 0505646E
L440	KANIP 241040.7N 05520.7E *Note 7 RETAS 235754N 0553423E	UL440	KANIP 241040.7N 05520.7E *Note 7 RETAS 235754N 0553423E
L443	RABAP 283625N 0492722 TESSO 282852N 0492723E LOPOL 281849N 0492845E ENAVI 275552N 0493151E GIRSI 274126N 0493310E ORDAN 271706N 0495442E RAMSI 270249N 0500714E GASSI 270257N 0502229E	UL443	RABAP 283625N 0492722 TESSO 282852N 0492723E LOPOL 281849N 0492845E ENAVI 275552N 0493151E GIRSI 274126N 0493310E ORDAN 271706N 0495442E RAMSI 270249N 0500714E GASSI 270257N 0502229E
L444	KIPOL 230410N 0612903E *Note 7 (OO KIPOL-TOLDA) VUSIN 225940N 0605510E MIBSA 225400N 0601338E	UL444	KIPOL 230410N 0612903E *Note 7 (OO) VUSIN 225940N 0605510E MIBSA 225400N 0601338E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	KAXEM 225103N 0595243E IMDEK 224647N 0592217E TOLDA 224008N 0583624E		KAXEM 225103N 0595243E IMDEK 224647N 0592217E TOLDA 224008N 0583624E
L513	MURAK 345600N 0364200E BRAVO 344118N 0363500E LEBOR 3415656N 036345914E LOTAX 335952N 0363231E DAMASCUS (DAM) 332154N 0362807E *Note 3 (OS) BUSRA 322000N 0363700E LOSAR 320930.06N 0362849.77E LOXER 320147.76N 0362251.46E QUEEN ALIA (QAA) 314423.41N 0360926.59E QATRANEH (QTR) 311454.41N 0360334.31E MAZAR 3049448.0N 036083510.0E MUNRA 304944N 0360835E	UL513	MURAK 3456009.4N 0364200.1E LEBOR 341556.9N 03634595.0E DAMASCUS (DAM) 332154N 0362807E *Note 3 (OS) BUSRA 3220.00 N 03637.00 E QUEEN ALIA (QAA) 314423N 0360926E QATRANEH (QTR) 311454N 0360334E MUNRA MAZAR 3049448.0N 036083510.0E
L519	ABU DHABI (ADV) PATAT 261613N 0560059E *Note 7 (OM) PATAT-ATUDO) NAMSI 243731.5N 05456.48E EGPEP 255746.8N 0555822.5E EMERU 244829N 0550303 ITLAP 254925N 0555010E LUDER 245733.5N 0550511.2E PUVAL 253558.0N 0554258.0E DETGU 252623.9N 0553604.6E SERSA 251945N 0553118E IVOXI 251239.6N 0552513.1E VEKAL 250333.5N 0550340.5E KUTLI 245151.3N 0545618.0E GEVIV 244118N 0545000E ELEPO 243211N 0544410E ODKUN 242608N 0544017E VUXOD 242005N 0543625E ATUDO 241708.0N 0543432.0E	UL519	ABU DHABI (ADV) *Note 7 (OM) NAMSI 243731.5N 05456.48E EMERU 244829N 0550303 LUDER 245733.5N 0550511.2E
L550	WAFRA (KFR) 283715N 0475729E NIDAP 2838507N 0473656E BOSID 28422734N 0465401228E SIBSA 284506N 0462006E LAKSO 284751N 0454129E VATIM 285136N 0444443E RASMO 285713N 0433119E ORSAL 290235N 0421107E TOLDI 290329N 0415621E NORGI 290515N 0412546E ULAKO 290758N 0403440E NIMAR 290635N 0395425E ENABI 290639N 0385550E ASTUM 290628N 0382237E OBNAK 290554N 0373032E EGSIS 290515N 0362850E KITOT 290205N 0345050E NUWEIBAA (NWB) 290156N 0344016E TABA (TBA)	UL550	WAFRA (KFR) 283715N 0475729E NIDAP 283850N 0473656E BOSID 284227.4N 04654012.6E VATIM 2851.36N 0444443.7E RASMO 2857132N 0433119.3E ORSAL 290235.8N 04211070.8E NIMAR 290635.6N 0395425.4E KITOT 290205.1N 0345050.8E NUWEIBAA (NWB) 290156N 0344016E TABA (TBA) EL ARISH (ARI) KARIK 292733N 0344641E TAKSU 293625N 0343623E DATOK 293624N 0341400E SERMA 312200N 0330834E PASOS 321300N 0330600E (KAROL 3252.0N 03229.0E)

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	EL ARISH (ARH) KARIK 292733N 0344641E TAKSU 293625N 0343623E DATOK 293624N 0341400E SERMA 312200N 0330834E GENIV 314831N 0330714E PASOS 321300N 0330600E (KAROL 3252.0N 03229.0E)(STEPA 324859N 0322349E)		
L551	ANTAR 334800N 0281600E EL DABA (DBA) 310041N 0282801E *Note 7 (NOZ-ANTAR) GOMVA 320010N 0292615E NOGLI 321249N 0291811E ALEXANDRIA (NOZ) 311115N 0295703E	UL551	ANTAR 334800N 0281600E EL DABA (DBA) 310041N 0282801E
L554	NUBAR 220000N 0313824E PASAB 184553N 0313836E SISOR 124543N 0313859E ITOXA 102401N 0313908E MALAKAL (MLK) 093347.40N0313911.41E KUNDI 083920N 0313819E EGBIM 072916N 0313716E JUBA (JUB) 045234N 0313559E		
L555	TOTOX 215030N 0622230E TUMET 222307N 0595702E TOLDA 224008N 0583624E	UL555	TOTOX 215030N 0622230E TUMET 222307N 0595702E TOLDA 224008N 0583624E
L556	EGREN 202236N 0464422E NONGA 205048N 0492014E PURDA 210805N 0510329E *Note: 7 (PURDA-KUTVI) IVABO 204749N 0530058E SEMSI 204455N 0531724E OBSUS 203905N 0534952E IMDAM 202416N 0550801E OTISA 201000N 0554556E KEDON 200503N 0555901E HAIMA (HAI) 195813.3N 0561654.82E GIVNO 195011N 0563059E KUTVI 184306N 0582642E	UL556	EGREN 202236N 0464422E NONGA 205048N 0492014E PURDA 210805N 0510329E *Note: 7 (OO, OB) IMDAM 202416N 0550801E OTISA 201000N 0554556E HAIMA (HAI) 195813N 0561651E GIVNO 195011N 0563059E KUTVI 184306N 0582642E
L558	DASTU 074921N 0330800E IMDUR 074114N 0323107E EGBIM 072916N 0313716E DASAG 070454N 0294914E ASKON 061745N 0262537E		
L557	TUMAK 255031N 0531108E *Note 7 (TUMAK-RAGAS) VEDOM 260109N 0524456E ORLUP 260651N 0523216E VELAK 261307N 0521821E RAGAS 263537N 0521337E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
L559	DAPOK 235956N 0572959E *Note 7 (DAPOK-FJV) PASOV 243841N 0565037E MENSA 245750N 0563249E FUJAIRAH (FJV) 250603N 0562116E		
L560	LAKTO 323800N 0320500E LOVEX 0320951.69N 0322847.72E SERMA 312200N 0330834E VUTAR 0293627.47N 0334901.26E SIMSA 0291428.47N 0335715.76E SHARM EL SHEIKH (SHM) 275953N 0342448E SILKA 263400N 0352900E		
L561	MAHDI 202600N 0373918E SUVRI 135436N 0321800E NABUS 110003N 0295910E ZENUB 094106N 0285841E ASKON 061745N 0262537E		
L564	DOHA/HAMAD INTL (DOH) 251459.66N 05136354.80E (DOH) 251459N 0513635E LADEM 245545N 0513714E EMEXA 245052N 0513604E DATRI 244239N 0513407E DENSI 242519N 0512959E *Note 8 (DOH-PURDA) BATHA (BAT) 241257N 0512707E SOMAL 232844N 0512716E KUTNA 231341N 0512730E MIGMA 225035N 0512749E RAGPO 222759N 0510600E LOTOS 220000N 0503912E ALNUG 213009N 0500453E NONGA 205048N 0492012E DENKU 201123N 0484331E GERUG 185530N 0473402E ASKET 181905N 0470113E PATOG 180241N 0464631E VUVOD 173941N 0463200E TULIS 173033N 0462616E ULBON 1714256N 04615152E RAGNI 163454N 0454815E LOPAD 161651N 0453738E ITOLI 152825N 0450927E OBNAM 144541N 0444448E GEVEL 141229N 0442547E NOPVO 135436N 0441536E TAZ (TAZ) 134150N 0440819E PARIM 123142N 0432712E	UL564	DOHA/HAMAD INTL (DOH) 251459N 0513635E LADEM 245545N 0513714E DATRI 244239N 0513407E DENSI 242519N 0512959E *Note 8 (DOH-PURDA) BATHA (BAT) 241257N 0512707E MIGMA 225035N 0512749E LOTOS 220000N 0503912E ALNUG 213009N 0500453E NONGA 205048N 0492012E DENKU 201123N 0484331E GERUG 185530N 0473402E ASKET 181905N 0470113E PATOG 180241N 0464631E VUVOD 173941N 0463200E TULIS 173033N 0462616E ULBON 171425N 0461515E RAGNI 163454N 0454815E LOPAD 161651N 0453738E ITOLI 152825N 0450927E OBNAM 144541N 0444448E GEVEL 141229N 0442547E NOPVO 135436N 0441536E TAZ 134150N 0440819E PARIM 123142N 0432712E
L566	ASMAK 162327N 0524634E UKNEN 160542N 0522012E TAKMI 160542N 0522012E	UL566	ASMAK 162327N 0524634E UKNEN 160542N 0522012E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	PURUG 151204N 0510142E KUSOL 144009N 0501534E NOTBO 142609N 0495530E EMABI 141627N 0494139E SOKEM 134235N 0485329E DATEG 123549N 0471627E		PURUG 151204N 0510142E KUSOL 144009N 0501534E NOTBO 142609N 0495530E EMABI 141627N 0494139E SOKEM 134235N 0485329E DATEG 123549N 0471627E
L570	ROTOX 283323N 0494809E AGHAJARI (AJR) 304441.1N 0494049.3E IMKEN 314407N 0493611E ALTAX 323014N 0492142E NOTSA 331745N 0490315E		
L572	KAMISHLY (KML) LESRI 370420N 04113498E KAMISHLY (KML) 3704200N 041142006E HASSAKEH (HAS) 362900N 0404600E DIER ZZOR (DRZ) 3517831N 040091102E TANF (TAN) 332857900N 038394520E	UL572	KAMISHLY (KML) LESRI 370420.3N 0411349.8E KAMISHLY (KML) 370100N 0411106E HASSAKEH (HAS) 3629N 04045.3E DIER ZZOR (DRZ) 351731N 0400914E TANF (TAN) 332857N 0383915E
L573	DAFINAH (DFN) 231658N 0414310E MADINAH (PMA) 243251N 0394219E WEJH (WEJ) 261045N 0362917E	UL573	DAFINAH (DFN) 231658N 0414310E MADINAH (PMA) 243251N 0394219E WEJH (WEJ) 261045N 0362917E
L601	BAGLUM (BAG) 04004.12 0324838.6) *Note 7 (BAG-KTN) (ADANA (ADA) 365626.10N 0351237.40E) *Note 7 (ADA-KTN) TUNLA 355300N 0360200E SALIM 352908N 0361847E KARIATAIN (KTN) 341248N 0371551E	UL601	BAGLUM (BAG) 04004.12 0324838.6) *Note 7 (BAG-KTN) ADANA (ADA) 365626.4N 0351237.6E (ADA) TUNLA 3553.00N 0360200E) KARIATAIN 3412.48N 0371551.9E
L602	TUMAK 255031N 0531108E *Note 7 (TUMAK-KTN) VEDOM 260109N 0524456E ORLUP 260651N 0523216E VELAK 261307N 0521821E LABOP 261907N 0520429E ALTOM 262230N 0515639E DASOS 262429N 0515043E BOPOV 262430N 0515043E ALMOK 262832N 0513840E GITBO 263527N 0511750E VEDOS 2641056N 05100445E NABOS 264354N 0505145E MEMKO 264611N 0504427E MOGAS 264759800N 0503909E TOLMO 265504N 0502927E EGLIT 2702556N 05020056E TOKMA 2709389N 0501159E ORSOL 272135N 05002078E ITNAS 2746434N 0493957E ENAVI 275552N 0493151E DAMUR 280137N 04926378E ITEVO 281558N 0491332E DAVUS 282346N 0490622E	UL602	TUMAK 255031N 0531108E VEDOM 260109N 0524456E VELAK 261307N 0521821E LABOP 261907N 0520429E ALTOM 262230N 0515639E DASOS 262429N 0515043E ALMOK 262832N 0513840E VEDOS 264105N 0510044E NABOS 264354N 0505145E MEMKO 264611N 0504427E MOGAS 264759N 0503909E TOLMO 265504N 0502927E EGLIT 270255N 0502005E TOKMA 270938N 0501159E ORSOL 272135N 0500207E ITNAS 274643N 0493957E ENAVI 275552N 0493151E DAMUR 280137N 0492637E DAVUS 282346N 0490622E DARVA 284814N 0484734E ALVIX 291918N 0482412E FRALKA 292611N 0481819E TASMI 300120N 0475505E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	DARVA 284814N 0484734E ALVIX 2919185N 04824120E FRALKA 292611N 0481819E TASMI 300120N 0475505E GADSI 303358N 0471116E ALPET 311219N 0461844E UROKO 314735N 0452917E MUTLO 321019N 0445703E LOVEK 322208N 0444001E DELM 3319148N 0431731328E ASNOT 333000N 0425717E GEPAP 334906N 0422851E DRZ 35173124N 04009141124E 344237130N 04110540900E KUKSI 364508N 0374910E GAZIANTEP (GAZ) 3657051N 03728234E		LOVEK 322208N 0444001E DELM 331911N 0431731E ELEXI 344237N 0411054E DRZ 35173124N 04009141124E KUKSI 364508N 0374910E GAZIANTEP (GAZ) 3657051N 03728234E
L604	(PALEOCHORA (PLH) 351339.49N 0234051.04E) SALUN 340000N 0242700E SIDI BARANI (BRN) 313432N 0260020E DANAD 285106N 0280609E ALTAT 263602N 0294618E EGPAR 261448N 0300148E EL KHARGA (KHG) 252654N 03035274E KUNAK 252745N 0304112E EMENA 253749N 0315147E LUXOR (LXR) 254458 N 0324607E ASRAB 254726N 0330619E LORAS 255649N 0342714E MOGAP 260055N 0350455E IMRAD 260506N 0354444E WEJH (WEJ) 261048N 03629187E NADIK 261815N 0374637E RABDA 262048N 0381440E HALAIFA (HLF) 262603N 0391609E MUPVI 262943N 0403437E LAKRO 263051N 0410241E DAXAP 262142N 0430228E GASSIM (GAS) 2617543N 04346487E *Note 7 (GAS-KFA-NARMI) NAGSA 261811N 0443117E LABIS 261815N 0451755E PUSLA 261758N 0461706E *Note 8 to TOSNA LOROX 261751N 0463021E MAGALA (MGA) 261720N 0471225E ALMAL 261554N 0482106E 0474137E KASOM 262111N 0480312E UMENA 262832N 0483952E TABTA 262837N 0484325E KING FAHD (KFA) 262153951N 0494910643E NARMI 261802N 0501939E BAHRAIN (BAH) 261551N 0503855E DENVO 260452N 0510509E	UL604	PALEOCHORA (PLH) 351339N 0234051E SALUN 340000N 0242700E SIDI BARANI (BRN) 313432N 026002018E EL KHARGA (KHG) 252654N 03035274E LUXOR (LXR) 254458 N 0324607E IMRAD 260506N 0354444E WEJH (WEJ) 261048N 0362918E HALAIFA (HLF) 262603N 03916.096E GASSIM (GAS) 261754N 0434648E *Note 7 (GAS-KFA) PUSLA 261758N 0461706E *Note 8 to TOSNA MAGALA (MGA) 26172018N 0471225.4 E ALMAL 261554N 0482106E KING FAHD (KFA) 2621534N 04949102E NARMI 261802N 0501939E BAHRAIN (BAH) 261551N 0503855E DENVO 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	PATOM 255821N 0511836E EMISA 254658N 0514207E KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E		
L607	(SITIA (SIT) 350406.32N 0261124.03E) *Note 7 (SIT-NABSI) PAXIS 335706N 0272000E NABSI 314353N 0290419E OTIKO 313421N 0293636E ALEXANDRIA (NOZ) 3111135N 02957013E	UL607	SITIA (SIT) 350406N 0261121E *Note 7 PAXIS 335706.1N 02720.00E OTIKO 313421.3N 02936.36E ALEXANDRIA (NOZ) 311113N 0295701E
L612	(SITIA (SIT) 350406.32N 0261120.63E) *Note 7 (SIT-BLT) KUMBI 334250N 0284500E LABNA 321956N 0301612E MIVOR 322922N 0300603E BAL TIM (BLT) 313144N 0310721E	UL612	KUMBI 334250N 0284500E LABNA 321956N 0301612E BALTIM (BLT) 313144N 0310721E
L613	EL DABA (DBA) ABU SIMBEL (SML) 222118N 0313719E *Note 7 EL KHARGA (KHG) 252654N 0303527E SOKAL 323601N 0273706E DEPNO 262438N 0301413E BOPOS 264318N 0300722E IMREK 290643N 291220E KIVIL 293845N 0284415E MERSA MATRUH (MMA) 311911N 0271320E *Note 7 (MMA- AMAXI) ITEXO 325832N 0265834E TANSA 340000N 0264900E (AMAXI 350552N 0254658E)	UL613	EL DABA (DBA) *Note 7 SOKAL 3236.01N 027370620.0E TANSA 3400.00N 02649.00E
L617	CAIRO (CVO) 300532N 0312318E *Note 7 (CVO- SIT) MENKU 310531N 0301806E ALEXANDRIA (NOZ) 3111135N 02957013E IMRUT 313259N 0293346E SOBAX 313508N 0291835E ASNIR 323849N 0282144E NABSI 314353N 0290419E TANSA 340000N 0264900E (SITIA (SIT) 350406.32N 0261120.63E)	UL617	ALEXANDRIA NOZ 311113N 0295701E IMRUT 313259N 0293346E ASNIR 323849N 0282144E TANSA 340000N 0264900E
L620	(ALSUS 350206N 0343924E) BALMA 342856.30N 0350302.30E KALDE (KAD) 3348276.70N 035294009.53E	UL620	BALMA 342856N 0350302E KALDE (KAD) 334827N 0352910E
L631	TOTOX 215030N 0622230E *Note 7 (TOTOX-MCT) IVOMA 223408N 0605430E *Note 7 (OO) DEBDA 224327N 0603525E MIBSA 225400N 0601338E AMBOS 230324N 0595405E	UL631	TOTOX 215030N 0622230E IVOMA 223408N 0605430E *Note 7 (OO) MIBSA 225400N 0601338E AMBOS 230324N 0595405E ELIGO 232458N 0590848E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ELIGO 232458N 0590848E KARAR 233042N 0585438E MUSCAT (MCT) 233528.04N 0581536.48E		KARAR 233042N 0585438E MUSCAT (MCT) 233528.01N 0581536E.47
L677	CAIRO (CVO) 300532N 0312318E MENLI 294700N 0315206E KAPIT 291700N 0323606E SHARM EL SHIEKH (SHM) 275953N 0342448E *Note 7 (PASAM-SHM) PASAM 273045N 0345542E DARAX 264713N 0354703E WEJH (WEJ) 261046N 0362917E *Note 7 (PASAM-JDW) RAGNO 251617N 0371123E YENBO (YEN) 240858N 0380219E RIDEP 233847N 0381558E MIGDA 223829N 0384253E JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E *Note 7 (JDW-ABKAR) RIBAM 204231N 0390551E PATUS 192945N 0393720E ABKAR 190511N 0401612E IMRAM 175604N 0413004E LUBAL 171544N 0421228E JAZAN (GIZ) 165428N 0423439E *Note 7 (GIZ-IMSIL) NABAN 163123N 0430150E IMSIL 155738N 0434112E SANAA (SAA) 152959.60N 0441310.60E	UL677	CAIRO (CVAIRO) 300532.5N 0312318.3E MENLI 2947.00N 0315206.1E KAPIT 2917.0N 03236.1E SHARM EL SHEIKH (SHM) 275953N 0342448E PASAM 273045.8N 0345542.7E *Note 7(OE) WEJH (WEJ) 261046.8N 0362917.3E MUVAT 253755.9N 0365446.8E YENBO (YEN) 2408.58N 03802193.9E KING ABDULAZIZ (JDW) 214244N 0390723E QUNFIDAH (QUN) 192211.2N 0410429.5E TALIB 183854.9N 0413114.2E JAZAN (GIZ) 165428.5N 0423439.7E NABAN 163124.4N 043014.8E IMSIL 155738.6N 04313.12E SANAA (SAA) 1530.00N 0441311.2E
L681	GESOR 270322N 0475751E *Note 5 & 7 & 8 to (EGNOV-GESOR-SALWA-ULIKA) GEPAK 2633.00N 0484328.5E LABLI 264522N 0482100E RADMA 2623.0N 04857.5E ERABSA 263050N 0483951E DELMU 2618.9N 04903.4E TABTA 262837N 0484325E ROSEM 2607.7N 04919.0E EMOGA 261647N 0490230E SALWA 251538N 0503048E BOSIV 261258N 0490837E DEMKA 261008N 0491310E GISRA 253344N 0501047E ULIKA 251545N 0503849E	UL681	EGNOV 270301N 0474713E *Note 5 & 7 & 8 to (EGNOV-SALWA) GEPAK 2633.00N 0484328.5E RADMA 2623.0N 04857.5E DELMU 2618.9N 04903.4E ROSEM 2607.7N 04919.0E SALWA 251538N 0503048E
L692	ALRIK 220631N 0482535E *Note 7 (ALRIK-GISKA) LOTOS 220000N 0503912E DEBEP 215700N 0514434E VATIX 215522N 0521638E ALROK 215400N 0524217E DEBIN 214716N 0543309E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	KOBES 214504N 0550526E DAPOL 214301N 0553416E EMAVA 214208N 0554936E ITSAG 213720N 0570640E GISKA 213503N 0574014E		
L695	PAROK 231030N 0590245E *Note 7 (OO PAROK-ITURA) ITURA 232351N 0580720E	UL695	PAROK 231030N 0590245E *Note 7 (OO) ITURA 232351N 0580720E
L703	LONOS 283027N 0491713E LOPOL 281850N 0492845E GEPUT 281307N 0493423E GODRI 280257N 0494308E GOGRA 274918N 0495344E OBNAX 272651N 0501103E DEKTA 271605N 0501946E VELOG 270215N 0503056E KOBOK 265839N 0503349E RIKET 261952N 0510954E RASDI 260425N 0512407E		
L704	LONOS 283027N 0491713E *Note 7 (LONOS-TOSNA) LOPOL 281850N 0492845E GEPUT 281307N 0493423E GODRI 280257N 0494308E GOGRA 274918N 0495344E OBNAX 272651N 0501103E DEKTA 271605N 0501946E VELOG 270215N 0503056E KOBOK 265839N 0503349E DEBEN 265254N 0504856E DAVRI 264936N 0505732E SODAK 264634N 0510530E DANOB 263946N 0512640E BOTOB 263350N 0514505E VEDED 260558N 0514628E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E		
L710	UKRAG 233056N 0552306E *Note 7 (UKRAG to DEDSO) MEMTU 232517N 0552443E GOGMI 230215N 0553159E ITKUN 223731N 0553934E DEBAV 221532N 0554617E EMAVA 214208N 0554936E ITETA 211618N 0555208E IVENI 205158N 0555430E KASIN 201853N 0555742E KEDON 200503N 0555901E KUKDI 193022N 0555953E DEDSO 185811N 0560041E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
L713	DASHT E NAZ (DNZ) 363853.6N 0531120.1E IMDUX 361511N 0534211E GIBAB 353213N 0543656E PAXER 350901N 0550000E ULETA 342805N 0554002E EMITI 335811N 0560845E RIBEN 332902N 0563620E OTISO 331451N 331451N EGPOD 324901N 0571545E NADSA 321438N 0575002E TOVUS 300643N 0595235E ULOFI 291948N 291948N SODOK 281113N 0613652E KEBUD 273552N 0625024E		
L721	LAVAN ISLAND (LVA) 264843.4N 0532121.1E EGMIT 263340N 0530825E IMLUV 262936N 0530101E ELIDU 262424N 0525133E *Note 7 (ELIDU-BAYAN) UKNEP 262127N 0524818E UKUBU 261428N 0524039E ORLUP 260651N 0523216E ITMUB 255919N 0522402E ALKAN 255214N 0521615E SENKI 254637N 0520928E LABOV 253412N 0515521E BAYAN 252926N 0514849E		
L764	MUSCAT (MCT) 233528N 0581536E ALMOG 233524N 0574940E IVETO 233520N 0570704E PAXIM 240245N 0561631E	UL764	MUSCAT (MCT) 233528N 0581536E ALMOG 233524N 0574940E IVETO 233520N 0570704E PAXIM 240245N 0561631E
L768	ALPOB 254218N 0530055E *Note 7 (ALPOB to FIRAS) *Note 8 (ALPOB-COPPI) ROTAG 255353N 0523621E SOLEG 260159N 0521756E ITMUB 255919N 0522402E MODOG 261012N 0515935E RAMKI 261138N 0515625E RABLA 261506N 0514834E SOLOB 262241N 0513132E ALREP 262541N 0512209E ORDIG 262738N 0511603E MEDMA 263421N 0505454E TOTLA 263806N 0504301E OBMON 263832N 0504125E EGMOR 264211N 0502907E ULADA 264527N 0501624E ITESA 265016N 0500014E JUBAIL (JBL) 270222043N 049242643E LAKSI 271306N 0490004E ITUDA 273432N 0481647E IVOMA 274138N 0480219E	UL768	ALPOB 254218N 0530055E *Note 7 to FIRAS *Note 8 (ALPOB-COPPI) ROTAG 255353N 0523621E SOLEG 260159N 0521756E MODOG 261012N 0515935E RAMKI 261138N 0515625E RABLA 261506N 0514834E SOLOB 262241N 0513132E MEDMA 263421N 0505454E TOTLA 263806N 0504301E EGMOR 264211N 0502907E ULADA 264527N 0501624E JUBAIL (JBL) 270222N 0492426E COPPI 275033N 0474359E HER 281950N 0460746E VATIM 285136N 04444432E RAFHA (RAF) 281950N 0460746E ARAR (AAR) 305429N 0410832E OVANO 314801N 0390951E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	COPPI 275033N 0474359E DUSBO 280616N 0465254E AL QAISUMAH/HAFR AL BATIN (HFR) 2849502126N 046074603E VATIM 285136N 0444443E RAFHA (RAF) 28495093713N 046074632953E ARAR (AAR) 305429N 0410832E OVANO 314801N 0390951E OTILA 320131N 0390153E MODAD 323542N 0384136E KUMLO 325811.82N 0384138.14E SOKAN 330806N 0382206E RAFIF 3312487N 03819189E SULAF 332718N 03810247E FIRAS 335218N 0375512E		OTILA 320131N 0390153E MODAD 323542N 0384136E SOKAN 330806N 0382206E RAFIF 331248N 0381918E SULAF 332718N 0381024E FIRAS 335218N 0375512E
L852	UROMIYEH (UMH) 374114.0N 0450503.7E TESVA 381709N 0442947E (ESENK 384441.40N 425616.80E)		
L883	REXOD 211230N 0613830E GADMA 211439N 0600938E TAVKO 211519N 0593147E UMILA 211555N 0584738E *Note 7 (UMILA to ALNUG) MEVLI 211632N 0565606E KUROV 211627N 0561853E ALNUN 211625N 0561041E ITETA N211618 E0555208 SITOL 211604N 0552514E LONOV 211856N 0543516E DASAP 212047N 0540045E EGSAB 212446N 0523634E PURDA 210805N 0510329E ASNUR 212654N 0514335E EGSIT 212746N 0511956E ALNUG 213009N 0500453E *Note 7 (ALRIK to ALNUG) ALRIK 220631N 0482535E KITUB 224922N 0462342E UMRAN 231508N 0452023E *Note 7 (PMA to URMAN) DASTO 232236N 0445953E NADLI 233725N 0441843E TUKVU 234626N 0435319E KODIS 240254N 0425312E BIR DARB (BDB) 241951N 0414928E GOKSA 242442N 0410403E MEDRO 242730N 0403649E MADINAH (PMA) 243251N 0394219E	UL883	REXOD 211230N 0613830E GADMA 211439N 0600938E TAVKO 211519N 0593147E UMILA 211555N 0584738E MEVLI 211632N 0565606E KUROV 211627N 0561853E ALNUN 211625N 0561041E SITOL 211604N 0552514E PURDA 210805N 0510329E ALRIK 220631N 0482535E UMRAN 231508.1N 0452023.4E TUKVU 234626.4N 0435319.3E BIR DARB (BDB) MADINAH (PMA) 243251N 0394219E
L934	PATOM 255821N 0511836E LUBET 261441N 0510347E EGPUD 262904N 0505019E OBMON 263832N 0504125E OVUPI 265320N 0502727E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	TOKMA 270939N 0501159E ORSOL 272135N 0500208E ITNAS 274644N 0493957E DAMUR 280137N 0492638E ITEVO 281558N 0491332E DAVUS 282346N 0490622E		
M203	PUSTO 332100N 0424500E *Note 7 (PUSTO to ILMAP) SILBO 325900N 0432900E LOVEK 322208N 0444001E KODAV 314500N 0460400E ILMAP 312133N 0465702E	UM203	PUSTO 3321.00N 04245.00E LOVEK 322208.1N 04440.01E ILMAP 312133N 0465702E
M300	(CALICUT) CLC 110806N 0755717E (KADOL 190003N 0633602E) LOTAV 203700N 0605700E GADMA 211439N 0600938E GOLBA 213318N 0594600E EMURU 221535357N 05849505338E	UM300	(CALICUT) CLC 110806N 0755717E LOTAV 203700N 0605700E EMURU 221535N 0584950E
M301	(PURAD 145500N 0415354E) KIPAM 150030N 0421526E MIPIN 150608N 0423735E LUDOX 152034N 0433524E MUTEX 152524N 0435445E SANAA (SAA) 153000295960N 04413140.60E ITOLI 152825N 0450927E PASAD 153634N 0460713E PAPOR 154322N 0465652E GIBIT 154849N 0473804E NABUP 155417N 0482143E SAYUN (SYN) 155742.64N 0484710.18 XAGAG 160206N 0492722E GINBO 160349N 0494017E RARBA 161021N 0503920E SIMKO 161821N 0515526E ASMAK 162327N 0524634E	M301	PURAD 145500N 0415354E SANAA (SAA) 153000N 0441311E ITOLI 152825N 0450927E ASMAK 162327N 0524634E
M303	MUSCAT (MCT) 233528.04N 0581536.48E *Note 7 (OO MCT-KIPOL) SEVLA 233321N 0591122E KIPOL 230410N 0612903E	UM303	MUSCAT (MCT) 233528.01N 0581536E.47 *Note 7 (OO) SEVLA 233321N 0591122E KIPOL 230410N 0612903E
M305	SIDI BARANI (BRN) 313432.5N 0260020.3E ATMUL 200000N 0290527.4E *Note 3	UM305	SIDI BARANI (BRN) 313432.5N 0260020.3E ATMUL 200000N 290527.4E *Note 3
M309	KING KHALED (KIA) 245310N 0464534E *Note 1 (KIA-VEMEM) DURMA 242710N 0454610E RAGHBA (RGB) 235533N 0443547E LAKMI 232424N 0430827E DIPEX 231656N 0424758E KUTOL 230718N 0422147E ITOLO 224602N 0412244E	UM309	KINGD KHALED (KIA) 245310N 0464534E *Note 1 (KIA VEMEM) RAGHBA (RGB) 235533N 0443547E VEMEM 221554N 0400118E RABTO 221608N 0400326E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ALPUT 224019N 0410705E VUTEX 223418N 0405044E VEMEM 221554N 0400118E RABTO 221608N 0400326E		
M312	EL DABA (DBA) 310041N 0282801E AMIBO 345640N 213627E *Note 3 (HE)	UM312	EL DABA (DBA) 310041.7N 0282801.0E AMIBO 345640.7N 213627.4E *Note 3 (HE)
M316	KANAS 251552N 0574700E KATUS 251600N 0574700E SEVDA 260217N 0590549E NAGES 262451N 0594514E SOLUV 264157N 0601533E GOKSO 265542N 0604012E	UM316	KANAS 251552N 0574700E GOKSO 265542N 0604012E
M317	GABKO 260404N 0554755E RADEB 261140N 0554719E NANPA 262301N 0553136E ORPEN 263119N 0552008E SERDU 264715N 0545757E ROTAL 273241N 0535320E KUPTO 282418N 0525432E IMGOD 301419N 0513050E RADID 302444N 0512613E NOTSA 331745N 0490315E KEBEP 350454N 0474014E PAREX 360527N 0465154E *Note 9 (RABEM-DASIS) RABEM 374841N 0452949E KHOY (KHY) 382601.4N 0445758.9E DASIS 385435N 0441230E		
M318	RIKOP 374026N 0581450E *Note 7 (ATUDO-RIKOP) SILPO 370806N 0580006E BONEM 363826N 0574647E SABZEVAR (SBZ) 361011.0N 0573414.9E RABAM 355442N 0572955E SITEL 351304N 0571825E DAPIN 342034N 0570413E TABAS (TBS) 334021.2N 0565330.9E OTISO 331451N 0564936E IMSOG 325636N 0564649E NIVRA 315905N 0563810E PARID 313041N 0563358E MIRER 305943N 0562926E GETIS 301145N 0562226E ASMET 284758N 0561019E ASMUK 280952N 0560453E GHESHM ISLAND (KHM) 264547.1N 0555427.6E RADEB 261140N 0554719E GABKO 260404N 0554755E	UM318	KITAP 224928N 0522923E PURDA 210805N 0510329E SHARURAH (SHA) 172813N 0470802E NADKI 171418N 0464706E SANAA (SAA) 153100N 0441311E HODEIDAH (HDH) 144622N 0425911E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	GITSA 254132N 0553926E DAVMO 255127.0N 0553900.0E *Note 7 (SERSA GABKO) Eastbound TOVIV 253302N 0551942E SERSA 251945N 0553118E LOVEM 252645.4N 0551440.4E MIADA 245112N 0545736E MITIX 251746.4N 0550729.7E ABU DHABI (ADV) 242508N 0544024E EGTAG 250856N 0545652E ATUDO 241708N 0543532E VEKOV 245750N 0544925E MUSEN 241429N 0543336E TULON 245511.4N 0544739.1E GOLGU 231051N 0523109E KUVDA 244309N 0543909E MUXIT 230229N 0523024E IMLIP 243648N 0543549E KITAP 224928N 0522923E RURAL 243045N 0543156E PURDA 210805N 0510329E ATUDO 241708.0N 0543432.0E SHARURAH (SHA) 172813N 0470802E MUSEN 241429N 0543236E NADKI 171418N 0464706E BOPIT 235947N 0540404E SANAA (SAA) 153100N 0441311E DANOK 234220N 0533111E HODEIDAH (HDH) 144622N 0425911E ESROM 232424N 0525729E GOLGU 231051N 0523109E MUXIT 230229N 0523024E KATIT 224928N 0522923E MEDPO 222421N 0520751E DEGPA 221801N 0520227E DEBEP 215700N 0514434E EGSIT 212746N 0511956E PURDA 210805N 0510329E ASTIN 200410N 0495320E KUTMA 182927N 0481202E NITPO 174554N 0472624E SHARURAH (SHA) 172813N 0470802E NADKI 171417N 0464703E RAGNI 163454N 0454815E IMDEN 162101N 0452744E MUTAB 155314N 0444700E RAKID 154134N 0442959E SANAA (SAA) 152959.60N 0441310.60E NAGIL 152024N 0435651E RAMLO 151033N 0434007E HODEIDEH (HDH) 144622.10N 0425911.10E		
M319	ULINA 292451N 0345817E SESMO 293458N 0351159E LOXUS 301301N 0352601E LOSIL 304951N 0354841E	UM319	ULINA 292451N 0345817E SESMO 293458N 0351159E LOXUS 301301N 0352601E LOSIL 304951N 0354841E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	QATRANEH (QTR) 311454N 0360334E MOUAB 314758.00N 0353559.00E		QATRANEH (QTR) 311454N 0360334E
M320	KING FAHD (KFA) 262153N 0494910E KODAG 2703.3N 04920.4E JUBAIL (JBL) 270222N 0492426E RAS MISHAB (RAS) 280441N 0483653E KUWAIT (KUA) 291306457N 0475903717E	UM320	KING FAHD (KFA) 262153N 0494910E KODAG 2703.3N 04920.4E JUBAIL (JBL) 270222N 0492426E RAS MISHAB (RAS) 280441N 0483653E KUWAIT (KUA) 291306N 0475803E
M321	HALAIFA (HLF) 2626023N 0391609E *Note 7 (KIA-HLF) IMROV 260936N 0402145E ORMAD 260353N 0404401E ROSUL 253945N 0421519E KINO B 253146N 0430018E MIRAS 251508N 0443001E OVEKU 250955 0445701E IVONU 250323N 0454030E KING KHALED (KIA) 245310N 0464534E RESAL 240649N 0470427E AMBAG 230529N 0474611E ALRIK 220631N 0482525E NONGA 205048N 0492014E ASTIN 200410N 0495320E SILPA 184953N 0510158E IMPOS 183136N 0511848E LOTEL 180926N 0514103E PUTRA 165432N 0525631E RESAL 240649N 0470427E AMBAG 230529N 0474611E BOSOB 224130N 0480218E ALRIK 220631N 0482535E DAXOK 213157N 0485041E NONGA 205048N 0492014E ASTIN 200410N 0495320E SILPA 184953N 0510158E IMPOS 183136N 0511848E LOTEL 180926N 0514103E PUTRA 165432N 0525631E	UM321	HALAIFA (HLF) 262602N 0391609E (HLF) ROSUL 253945.7N 0421519.3E OVEKU 250955.9 04457.01E KING KHALED (KIA) 245310N 0464534E RESAL 240649N 0470427E AMBAG 230529N 0474611E ALRIK 220631N 0482525E NONGA 205048N 0492014E ASTIN 200410N 0495320E SILPA 184953N 0510158E IMPOS 183136N 0511848E LOTEL 180926N 0514103E PUTRA 165432N 0525631E
M323	IMDUR 074114N 0323107E BOTOK 102859N 0334548E EGTOT 144511N 0353913E MIPOL 203322N 0382145E		
M324	RIKOP 374026N 0581450E LOXED 355854N 0580609E TABNI 353052N 0575840E TASLU 342531N 342531N ROXEK 331123N 0572138E EGPOD 324901N 324901N DARBAND (DAR) 314659.4N 0565940.4E PURBO 311346N 0565832E KERMAN (KER) 301658.1N 0565632.3E NANTO 284140N 0563831E BANDAR ABBAS (BND) 271149.4N 0562200.3E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	MOBET 264406N 0560908E PATAT 261613N 0560059E		
M425	ELIKA 334955N 0343500E CHEKA (CAK) 3418021.81N 0354200159.64E	UM425	SILKO-ELIKA 3349557.9N 03435.00E CHEKA (CAK) 341802N 0354200E
M428	RIKET 251859N 0560200E 251940N 0560915E *Note 7/8 (OO/IVURO/OMMUNGA) SUTVO 251531N 0562153E GOMTA 251115N 0563447E TARBO 244351N 0574637E MUNGA 242516N 0584533E	UM428	RIKET 251859N 0560200E *Note 7/8 (OO/OM) GOMTA 251115N 0563447E TARBO 244351N 0574637E MUNGA 242516N 0584533E
M430	KING KHALID (KIA) 245310N 0464534E *Note 5 (KIA-DOH) *Note 7 (ULIKA-KIA) DEGLA 250243N 0472847E KOBBOX 250716N 0475046E GOLNO 251155N 0483658E KIREN 251447N 0490724E *Note 8 (KIREN-TOSNA) AL AHSA (HASHSA) 251645N 0492903E SALWA 251538N 0503048E ULIKA 251545N 0503849E GINTO 251606N 0510416E LAGNO 251613N 0511518E DOHA/HAMAD INTL (DOH) 251459.66N 05136354.80E *Note 7 (OXARI-DOH) BOVIP 251555N 0523135E TOSNA 251612N 0524116E *Note 7 (DOH-KISAG) PUTIB 251900N 0525755E KISAG 251834N 0541408E 252053N 0530916E TAGDU 252258N 0532153E OXARI 252535N 0533458E	UM430	*Note 5 (KIA-DOH) KING KHALID (KIA) 245310N 0464534E KOBBOX 250716N 0475046E KIREN 251447N 0490724E *Note 8 (KIREN-TOSNA) AL AHSA (HAS) 251645N 0492903E SALWA 251538N 0503048E ULIKA 251545N 0503849E GINTO 251606N 0510416E LAGNO 251613N 0511518E DOHA/HAMAD INTL (DOH) 251459N 0513635E BOVIP 251555N 0523135E TOSNA 251612N 0524116E *Note 7 (DOH-KISAG) KISAG 251834N 0541408E
M434	UMESA 351741N 0434307E OTALO 351700N 0441900E TOTAM 351601N 0444006E DAVAS 351724N 0451235E BOXIX 351724N 0460921E ASLAX 351607N 0463118E NOLTO 351435N 0465623E SANANDAJ (SNJ) 351419.7N 0470029.2E TUKLO 351014N 0471751E LOVID 350740N 0472841E KEBEP 350454N 0474014E HAMADAN (HAM) 345200.8N 0483301.0E ORLOG 345512N 0490915E SAVEH (SAV) 350106.8N 0502216.9E	UM434	UMESA 351741N 0434307E OTALO 351700N 0441900E IVANO 351724N 0451235E BOXIX 351724N 0460921E ALSAX 351607N 0463118E SANANDAJ (SNJ) 351420N 0470028E HAMDAN (HAM) 345201N 0483301E SAVEH (SAV) 350107N 0502217E
M440	KING KHALED (KIA) 245310N 0464534E OTAMA 235148N 0494707E OTALI 243313N 0474744E	UM440	KING KHALED (KIA) 245310N 0464534E OTAMA 235148N 0494707E

LOWER/UPPER AIRSPACE				UPPER AIRSPACE			
Designator	Significant Points			Designator	Significant Points		
1	2			4	2		
	SITER 241107N 0485443E KUTNA 231341N 0512730E BOPEK 230059N 0520007E KITAP 224928N 0522923E KATIT 224928N 0522923E *Note 7 (KATIT-TULBU) DAVLU 224136N 0533310E DANUX 223605N 0541558E MIDGU 222706N 0552230E DEMKI 224941N 0562308E TULBU 230005N 0571827E				KUTNA 231341N 0512730E KITAP 224928N 0522923E TOKRA 220925N 0553350E		
M444	DOHA/HAMAD	INTL(DOH)	251459.66N 05136354.80E	UM444	DOHA/HAMAD	INTL(DOH)	251459N 0513635E
	EMISA	254658N 0514207E			EMISA	254658N 0514207E	
	PATOM	255821N 0511836E			PATOM	255821N 0511836E	
	DENVO	260452N 0510509E			DENVO	260452N 0510509E	
	TULUB	260644N 0510041E			BAHRAIN (BAH)	261551N 0503855E	
	BAHRAIN (BAHR)	26155430N 0503855919E			ELOSO	262409N 0503550E	
	ELOSO	262409N 0503550E			EGMOR	264210N 0502906E	
	DESBU	263240N 0503241E			LOTOR	264854N 0502200E	
	EGMOR	264210N 0502906E			RAMSI	270249N 0500714E	
	LOTOR	264854N 0502200E			ORDAN	271706N 0495442E	
	*Note 7 (LOTOR- DAVUS)				GIRSI	274126N 0493310E	
	RAMSI	270249N 0500714E			ENASO	275706N 0491911E	
	ORDAN	271706N 0495442E			DAVUS	282346N 0490622E	
	GIRSI	274126N 0493310E					
	ENASO	275706N 0491911E					
	EMORI	281434N 0491051E					
	DAVUS	282346N 0490622E					
M449	BUSRA	322000N 0363700E		UM449	BUSRA	322000N 0363700E	
	MUNRA	3049448.0N 036083510.0E			MUNRA MAZAR	3049448.0N 036083510.0E	
	GIBOX	320700N 0363308E					
	GIBET	292620.3N 03625.01E			GIBET	292620.3N 03625.01E	
	MESLO	320231N 0363148E					
	TABUK (TBK)	282153N 0363637E			TABUK (TBK)	282153N 0363637E	
	GETUP	315833.47N 0363037.47E					
	WEJH (WEJ)	261046N 0362918E			WEJH (WEJ)	261046N 0362918E	
	ALNOR	313955.26N 0362507.52E					
	EGLOT	311656.94N 0361823.86E					
	MUNRA	304944.29N 03608354.88E					
	KINOD	301200.30N 0361600.60E					
	PETRA	294206N 0362210E					
	GIBET	292620N 0362501E					
	EGSIS	290515N 0362850E					
	RABUG	283622N 0363402E					
	TABUK (TBK)	282153N 0363637E					
	NETOL	270748N 0363226E					
	WEJH (WEJ)	261046N 0362917E					
M550	GOLGU	231051N 0523109E		UM550	GOLGU	231051N 0523109E	
	RIBOT	230844N 0522428E			RIBOT	230844N 0522428E	
	BOPEK	230059N 0520007E			BOPEK	230059N 0520007E	
	MIGMA	225035N 0512749E			MIGMA	225035N 0512749E	
	*Note 7 (MIGMA- MEVDO)				MEVDO	223205N 0494616E	

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	MEVDO 223205N 0494616E		
M551	KIVEL 165306N 0553633E (DONSA 143518N 0651136E) DAXAM 171612N 0544715E ANGAL 161404N 0600004E OTOTO 164004N 0570435E KIVEL 165306N 0553633E DAXAM 171612N 0544715E	UM551	DONSA 143518.3N 0651136344.0E ANGAL 161404.1N 0600004.1E OTOTO 164004N 0570435E KIVEL 165306N 0553633E DAXAM 171612N 0544715E
M554	TOKAR 180624N 0374812E MIPOL 203322N 0382145E		
M555	ALRAM 374230N 0443736E KAPES 372520N 0452004E		
M556	ORMID 253354N 0525434E DASLO 254537N 0523029E ALKAN 255214N 0521615E RABLA 261506N 0514834E SOLOB 262241N 0513132E ALREP 262541N 0512209E ORDIG 262738N 0511603E MEDMA 263421N 0505454E BAHRAIN (BHR) 261530N 0503919E NARMI 261802N 0501939E		
M557	ATBOR 251007N 0551947E VOXI 251239.6N 0552513.1E *Note 7 & 8 (ATBOR VUVOK) to MIDSIMITIX 251746.4N 0550729.7E NADIL 252252N 0544717E ERIDAP 252553.7N 0543701.2E NABOP 252607N 0540405E OTIKI 253229N 0541441E EMAGO 253456N 0535751E TOTKU 253534N 0540410E VUVOK 254408N 0533024E GODKI 254122N 0534347E RALMI 254505N 0533033E TUMAK 255031N 0531108E	UM557	ATBOR 251007N 0551947E *Note 7 & 8 (ATBOR VUVOK) to MIDS NADIL 252252N 0544717E NABOP 252607N 0540405E EMAGO 253456N 0535751E VUVOK 254408N 0533024E
M559	JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E *Note 7 (JDW- LABNI) RIBAM 204231N 0390551E PATUS 192945N 0393720E IMLIL 171949N 0403219E LABNI 165620N 0410921E NISMI 162415N 0421838E DAROV 160637N 0431338E IMSIL 155738N 0434112E ASREM 154637N 0441443E RAKID 154134N 0442959E ITOLI 152825N 0450927E LONIS 151910N 0460016E	UM559	LABNI 165620N 0410921E NISMI 162415N 0421838E ITOLI 152825N 0450927E MUKALLA (RIN) 144015N 0492329E VEDET 120134N 0512410E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	MEMTA 150322N 0472434E OBNIS 145840N 0474903E BOSAX 144740N 0484553E MUKALLA (RIN) 144015.30N 0492329.30E EMABI 141627N 0494139E XANLO 135653N 0495628E PURKA 131208N 0503042E ODBEN 123747N 0505648E VEDET 120134N 05124420E		
M561	RAGAS 263537N 0521337E *Note 7 (RAGAS-KIS) EGMIT 263340N 0530825E KISH ISLAND (KIS) 263134.0.6N 05357454.7E MIVUN 263151N 0541953E DENSA 263158N 0542920E BANDAR LENGHEH (LEN) 263210.1N 0545104.2E BOSOS 264325N 0554311E GHESHM ISLAND (KHM) 264547.1N 0555427.6E *Note 7 (KHM- ASVIB) MOBET 2645.3N 05609.8E PAVON 270206N 0561149E RUKOT 265324N 0580339E LADPA 265331N 0592514E GOKSO 265542N 0604012E ASVIB 265724N 0631812E (PANJGUR (PG) 265710.21N 0640813.06E)	UM561	KISH (KIS) 263131N 0535745E MOBET 2645.3N 05609.8E ASVIB 265724N 0631812E (PANJGUR) (PG) 265710N 0640813E
M562	VATEN 153358N 0323312E PASIL 161331N 0332010E BOPID 163948N 0335142E IMTAR 170609N 0342331E PORT SUDAN (PSD) 19240412N 037143021E BOGUM 200636N 0380300E MIPOL 203322N 0382145E		
M564	PASOV 243841N 0565037E *Note 7 (PASOV-UMAMI) PUXIL 244117N 0563145E VAXAS 244308N 0561807E NALNU 244737N 0560925E UMAMI 245113.7N 0560223.3E		
M565	ALRAP 133945N 0361344E *Note 7 (ALRAP-LUGAV) EGTOT 144511N 0353913E GIDAR 152731N 0351642E ELONO 163635N 0343934E IMTAR 170609N 0342331E DARIB 193159N 0330252E ENABU 220000N 0322927E LUGAV 224205N 0313722E		
M568	NUBAR 220000N 0313824E UMIDA 185115N 0311704E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ASNON 150818N 030531E KASAB 134346N 030423E KINOV 093414N 0301149E DEKUM 043742N 0293936E		
M572	NOLSU 251248.0N 0560737.8E *Note 7 (NOLSU-GOMTA) GOMTA 251115N 0563447E		
M573	TEHERAN (TRN) 354149.10N 05117021.60E DAMOS 372619N 0474521E TABRIZ (TBZ) 380853.50N 04612473.95.70E	UM573	TEHERAN (TRN) 354149N 0511702E TABRIZ (TBZ) 3808.53N 04612473.9E
M574	MALE (MLE) 041223N 0733139E (POPET) 071343.7N 06813.36E NABIL 122200E 0600006E BOTEM 135413N 0551418E RIGAM 143932N 0530414E UKSAB 145200N 0521800E NODLI 150301N 0513549E PURUG 151204N 0510142E EGMIX 151811N 0503810E UKORA 152407N 0501547E TAVLI 153502N 0493430E RALMO 153824N 0492155E NABUP 155417N 0482143E MUTOK 161005N 0472228E LABRA 161813N 0465113E OVABI 162442N 0462642E RAGNI 163454N 0454815E ELONA 165753N 0442124E NOBSU 171554N 04313185E	UM574	MALE (MLE) 041223N 0733139E (POPET) 071343.7N 06813.36E NABIL 1222.00E 0600.006E RIGAM 143932N 0530414E NOBSU 171554N 0431318E
M600	RANBI 251908N 0544500E KISAG 251834N 0541408E TUMAK 255031N 0531108E *Note 7 (TUMAK- KUMBO) VEDOM 260109N 0524456E ORLUP 260651N 0523216E VELAK 261307N 0521821E LABOP 261907N 0520429E ALTOM 262230N 0515639E DASOS 262429N 0515043E BOPOV 262430N 0515043E ALMOK 262832N 0513840E GITBO 263527N 0511750E VEDOS 2641056N 05100445E NABOS 264354N 0505145E MOGAS 264759800N 0503909E RAKAK 265221N 0502618E RAMSI 270249N 0500714E ORNAK 2728534N 0493248E SOLEM 275229N 0491136E KUMBO 281705N 0485526E	UM600	RANBI 251908N 0544500E KISAG 251834N 0541408E TUMAK 255031N 0531108E VEDOM 260109N 0524456E VELAK 261307N 0521821E LABOP 261907N 0520429E ALTOM 262230N 0515639E DASOS 262429N 0515043E ALMOK 262832N 0513840E VEDOS 264105N 0510044E NABOS 264354N 0505145E MOGAS 264759N 0503909E RAKAK 265221N 0502618E RAMSI 270249N 0500714E ORNAK 272853N 0493248E SOLEM 275229N 0491136E KUMBO 281705N 0485526E
M628	DAFINAH (DFN) 231700658N 04143120E	UM628	DAFINAH (DFN) 231700N 0414312E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	*Note 7 (UMRAN - DFN) DIPEX 231656N 0424758E NALBA 231639N 0433419E DAXUR 231537N 0445436E UMRAN 231508N 0452023E *Note 7 (UMRAN - MIGMA) DEBAS 231059N 0462728E AMBAG 230529N 0474611E DEGNO 225945N 0485954E KIPOM 225316N 0501518E MIGMA 225035N 0512749E BOSAK 225021N 0514213E KITAP 224928N 0522923E KATIT 224928N 0522923E ALPEK 224648N 0535942E EPEKEM 224648N 0535942E RIGIL 230146N 0551430E LUDID 230227N 0551800E GOGMI 230215N 0553159E *Note 7 (TULBU-LUDID) LABSA 230153N 0555505E EGVAN 230127N 0561907E KUNGO 230034N 0565850E TULBU 230005N 0571827E IZKI (IZK) 2253198.60N 05745432.73E TOLDA 224008N 0583624E *Note 7 (PARAR-TODLA) LOXOP 223722N 0594548E LOSIM 223513N 0603238E IVOMA 223408N 0605430E PARAR 222630N 0630700E		KIPOM 225316N 0501518E MIGMA 225035N 0512749E KITAP 224928N 0522923E ALPEK 224648N 0535942E LUDID 230227N 0551800E LABSA 230153N 0555505E EGVAN 230127N 0561907E TULBU 230005N 0571827E IZKI (IZK) 2253198.60N 05745432.73E TOLDA 224008N 0583624E LOXOP 223722N 0594548E LOSIM 223513N 0603238E IVOMA 223408N 0605430E PARAR 222630N 0630700E
M634	ANGAL 161404N 0600004E TOKPU 145122N 0571103E BOTEM 135413N 0551418E KEDAV 125553N 0531509E VEDET 120134N 05124420E DAROT 0911.4N 04721.2E (IMTIS 112506N 0502858E)	UM634	ANGAL 1614046N 06000046E VEDET 120134N 0512410E DAROT 0911.4N 04721.2E
M651	NADKI 171418N 0464706E OVABI 162442N 0462642E MEGPA 160017N 0461653E PASAD 153634N 0460713E LONIS 151910N 0460016E PEBIX 144447N 0454637E LADLI 132724N 0451604E ATBOT 171418N 0464706E ADEN (KRA) 124952.20N 0450125E KORAB 121109N 0445028E (HARGEISA) HARGA 093112N 0440530E OKTOB 114730N 0444348E (IMVEB 112638N 0443753E)	UM651	ATBOT 171418N 0464706E ADEN (KRA) 124952N 0450125E (HARGEISA) HARGA 093112N 0440530E
M677	SESRAU 2908900N 04854540E *Note 7 (SESRA- TUKSI)	UM677	SESRA 290800N 0485454E RABAP 283625N 0492722E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	RETEL 285236N 0491048E RABAP 283625N 0492722E PASAK 282459500N 04948467E GOGMA 281421N 0495612E IVIVI 273734N 0502437E DEBGU 272648N 0503252E VEDOR 270855N 0504630E TOSDA 2700045N 0505629E TORBO 2652223N 0511024E SEVNI 264401N 0513815E SOGAN 263915N 0515408E MURUB 262455N 0523751E UKNEP 262127N 0524818E DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E LUDAM 255508N 0535859E SERSA 251945N 0553118E ITBUL 254910N 0541227E LALDO 251806N 0563600E EDIXAM 254151N 0543557E VUTEB 253644.6N 0545149.4E LOVEM 252645.4N 0551440.4E KURTU 252211N 0554625E MISEG 252134N 0555205E TUKSI 252006N 0560525E IVURO 251940N 0560915E KUSEN 251828.0N 0562340.0E LALDO 251806N 0563600E		PASAK 282459N 0494846E GOGMA 281421N 0495612E IVIVI 273734N 0502437E VEDOR 270855N 0504630E TOSDA 270004N 0505629E TORBO 265222N 0511024E SOGAN 263915N 0515408E DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E SERSA 251945N 0553118E LALDO 251806N 0563600E
M681	TARBO 244351N 0574637E *Note 7/8 (OO) TARBO-DAMUM DAMUM 243236N 0591307E	UM681	TARBO 244351N 0574637E *Note 7/8 (OO) DAMUM 243236N 0591307E
M686	LUXOR (LXR) 254458N 0324607E *Note 7 (JDW- LXR) MEMPO 252518N 0335457E OTEMO 250341N 0350810E GIBAL 243713N 0363443E ALPOV 232037N 0374252E BOMOX 222949N 0382704E JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E	UM686	LUXOR (LXR) 254458N 0324607E MEMPO 252518N 0335457E GIBAL 2437132N 03634432E KING ABDULAZIZ (JDW) 214244N 0390723E
M688	CARSAMBA (CRM) 411556N 0363256E GULRA 402247N 0381646E ERZINCAN (ERN) 394230N 0393145E EVSAS 391929N 0401119E BAYIR 383541N 0412414E ULTED 382102N 0414934E (OTKEP 375133N 0423936E) *Note 7 (OTKEP- SIDAD) NINVA 372100N 0431300E ERATVO 371426N 0435604E ROXOP 364917N 0433100E EKEDIM 364617N 0440909E	UM688	CARSAMBA (CRM) 411556N 0363256E GULRA 402247N 0381646E ERZINCAN (ERN) 394230N 0393145E EVSAS 391929N 0401119E BAYIR 383541N 0412414E ULTED 382102N 0414934E OTKEP 375133N 0423936E NINVA 372100N 0431300E ROXOP 364917N 0433100E VUSEB 361637N 040434800E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	VUSEB 361637N 0451008E OTALO 351700N 0441900E 0451500E RIDIP 343012N 0444027E 0454113E UKMUG 334300N 0450329E 0472958E VAXEN 3318 00N 0451500E PAPUS 325334N 0452706E KATUT 323737N 0453439E DENKI 322228.46N 04551221.58E ILMAP 312133N 0465702E PEBAD 305023.09N 0472958.49E SIDAD 295231N 0482944E		OTALO 351700N 0441900E RIDIP 343012N 0444027E UKMUG 334300N 0450329E VAXEN 3318 00N 0451500E PAPUS 325334N 0452706E KATUT 323737N 0453439E DENKI 322228.46N 04551221.58E ILMAP 312133N 0465702E PEBAD 305023.09N 0472958.49E SIDAD 295231N 0482944E
M690	ZELAF 325656N 0371121.5959E ORNAL 324755N 0375153E KODER 323300N 0373800E DESLI 314900N 0365901E ELOXI 313401N 0364534E KULDI 311847N 0363214E MAZAR 3049448.0N 036083510.0E 304944N 0360835E ROVAR 292438N 0345711E LONOL 300801N 0353500E SESMO 293458N 0351159E ULINA 292451N 0345817E NUWEIBAA (NWB) 290156N 0344016E	UM690	ZELAF 325656N 0371121E ORNAL 324755N 0375153E KODER 323300N 0373800E DESLI 31492100N 03659019E ELOXI 313401359N 03645346E KULDI 311847N 0363214E MUNRA MAZAR 3049448.0N 036083510.0E ROVAR 292438N 0345711E LONOL 300801N 0353500E SESMO 293458N 0351159E ULINA 292451N 0345817E NUWEIBAA (NWB) 290156N 0344016E
M691	DEDAS 2630.2N 05014.4E 0502245E *Note 7 (ALPOT- LADNA) KING FAHD (KFA) 262153951N 0494910643E DASVA 264551N 0492301E SILBA 270554N 0485301E ALPOT 271841N 0480511E KUSAR 264741N 0490218E KEDAT 2721.849N 04759.01E EMENI 273234N 0473848E ITIXI 275031N 0470435E	UM691	DEDAS 2630.2N 05014.4E LADNA 262749N 0502245E KING FAHAD 262153N 0494910E KUSAR 264741N 0490218E KEDAT 272149.8N 04759.01E ITIXI 275031N 0470435E
M701	LUMOM 371612N 0444924E PAVOD 370204N 0451834E ENEDA 355211N 0462718E NOLTO 351435N 0465623E KHORAM ABAD (KRD) 332603.1N 0481730.7E DAPEM 325126N 0484159E NAGRO 321015N 0491549E IMKEN 314407N 0493611E MESVI 311057N 0500006E BOTAS 295241N 0505515E IVERA 292303N 0511540E DEPSU 283409N 0515047E DURSI 271219N 0520144E KAVAM 265737N 0515818E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	MIDSI 264142N 0515442E		
M708	DAROR 270244N 0495815E *Note 7 (DAROR-DASUT) RAMSI 270249N 0500714E GASSI 270257N 0502229E VELOG 270215N 0503056E TOSDA 270005N 0505629E TORBO 265223N 0511024E SEVNI 264401N 0513815E SOGAN 263915N 0515408E MURUB 262455N 0523751E DASUT 261832N 0531108E		
M715	ASVIB 265724N 0631812E SARAVAN (SRN) 272454.1N 0621931.5E PEKES 285929N 0595221E SILKO 295558N 0584138E EGRES 304855N 0573144E PURBO 311346N 0565832E PARID 313041N 0563358E DANEM 322854N 0550717E MITET 325226N 0542850E PURKI 331140N 0535657E KAVEK 332249N 0533814E RERET 333336N 0532651E OXADU 350837N 0511226E IMLIM 351200N 0510400E ELIPO 354046N 0502117E ZANJAN (ZAJ) 364646.8N 0482111.9E		
M718	ULDUS 380000N 0510100E LABKA 364142N 0504342E GOPKA 361256N 0503724E DAVMI 355657N 0503401E SAVEH (SAV) 350106.8 0502216.9E		
M719	MESPO 244817N 0595040E NAGES 262452N 0594514E		
M720	DITAR 265903N 0250000E DANAD 285106N 0280609E TAKRI 292503N 0290432E FAYOUM (FYM) 292351N 0302335E CAIRO (CVO) 300532N 0312318E		
M762	REXOD 211230N 0613830E *Note 7 (REXOD - VAXAS) SUR (SUR) 223459247.9N 05928929.70E DELISO 225606N 0585233E ITURA 232351N 0580720E ALMOG 233524N 0574940E VELOD 234611N 0573435E GEXAN 241257N 0565649E TAPRA 242607N 0563803E VAXAS 244308N 0561807E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	*Note 7 (OM, OO) RUDAT 244605.1N 0561714.1E MIVEK 245240N 0561516E		
M855	RASDA 330600N 0305700E MIVOR 322922N 0300603E GOMVA 320010N 0292615E NABSI 314353N 0290419E MERSA MATRUH (MMA) 311911N 0271320E SIDI BARANI (BRN) 313432N 0260020E LOSUL 314100N 250800E		
M860	KUGOS 424650.8N 0340516.3E SINOP (SIN) 420120N 0350436E CARSAMBA (CRM) 411556N 0363256E (SIIRT (SRT) 375438.40N 0415255.10E) *Note 7 (GADSI - SIIRT) EFFEZ 373518N 0423919E KABAN 371456N 0423859E NINVA 372100N 0431300E EMIDO 364411.33N 0425600E EROXOP 364445N 0433322E SEVKU 360548.02N 04317165.84E VUSEB 361637N 0434800E UMESA 351741.49N 04343076.89E TOMSI 354858N 0440229E TAGRU 342958.95N 0440816.67E OTALO 351700N 0441900E PUTSI 333200N E044 3700E NAMDI 343027N 0444133E ITOVA 331950.91N 0444 28.97E SEPTU 331300N 0444400E LONOR 3238398.63N 0450458.48E ERESAK 323305N 0451552E ULIMA 321500N 0451600E KODAV 314500N 0460400E ITBIT 314735.20N 045 2916.57E GADSI 303358N 0471116E RUGIR 303219.06N 0460618.20E MOBIS 2951098.84N 0470457.39E	UM860	KUGOS 424650.8N 0340516.3E SINOP (SIN) 420120N 0350436E CARSAMBA (CRM) 411556N 0363256E SIIRT (SRT) 375438.6N 0415255.9E KABAN 371456N 0423859E EMIDO 364411.33N 0425600E SEVKU 360548.02N 04317165.84E UMESA 351741.49N 04343076.89E TAGRU 342958.95N 0440816.67E PUTSI 333200N E0443700E ITOVA 331950.91N 0444 28.97E SEPTU 331300N 0444400E LONOR 3238398.63N 0450458.48E ULIMA 321500N 0451600E ITBIT 314735.20N 045 2916.57E RUGIR 303219.06N 0460618.20E MOBIS 2951098.84N 0470457.39E
M861	ELEXI 3442371.105N 04110549.0E DIER-ZZOR (DRZ) 3517831N 040091114E TABQA 354704N 0383432E ALEPPO (ALE) 361047N 0371234E NISAP 36472401N 03638305E (MILBA 365705N 0362846E)	UM861	ELEXI 3442371.5N 04110549.0E DIER-ZZOR (DRZ) 351731N 0400914E ALEPPO (ALE) 361047N 0371234E NISAP 364724N 0363830E
M863	JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E GIBAP 212218N 03809340E TOMRU 204411N 0361950E DARIB 193159N 0330252E SOMAK 190301N 0314717E RAGSI 185526N 0312747E UMIDA 185115N 0311704E TAVNA 174808N 0283938E	UM863	KING ABDULAZIZ (JDW) 21424437N 0390723948E GIBAP 212218N 0380934E TOMRU 204411N 0361950E ASKOL 154854.9N 0240005.1E KITOB 152143.7N 0225845.8E IPONO 150621 N 0222436 E N'DJAMENA (FL) 120830.5N 0150218.3E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	SOGIN 171145N 0271200E ASKOL 154854N 0240005E KITOB 1521436N 02258458E (IPONO 1506244 N 0222436E) N'DJAMENA (FL) 120830.5N 0150218.3E		
M872	PALEOCHORA (PLH) 351339.7N 0234051.9E (LINGI 343043N 0243244E) *Note 7 (PLH SEMRU DBA REXUM LINGI) METRU 340000N 0250900E KANAR 322727N 0265330E ITEXO 325832N 0265834E EL DABA (DBA) 310041N 0282801E NABSI 314353N 0290419E SOBAX 313508N 0291835E ORNAS 311838N 0291845E REXUM 301822N 0291917E FAYOUM (FYM) 292351N 0302335E *Note 7 (FYM SEMRU) LUBOS 284201N 0311306E SEMURU 280200N 0320306E BOPOB 272253N 0332316E HURGHADA (HGD) 271040N 0334747E *Note 7 (HGD- KIA) ALMOD 270123N 0341349E SILKA 263400N 0352900E WEJH (WEJ) 261046N 0362917E KODIN 251753.9N 03836.12E KULKI 254814N 0371445E TULOK 251001N 0383037E BOVET 245742N 0385436E EGVED 244857N 0391129E MADINAH (PMA) 243251N 0394219E *Note 7 (PMA MIDS) MEDRO 242730N 0403649E GOKSA 242442N 0410403E BIR DARB (BDB) 241951N 0414928E AL DAWADMI (DAW) 242656N 0440709E TASBA 243059N 0443028E KAVUR 244246N 0454036E KING KHALID (KIA) 245310N 0464534E AKRAM 255036N 0475133E *Note 8 (OB) to MIDS ALMAL 261553N 0482108E DAVRI 264936N 0505732E MIDS 264142N 0515442E	UM872	PALEOCHORA (PLH) 351339.7N 0234051.9E *Note 7 (PLH SEMRU DBA) METRU 340000N 0250900E KANAR 322727N 0265330E EL DABA (DBA) 310041N 0282801E FAYOUM (FYM) 292351.8N 0302335.6E *Note 7 (FYM SEMRU) SEMURU 280200N 0320306E HURGHADA (HGD) 271040N 0334747E SILKA 263400N 0352900E WEJH (WEJ) 261046N 0362917E KODIN 251753.9N 03836.12E MADINAH (PMA) 243251N 0394219E *Note 7 (PMA MIDS) BIR DARB (BDB) 241951N 0414928E AL DAWADMI (DAW) 242656N 0440709E KING KHALID (KIA) 245310N 0464534E AKRAM 255036N 0475133E *Note 8 (OB) to MIDS ALMAL 261553N 0482108E DAVRI 264936N 0505732E MIDS 264142N 0515442E
M877	VUSET 235540N 0590812E ITILA 2340155N 0584817E KUSRA 232426N 0582611E	UM877	VUSET 235540N 0590812E ITILA 234015N 0584817E KUSRA 232426N 0582611E
M999	(ZARZAITINE (IMN) 280359.60N 0093939.30E) BUHRA 272234N 0124717E SEBHA (SEB) 265944N 0142735E HORUJ 270906N 0161442E KEPOS 272230N 0182810E MASIT 272816N 0194016E	UM999	SARIR (GS) 273900N 0223000E DITAR 265903N 0250000E EL KHARGA (KHG) 252654N 0303527E KUNAK 252745N 0304112E (LUXOR) (LXR) 254458N 0324607E DEDLI 224232N 0373719E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	ARRIG 272930N 0200112E KARUB 273524N 0211524E SODOR 273747N 0220159E SARIR (GS) 273900N 0223000E DITAR 265903N 0250000E NAKDO 260554N 0282101E DAMPO 254707N 0292708E IMLAX 252924N 0302707E EL KHARGA (KHG) 252654N 0303527E KUNAK 252745N 0304112E EMENA 253749N 0315147E LUXOR (LXR) 254458N 0324607E ELELI 251854N 0332934E SEDVA 235813N 0354006E DASPA 230121N 0370841E DEDLI 224232N 0373719E *Note 7 (DEDLI- JDW) MUVOL 221749N 0381452E IMLER 221706N 0381653E JEDDAH/KING ABDULAZIZ (JDW) 214244N 0390723E TOKTO 194421N 00395945E DANAK 1608.00N 04129.00E (ASSAB)-SB *Note 7 (LABNI-JDW) BOSUT 204705N 0393158E LOVIL 201553N 0394537E DAVUV 194408N 0395924E ABKAR 190511N 0401612E LABNI 165620N 0410921E DANAK 160800N 0412900E APDOS 153955N 0413947E (PURAD 145500N 0415354E)		IMLER 221706N 0381653E KING ABDULAZIZ (JDW) 214244N 0390723E TOKTO 194421N 00395945E DANAK 1608.00N 04129.00E (ASSAB)-(SB) 130400N 0423800E
N39	ULDUS 380000N 0510100E ULEXI 374344N 0510631E NOSHAHR (NSR) 363946.1N 0512751.4E ELEDI 350136N 0520356E		
N72	BATEV 381005N 0501419E UMERO 375524N 0501514E GOLNU 355711N 0502052E ELIPO 354046N 0502117E SESBI 353154N 0502130E PEDAR 350826N 0502206E SAVEH (SAV) 350106.8N 0502216.9E UKITA 330657N 0500041E IMKEN 314407N 0493611E BANDAR MAHSHAHR (MAH) 303322.8N 0490858.0E UKNAR 295538N 0490450E TULAX 293853N 0490301E		
N300	DOHA/HAMAD INTL (DOH) 251459.66N 05136354.80E (DOH) 251459N 0513635E	UN300	DOHA/HAMAD INTL 2514.0N 05134.6E (DOH) 251459N 0513635E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	*Note 7 & 8 to (DOH-TONVO-LALDO) ELOBI 250753N 0521722E NAMLA 250532N 0523318E MIBRU 250321N 0524540E BOXAK 244536N 0540032E 245916N 0530340E MIADA 245112N 0545736E 245423N 0532450E TONVO 250500N 0563200E 244445.3N 0535952.6E ORBOL 245134N 0542348E LORID 245552.5N 0543904.1E VEKOV 245750N 0544925E OBREV 250200N 0551135E LAGTA 250602N 0553315E RUKOR 250823N 0554603E NOLSU 251248.0N 0560737.8E SUTVO 251531N 0562153E LALDO 251806N 0563600E		*Note 7 & 8 to (DOH-TONVO) ELOBI 250753N 0521722E NAMLA 250532N 0523318E BOXAK 244536N 0540032E MIADA 245112N 0545736E TONVO 250500N 0563200E
N302	SIDAD 295231N 0482944E *Note 7 (SIDAD-ALVIX) ALVIX 291915N 0482944E 0482422E	UN302	SIDAD 295231N 0482944E ALVIX 291915N 0482944E
N303	(HARGEISA) HARGA 093112N 0440530E (KASOL 283147N 0531533E) PARIM 123142N 0432712E ORNIS 141615N 0423657E KIPAM 150030N 0421526E RIBOK 154700N 0415230E LABNI 165620.3N 0410921.4E	UN303	(HARGEISA) HARGA 093112N 0440530E PARIM 123142.7N 04327.12E RIBOK 154700N 0415230.5E LABNI 165620.3N 0410921.4E
N307	MELDO 320201N 0310406E LAKTO 323800N 0320500E	UN307	MELDO 320201N 0310406E LAKTO 323800N 0320500E
N310	BALMA 342856N 0350302E CHEKA (CAK) 341802.1N 0354200.159.64E *Note 7 (CAK- LATEB) LATEB 340154N 03624043.60E LOTAX 335952N 0363231E BASEM 333337.6N 0373907.1E	UN310	BALMA 342856N 0350302E CHEKA (CAK) 341802N 0354200E LATEB 340154.9N 0362404.1E BASEM 333337.6N 0373907.1E
N311	NUBAR 220000N 0313824E TOVIL 175557N 0304439E DATIM 152833N 0301323E JEBRA 125520N 0291349E SIGNO 094716N 0275031E ASKON 061745N 0262537E		
N312	ASVIB 265724N 0631812E GENEV 264247N 0603757E NOVSU 263407N 0573849E MOBET 264406N 0560908E GHESHM ISLAND (KHM) 264547.1N 0555427.6E SERDU 264715N 0545757E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	ROSUM 264741N 0543637E LAVAN ISLAND (LVA) 264843.4N 0532121.1E MIDSI 264142N 0515442E		
N314	ATMUL 220000N 0290530E UMIDA 185115N 0311704E KUVTI 163152N 0325025E TIKAT 122418N 0353812E		
N315	ASPUX 1744064N 0600006E KUTVI 184306N 0582642E *Note: 7 (OO/OBKUTVI-SITOL) MOBAB N201032 E0564415 ORSIT N202306 E0562915 VELIK 203322N 0561656E IVENI 205158N 0555430E SITOL 211604N 0552514E LOTOS 220000N 0503912E RAPMA 232256N 0482028E RESAL 240649N 0470427E KING KHALED (KIA) 245310N 0464534E	UN315	ASPUX 174406N 0600006E KUTVI 184306N 0582642E *Note: 7 (OO/OB) SITOL 211604N 0552514E LOTOS 220000N 0503912E RAPMA 232256N 0482028E RESAL 240649N 0470427E KING KHALED (KIA) 245310N 0464534E
N316	HALAIFA (HLF) 262603N 0391609E NETOL 270748N 0363226E PASAM 273045N 0345542E *Note: 7 (PASAM-HDG) HURGHADA (HDG) 271040N 0334747E	UN316	HALAIFA (HLF) 262603N 0391609E PASAM 273045N 0345542E
N317	MENSA 245750N 0563249E NOLSU 251248.0N 0560737.8E REXEV 251502.3N 0560136.7E NADNI 251915.2N 0555658.9E		
N318	MOUAB 314758N 0353559E QUEEN ALIA (QAA) 314423.41N 0360926.59E ALNOR 313955N 0362507E KINUR 313626N 0363714E ELOXI 313359N 0364536E GENEX 312935N 370052E GURIAT (GRY) 312445N 0371712E *Note: 7 (GRY-ORKAS) ORKAS 304725N 0384617 E NEVOL 302446N 0393841E GIBAM 300018N 0401632E VELAL 294602N 0403821E SITOD 292143N 0412313E TOLDI 290329N 0415621E TAMRO 283838N 0424047E *Note: 7 (OE, OB, OM, OO) NOTLI 281200N 0433714E LOXOM 275648N 0440832E MOGON 2738487N 0444554E EMARO 273342N 0451330E DEBOL 272116N 0461843E *Note: 7 (DEBOL-REXOD)	UN318	QUEEN ALIA (QAA) 314423N 0360926E ALNOR 313955N 0362507E KINUR 313626N 0363714E ELOXI 313359N 0364536E GENEX 312935N 370052E GURIAT (GRY) 312445N 0371712E ORKAS 3047254N 0384617E NEVOL 302446N 0393841E VELAL 294602N 04038214E TAMRO 283838N 0424047E *Note: 7 (OE, OB, OM, OO) MOGON 273848N 0444554E TAGSO 272744N 0454510E *Note: 8 (OB, OO) EGNQV 270301N 0474713E KUSAR 264741N 0490218E ASPAN 263255N 0494903E DEDAS 263011N 0501427E LADNA 262749N 0502245E ELOSO 262409N 0503551E DAVOV 262255N 0504013E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	TAGSO 272744N 0454510E MAANI 270812N 0473152E *Note 8 (OB, OO) EGNOV 270301N 0474713E GESOR 270322N 0475751E KUSAR 264741N 0490218E NADEN 265250N 0484448E ASPAN 263255N 0494903E DASVA 264551N 0492301E DEDAS 263011N 0501427E OTERA 264110N 0493841E NAGTO 263717N 0495137E RABKA 263531N 0495728E SIBGA 263416N 0500134E LADNA 262749N 0502245E ELOS0 262409N 0503551E DAVOV 262255N 0504013E GOLKO 262149N 0504404E ASTAD 261812N 0505646E LUBET 261441N 0510347E TOTIS 261119N 0511027E RASDI 260425N 0512407E VELAM 255426N 0514347E VUTAN 255016N 0515218E RESAR 253707N 0522328E ALSEM 252703N 0524322E OVONA 252443N 0524739E (LOXAT REXOD) KATIK 251709N 0531515E PUTIB 251900N 0525755E KANIP 2410402N 0552042E BOXOT 251039N 0531817E LABRI 240344N 0553842E KAPUM 245815N 0533450E EGROK 235253N 0560126E BOSEV 245013.3N 0540448.8E LAKLU 232235N 0570401E MOGIM 244053N 0542820E GEVED 230105N 0575111E IMLIP 243648N 0543549E TOLDA 223720N 0583503E ELEPO 243211N 0544410E REXOD 211230N 0613830E SIXIV 242009N 0550439E KANIP 241040N 0552042 LABRI 240344N 0553842E EGROK 235253N 0560126E LAKLU 232235N 0570401E GEVED 230105N 0575111E TOLDA 2237204008N 0583503624E REXOD 211230N 0613830E		GOLKO 262149N 0504404E ASTAD 261812N 0505646E TOTIS 261119N 0511027E RASDI 260425N 0512407E VELAM 255426N 0514347E VUTAN 255016N 0515218E RESAR 253707N 0522328E ALSEM 252703N 0524322E OVONA 252443N 0524739E (LOXAT REXOD) KATIK 251709N 0531515E KANIP 2410402N 0552042E LABRI 240344N 0553842E EGROK 235253N 0560126E LAKLU 232235N 0570401E GEVED 230105N 0575111E TOLDA 223720N 0583503E REXOD 211230N 0613830E
N319	DERBO 292542N 0611701E ZAHEDAN (ZDN) 292912.3N 06054065.7E KUVAV 313426N 0585747E IMPAT 322451N 0580856E	UN319	ZAHEDAN (ZDN) 292912N 0605406E TABAS (TBS) 334021N 0565331E DASHT E NAZ (DNZ) 363855N 0531120E ULDUS 3800.00N 05101.00E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	ROXEK 331123N 0572138E TABAS (TBS) 334021.2N 05653340.9E RABER 343656N 0555902E ITELO 353534N 0550052E ODKAT 354650N 0544146E DASHT-E-NAZ (DNZ) 3638553.6N 0531120.1E DASEL 371113N 0522020E RIGAN 373543N 0514052E ULDUS 380000N 0510100E LUSAL 4035.00N 04757.00E (NASIL 390100N 0495100E) ADEKI 4117.48N 04645.00E TBILIS (TBS) 414014N 0445649E MUKHARANI (DF) 415500N 0443356E ALI (BT) LOBIN 42042810.9N 04300156.4E IBERI 4209.6N 04143.3E		LUSAL 4035.00N 04757.00E ADEKI 4117.48N 04645.00E TBILIS (TBS) 414014N 0445649E MUKHARANI (DF) 415500N 0443356E ALI (BT) LOBIN 42042810.9N 04300156.4E IBERI 4209.6N 04143.3E
N320	KISAL 101811N 0232526E GINKA 124701N 0250831E BOXIG 155958N 0272606E TAVNA 174808N 0283938E LAMAB 182601N 0290548E NUBAR 220000N 0313824E		
N321	TIKAT 122418N 0353812E BOPID 163948N 0335142E BILAL 184044N 0330227E NUBAR 220000N 0313824E		
N324	ALNUG 213009N 0500453E PURDA 210805N 0510329E METNO 201418N 0524050E MIPUB 200004N 0530607E GOBRO 193622N 0534741E ASTUN 180832N 0551040E	UN324	PURDA 210805N 0510329E GOBRO 193622N 0534741E ASTUN 180832N 0551040E
N430	TARBO 244351N 0574637E *Note 7/8 (OO)*Note: 7 (TARBO - ITLOB) ITLOB 244325N 0590701E	UN430	TARBO 244351N 0574637E *Note 7/8 (OO) ITLOB 244325N 0590701E
N438	LITAN 333456.28N 0343758.80E KALDE (KAD) 3348276.70N 035294009.53E CHEKA (CAK) 3418021.81N 0354200159.64E KLEYATE (RA) 343510N 0360010E	UN438	LITAN 333456N 0343758E KALDE (KAD) 334827N 0352910E CHEKA (CAK) 341802N 0354200E KLEYATE (RA) 343510N 0360010E
N440	MOBON 274414N 0552513E *Note: 7 (GABKO-MOBON) BOSOS 264325N 0554311E RADEB 261140N 0554719E DARAX 260916N 0555307E GABKO 260404N 0554755E	UN440	MOBON 274414N 0552513E DARAX 260916N 0555307E
N558	DEKUM 043742N 0293936E LOROG 093551N 0295448E NABUS 110003N 0295910E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	DATIM 152833N 0301323E ASRAV 172442N 0301943E		
N563	(KATBI 193133N 065002E) REXOD 211230N 0613830E *Note 8 (OB, OM) *Note 7 (OB, OO, OM) REXOD- ALPOB) EMURU 221357N 0585338E TULBU 230005N 0571827E MEKNA 2233309N 0560815E KURTA 234205N 0554900E SODEX 234954N 0553202E ELUDA 235107N 0552905E NOBTO 235525N 0551840E ADV SIGMO 240710N 0545837E MEMBI 243705N 0542631E 242005N 0543625E UMIBU 242331N 0543027E ATBEX 250739N 0535019E 243231N 0542224E ITROK 253557N 0532751E 245013.3N 0540448.8E ALPOB 254218N 0530055E 250104N 0534526E ROTAG 255353N 0523621E 251634N 0532847E SOLEG 260159N 0521756E 252258N 0532153E SOLOB 262241N 0513132E 252950N 0531428E MEDMA 263412N 0505454E 254218N 0530055E TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E GIBUS 255724N 0472829E	UN563	(BANGALORE) BBG *Note 8 (OB, OM) REXOD 211230N 0613830E *Note 7 (OB, OO, OM) EMURU 221357N 0585338E TULBU 230005N 0571827E MEKNA 2233309N 0560815E SODEX 234954N 0553202E NOBTO 235525N 0551840E MEMBI 243705N 0542631E ATBEX 250739N 0535019E ITROK 253557N 0532751E ALPOB 254218N 0530055E ROTAG 255353N 0523621E SOLEG 260159N 0521756E SOLOB 262241N 0513132E MEDMA 263412N 0505454E TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E GIBUS 255724N 0472829E
N565	KAMEL 322000N 036440E ZELAF 325700N 0380000E		
N568	AVONO 092606N 0335418E DEDVA 102746N 0333134E SUVRI 135436N 0321800E TOVIL 175557N 0304439E ATMUL 220000N 0290530E		
N569	BONUM 221252N 0393805E RABTO 221608N 0400326E VEMEM 221554N 0400118E LOTOS 220000N 0503912E *Note:- 7 (LOTOS-GOLNI) TOKRA 220925N 0553350E *Note: 7 (GISKA-TOKRA) SUTLI 220121N 0560404E TOPSO 215653N 0562043E MOGOK 215057N 0564236E	UN569	BONUM 221252N 0393805E RABTO 221608N 0400326E VEMEM 221554N 0400118E LOTOS 220000N 0503912E *Note:- 7 (LOTOS-GOLNI) TOKRA 220925N 0553350E TOPSO 215653N 0562043E MOGOK 215057N 0564236E KEBAS 214330N 0570948E GISKA 213503N 0574014E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	KEBAS 214330N 0570948E GISKA 213503N 0574014E UMILA 211555N 0584738E GOLNI 210014N 0594130E LOTAV 203700N 0605700E		UMILA 211555N 0584738E GOLNI 210014N 0594130E LOTAV 203700N 0605700E
N570	*Note 9 (ITURA-MIDSI) ITURA 232351N 0580720E *Note 7 (ITURA-IVIVA) IVIVA 245945N 0574958E KATUS 251600N 0574700E GIGAB 253708N 0573231E NOVSU 263407N 0573849E BONIK 264444N 0562651E MOBET 264406N 0560908E GHESHM ISLAND (KHM) 264547.1N 0555427.6E SERDU 264715N 0545757E ROSUM 264741N 0543637E LAVAN ISLAND (LVA) 264843.4N 0532121.1E DURSI 271219N 0520144E KAVAM 265737N 0515818E MIDSI 264142N 0515442E		
N571	(GUNIP 042954.9N 09931.48E) (VAMPI 061056.9N 0973508.1E) (MEKAR 063014.2N 0692928.5E) (SUGID 193303.1N 06921.00E) (DOGET 210703N 0660001E) PARAR 222630N 0630700E *Note 7 & 8 (OB, OM, OO) PARAR-ALPOB) KIPOL 230410N 0612903E RAGMA 2306002301N 061053903846E SODEB 234747N 0593023E VUSET 235540N 0590812E TOVDI 240733N 0584021E KIROP 243000N 0574700E ASNIB 243949N 0572105E SENTO 251908N 0544500E MENSA 245750N 0563249E AVAMI 250554N 0555647E LUBAT 250223N 0561749E ATBOR 251007N 0551947E ENEGA 250556N 0560601E MUVLA 251716N 0544500E RUKOR 250823N 0554603E SENTO 251908N 0544500E IVOXI 251239.6N 0552513.1E TUDIS 251009N 0550825E ELUKU 252910N 0535610E SENPA 251959.6N 0543210.5E ITROK 253557N 0532751E RUDUK 252408N 0541650E ULIVA 252647N 0540611E SISOB 253150N 0534509E PURLI 253644N 0532436E ALPOB 254218N 0530055E	UN571	(GUNIP 042954.9N 09931.48E) (VAMPI 061056.9N 0973508.1E) (MEKAR 063014.2N 0692928.5E) (SUGID 193303.1N 06921.00E) PARAR 222630.5 N 0630700E *Note 7 & 8 (OB, OM, OO) KIPOL 230410N 0612903E RAGMA 230600N 0610539E SODEB 234747N 0593023E VUSET 235540N 0590812E KIROP 243000N 0574700E MENSA 245750N 0563249E AVAMI 250554N 0555647E ATBOR 251007N 0551947E MUVLA 251716N 0544500E SENTO 251908N 0544500E ELUKU 252910N 0535610E ITROK 253557N 0532751E ALPOB 254218N 0530055E SOLOB 262241N 0513132E MEDMA 263412N 0505454E TOTLA 263806N 0504301E RULEX 264529N 0501745E SHNO 264026N 0475745E KUTEM 264359N 0473521E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	SOLOB 262241N 051313E MEDMA 263412N 050545E TOTLA 263806N 050430E RULEX 264529N 050174E SILNO 264026N 047574E KUTEM 264359N 047352E BOPAN (BPN) 270314N 045264E		BOPAN (BPN) 270314N 045264E
N572	ROTEL 264015N 050214E *Note 7 (ROTEL-DASUT) EGMOR 264211N 050290E DAVRI 264936N 050573E TORBO 265223N 051102E SEVNI 264401N 051381E SOGAN 263915N 051540E MURUB 262455N 052375E DASUT 261832N 053110E		
N574	ATMUL 220000N 029053E ASRAV 172442N 030194E KASAB 134346N 030423E KISOV 100955N 031035E JUBA (JUB) 045234N 031355E		
N629	TARDI 243418N 056091E *Note 7 (TARDI-TOTOX) NOSMI 241757N 056300E BOTAM 240227N 056532E ELIVA 235335N 057063E MUSUK 234320N 057214E IVAKU 232919N 057410E GEPOT 231446N 058005E GIDAN 230104N 058223E LOXOP 223722N 059454E TOTOX 215030N 062223E	UN629	TARDI 243418N 056091E *Note 7 (OO) NOSMI 241757N 056300E MUSUK 234320N 057214E GEPOT 231446N 058005E GIDAN 230104N 058223E TOTOX 215030N 062223E
N636	MAGRI 385408N 046230E ARDABIL (ARB) 381856.5N 0482605.1E UMERO 375524N 050151E ULEXI 374344N 051063E RIGAN 373543N 051405E GORGAN (GGN) 365544.7N 0542233.3E SABZEVAR (SBZ) 361011.0N 0573414.9E LOXED 355854N 058060E PAMTU 351006N 061080E		
N638	KING KHALED (KIA) 245310N 046453E OVEKU 250955N 044570E MADINAH (PMA) 243251N 039421E	UN638	KING KHALED (KIA) 245310N 046453E OVEKU 250955N 044570E MADINAH (PMA) 243251N 039421E
N685	TAGSO 272744N 045451E DEBOL 272116N 0461843E *Note 7 (TAGSODEBOL-KUSAR LAKLU) *Note 8 (TAGSO-TOSNA) DEBOL 272116N 0461843E	UN685	TAGSO 272744N 045451E *Note 7 (TAGSO-KUSAR) *Note 8 (TAGSO-TOSNA) DEBOL 272116N 0461843E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	TORTA 271906N 0462911E MAANI 270812N 0473152E ALSAT 270611N 0473118E GESOR 270322N 0475751E EGNOV 270301N 0474713E NADEN 265250N 0484448E KUSAR 264741N 0490218E DASVA 264551N 0492301E DAMMAM/KING FAHD (KFA) 262453951N 0494910643E NARMI 261802N 0501939E BAHRAIN (BAHR) 261551N 050385619E TULUB 260644N 0510041E DENVO 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E *Note 7 to LAKLU KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E TOPSI 250910N 0531200E UMEVU 250545N 0530653E BOXAK 244536N 0540032E KAPUM 245815N 0533450E ABU DHABI (ADV) 242508N 0544024 RETAS 235754N 0553423E GIDOB 244445.3N 0535952.6E *Note 8 (OO) PUTSO 232037N 0565322E SUVDU 243501N 0542410E LAKLU 232235N 0570401E RURAL 243045N 0543156E ODKUN 242608N 0544017E NAPMA 241250N 0550312E ORNEL 240311.7N 0551942.1E RETAS 235754N 0553423E KOBIM 233309N 0562701E PUTSO 232037N 0565322E LAKLU 232235N 0570401E		TORTA 271906N 0462911E ALSAT 270611N 0473118E EGNOV 270301N 0474713E KUSAR 264741N 0490218E KING FAHAD (KFA) 262153N 0494910E NARMI 261802N 0501939E BAHRAIN (BAH) 261551N 0503856E DENVO 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E *Note 7 to LAKLU KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E TOPSI 250910N 0531200E BOXAK 244536N 0540032E ABU DHABI (ADV) 242508N 0544024 RETAS 235754N 0553423E *Note 8 (OO) PUTSO 232037N 0565322E LAKLU 232235N 0570401E
N687	KING KHALID (KIA) 245310N 0464534E TAKTI 252153N 0474340E KINIB 254108N 0482317E MIBRA 255654N 0485053E DEMKA 261008N 0491310E SETBA 261346N 0491921E *Note 5 & 7 & 8 DAMMAM/KING FAHAD (KFA) 262453951N 0494910643E EMOLO 263559N 0500526E SIBGA 263416N 0500134E *Note 7 (SIBGA-TORBO) ROTEL 264015N 0502149E EGMOR 264210.81N 0502906.73E DAVRI 264936.05N 05057321.88E	UN687	KING KHALID (KIA) 245310N 0464534E KINIB 254108N 0482317E *Note 5 & 7 & 8 KING FAHAD (KFA) 262153N 0494910E EMOLO 263559N 0500526E ROTEL 264015N 0502149E EGMOR 264210N 0502906E DAVRI 264936N 0505732E TORBO 265223N 0511024E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	TORBO 265223N 0511024.30E		
N694	KING KHALD (KIA) 245310N 0464534E TORKI 261400N 0463103E SIBLI 265459N 0462334E AKODI 275012N 0461320E HAFR AL BATIN (HFR) 281949N 0460746E	UN694	KING KHALD (KIA) 245310N 0464534E TORKI 261400N 0463103E SIBLI 265459N 0462334E AKODI 275012N 0461320E HAFR AL BATIN 281949N 0460746E (HFR)
N697	MENLI 294700N 0315206E SISIK 293600N 0324100.6E *Note 7 (NWB-SISIK) NUWEIBAA (NWB) 290156N 0344016E *Note 7 (NWB-KITOT above FL350) KITOT 290205N 0345050E NAGIP 284206N 0361133E RABUG 283622N 0363402E DAXEM 283224N 0364923E NABEK 283030N 0365643E SOBAS 275600N 03904543E REVAB 273424N 0405710E HAIL (HIL) 272530N 04140589E *Note 7 (HIL-NARMI-KFAHIL) LOSEL 272135N 0422545E NALBU 271420N 0434206E PASIT 271011N 0442253E ALKIR 270758N 0444343E BOPAN (BPN) 2703124N 04526423E ANTER 270212N 0453359E *Note 8 (BPN-TORBO) SIBLI 265459N 0462334E LUGAL 264603N 0472235E MEDGO 264433N 0475257E LABLI 264522N 0482100E TAYMA 264556N 0484212E DAMMAM/KING FAHD (KFA) 262453951N 0494910643E NARMI 261802N 0501939E BAHRAIN (BAHR) 2615430N 0503855919E *Note 7 (BAH-TORBO) GOLKO 262149N 0504404E TOSTA 262746N 05049123E MEDMA 263421N 0505454E VEDOS 2641056N 05100445E SODAK 264634N 0510530E TORBO 265223N 0511024E	UN687	MENLI 294700N 0315206E SISIK 293600N 0324100E NUWEIBAA *Note 7 (NWB-KITOT above FL350) KITOT 290205N 0345050E SOBAS 275600N 0390454E HAIL (HIL) 272530N 0414058E *Note 7 (HIL-KFA) BPN 270312N 0452642E *Note 8 (BPN-TORBO) KING FAHD (KFA) 262153N 0494910E NARMI 261802N 0501939E BAHRAIN (BAH) 261551N 0503855E *Note 7 GOLKO 262149N 0504404E TOSTA 262746N 0504912E MEDMA 263421N 0505454E VEDOS 264105N 0510044E SODAK 264634N 0510530E TORBO 265223N 0511024E
N705	MISUK 290507N 0290621E *Note 7 (MISUK -TORBO) BOPIX 295154N 0282438E MUPSO 310034N 0272139E MERSA MATRUH (MMA) 311911N 0271320E SALUN 340000N 0242700E		
N700	*Note 9 (ULDUN-DOH) ULDUN 262429N 0560924E KAVEG 261608N 0552434E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	MENDI 254955N 0550522E DAPER 254522N 0545731E *Note 7 (DOH-DAPER) KUSBA 251633.60N 0532847.40E RORON 252052.80N 0530915.60E OVONA 252443.20N 0524739.60E DOHA/HAMAD (DOH) 251459.66N 0513634.80E		
N710	BOPIX 295154N 0282438E KIVIL 293845N 0284415E TAKRI 292503N 0290432E		
N764	NOBSU 171554N 0431318E LABDO 164842N 0442032E IMDEN 162101N 0452744E LOPAD 161651N 0453738E MEGPA 160017N 0461653E PAPOR 154322N 0465652E DEKMA 152226N 0474553E PAXUD 145436N 0485045E MUKALLAH (RIN) 144015.30N 0492329.30E XABIL 142924N 0494809E NOTBO 142609N 0495530E ORBAT 140638N 0503924E GESIX 134440N 0512823E KAVAN 133250N 0515431E RAPDO 132317N 0521532E KEDAV 125553N 0531509E SOCOTRA (SOC SCT) 1237498.80N 05354298.70E SUHIL 120000N 0550000E NABAM 101112N 0581424E (AVELI 112201N 0560800E)	UN764	NOBSU 171554N 0431318E MUKALLAH (RIN) 144015N 0492329E SOCOTRA (SOC) 123749N 0535429E SUHIL 120000N 0550000E NABAM 101112N 0581424E
N767	PARAR 222630N 0630700E *Note 7 (PARAR-ELIGO) VUSIN 225940N 0605510E *Note 7 (OO) ATBED 230352N 0603752E ELIGO 232458N 0590848E	UN767	PARAR 222630N 0630700E VUSIN 225940N 0605510E *Note 7 (OO) ATBED 230352N 0603752E ELIGO 232458N 0590848E
N881	RASKI 230330N 0635200E SETSI 230412N 0614410E KIPOL 230410N 0612903E *Note 7 (TULBU -KIPOL) ATBED 230352N 0603752E AMBOS 230324N 0595405 MUSRU 230256N 0592223E *Note 7 (OO) OBTIN 230216N 0585920E GIDAN 230104N 0582232E GEVED 230105N 0575111E TULBU 230005N 0571827E	UN881	RASKI 230330N 0635200E SETSI 230412N 0614410E KIPOL 230410N 0612903E ATBED 230352N 0603752E AMBOS 230324N 0595405 MUSRU 230256N 0592223E *Note 7 (OO) OBTIN 230216N 0585920E GIDAN 230104N 0582232E GEVED 230105N 0575111E TULBU 230005N 0571827E
N929	DASLO 254537N 0523029E *Note 7 & 8 to (DASLO-GIBUS) NAGOG 255214N 0521615E	UN929	DASLO 254537N 0523029E *Note 7 & 8 to (DASLO-GIBUS) NAGOG 255214N 0521615E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	BONAN 260201N 0515505E VEDED 260558N 0514628E SOGAT 262029N 0511443E TOSTA 262746N 0504913E DANAG 264438N 0494856E NADNA 264245N 0485309E SILNO 264026N 0475745E ASKOK 262623N 0474809E MUSRI 261647.0N 0474137.0E GIBUS 255724.0N 0472829.0E		BONAN 260201N 0515505E VEDED 260558N 0514628E SOGAT 262029N 0511443E TOSTA 262746N 0504913E DANAG 264438N 0494856E NADNA 264245N 0485309E SILNO 264026N 0475745E ASKOK 262623N 0474809E MUSRI 261647.0N 0474137.0E GIBUS 255724.0N 0472829.0E
P146	RASHT (RST) 371935.8N 0493657.1E GODNA 382033N 0465457E MURID 382744N 0463525E SIBVU 384444N 0454657E REXUS 385624N 0451332E AGINA 391924N 0440512E (AGRI (ARI) 393845.90N 0430137.50E) (YAVUZ 4002.7N 04226.0E) (TRABZON (TBN))	UP146	RASHT (RST) 371935N 0493657E AGINA 3919.24N 04405.12E (AGRI) (ARI) 393845N 0430137E (YAVUZ 4002.7N 04226.0E) (TRABZON (TBN))
P300	KALDE (KAD) 3348276.70N 035294009.53E LATEB 340154N 03624043.60E	UP300	KALDE (KAD) 334827N 0352910E LATEB 340154.9N 0362404.1E
P302	MIDSI 264142N 0515442E DASDO 285401N 285401N		
P304	EMISO 231734N 0562307E EGROK 235253N 0560126E *Note 7 (OO) MEKNA 233309N 0560815E EGVAN 230127N 0561907E DEMKI 224941N 0562308E NAMVA 223309N 0562223E TOPSO 215653N 0562043E KUROV 211627N 0561853E VELIK 203322N 0561656E DEMKI 224941N 0562308E NAMVA 223309N 0562223E TOPSO 215653N 0562043E KUROV 211627N 0561853E VELIK 203322N 0561656E	UP304	EGROK 235253N 0560126E *Note 7 (OO) MEKNA 233309N 0560815E EGVAN 230127N 0561907E DEMKI 224941N 0562308E NAMVA 223309N 0562223E TOPSO 215653N 0562043E KUROV 211627N 0561853E VELIK 203322N 0561656E
P307	SHARJAH (SHJ) 2519454.9N 0553118.1E 251945N 0553118E *Note 7 (SERSA-VAXIM) PAVAG 251546N 0554042E ITBON 251426N 0555257E KULBA 251326N 0560153E NOLSU 251248.0N 0560737.8E *Note 7 (OM,OO) TONVO 250500N 0563200E PURNI 243804N 0574354E *Note 8 (OO) KUNUS 241927N 0583226E ALSAS 240054N 0591955E	UP307	SHARJAH (SHJ) 2519454.9N 0553118.1E *Note 7 (OM,OO) TONVO 250500N 0563200E PURNI 243804N 0574354E *Note 8 (OO) KUNUS 241927N 0583226E ALSAS 240054N 0591955E DERTO 235033N 0594746E VAXIM 231900N 0611100E SETSI 230412N 0614410E PARAR 222630N 0630700E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	DERTO 235033N 0594746E VAXIM 231900N 0611100E SETSI 230412N 0614410E PARAR 222630N 0630700E		
P309	AVONO 092606N 0335418E BOTOK 102859N 0334548E SODIL 105401N 0334204E ELULA 143253N 0330853E KUVTI 163152N 0325025E SOGAD 171404N 0324125E NUBAR 220000N 0313824E		
P312	MUKALLA (RIN) 144015.30N 0492329.30E ULDIB 141148N 0485422E AMBOD 133357N 0481527E DATEG 123549N 0471627E PAKER 1155.00N 0463500E TIMAD 115500N 0463500 (HARGEISA) HARGA 093112N 0440530E (EGROV 112042N 0455900E)	UP312	MUKALLA (RIN) 144015N 0492329E PAKER 1155.00N 0463500E (HARGEISA) HARGA 093112N 0440530E
P313	VATEN 153358N 0323312E KAREP 151838N 0313308E ASNON 150818N 0305312E DELAM 144001N 0290644E DEBOX 144424N 0281037E GAMAR 150042N 0240843E IPONO 150624N 0222436E		
P315	NUBAR 220000N 0313824E SOMAK 190301N 0314717E MEROWE (MRW) 182448.81N 0314948.95E ITOMO 102133N 0322108E IMDUR 074114N 0323107E		
P316	SALALLAH (SLL) 170259.35N 05406576.91E *Note 7 (OO) DAXAM 171612N 0544715E *Note 7 (DAXAM-MCT) KAPOP 174544N 0550930E GAGLA 180505N 0552410E NALTI 182012N 0553431E DEDSO 185811N 0560041E GIVNO 195011N 0563059E MOBAB 201032N 0564415E GISKA 213503N 0574014E RADAX 220809N 0580230E MUSCAT (MCT) 233528.04N 0581536.48E	UP316	SALALLAH (SLL) 170259N 0540657E *Note 7 (OO) DAXAM 171612N 0544715E GAGLA 180505N 0552410E GIVNO 195011N 0563059E MOBAB 201032N 0564415E GISKA 213503N 0574014E RADAX 220809N 0580230E MUSCAT (MCT) 233528N 0581536E
P319	DAROR 270244N 0495815E *Note 7 (DAROR-DASUT) RAMSI 270249N 0500714E GASSI 270257N 0502229E VELOG 270215N 0503056E TOSDA 270005N 0505629E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	OBTAR 265934N 0510309E		
P322	AVONO 092606N 0335418E SITIK 092556N 0310809E DEMTI 093203N 0264506E ALMAM 093345N 0244451E MONAN 093300N 0234000E		
P323	(DONSA 143518N 0651136E) GIDAS 142004N 0600000E TOKPU 145122N 0571103E DAPAB 151115N 0552354E NODMA 152600N 0533400E ENADO 153333N 0532015E DAVRA 155918N 0523209E TAKMI 160542N 0522012E AL GHADAHA (GDA) 161117N 0520942E SIMKO 161821N 0515526E THAMD 171700N 0495500E KANEM 173700N 0492655E ALNES 181818N 0482811E KUTMA 182927N 0481202E GERUG 185530N 0473402E DAVLO 192343N 0465227E WADI AL DAWASIR (WDR) 203019N 0451219E	UP323	DONSA 143518.3N 0651136344.0E GIDAS 142004N 0600000E NODMA 1526.00N 05334.00E THAMD 1717.00N 04955.00E WADI AL DAWASIR (WDR) 203019N 0451219E
P425	DAHRAN (DHA) 261538N 0500824E *Note 8 to ALSER BAHRAIN (BAH) 261551N 0503855E DAVOV 262255N 0504012E DATGO 262957N 0504130E TOTLA 263806N 0504301E MEMKO 264611N 0504427E BOXOG 265403N 0504553E ALSER 271100N 0504900E	UP425	DAHRAN (DHA) 261538N 0500824E *Note 8 to ALSER BAHRAIN (BAH) 261551N 0503855E DAVOV 262255N 0504012E DATGO 262957N 0504130E TOTLA 263806N 0504301E MEMKO 264611N 0504427E BOXOG 265403N 0504553E ALSER 271100N 0504900E
P430	DOHA/HAMAD INTL (DOH) 251459.66N 05136354.80E (DOH) 251459N 0513635E *Note 7 & 8 (DOH-ALTOM) to MIDS BAYAN 252926N 0514849E *Note 7 to MIDS (BAYAN-ALTOM) KAPAX 254218N 0515118E VUTAN 255016N 0515218E ALVEN 255418N 0515315E BONAN 260201N 0515505E RAMKI 261138N 0515625E ALTOM 262230N 0515639E	UP430	DOHA/HAMAD INTL (DOH) 251459N 0513635E *Note 7 & 8 (DOH-ALTOM) to MIDS BAYAN 252926N 0514849E *Note 7 to MIDS KAPAX 254218N 0515118E VUTAN 255016N 0515218E ALVEN 255418N 0515315E BONAN 260201N 0515505E RAMKI 261138N 0515625E ALTOM 262230N 0515639E
P440	EMIXI 242105N 0520019E *Note 7 (ALGUX-EMIXI) ELIGA 242121N 0530148E ASRAT 242114N 0535944E ALGUX 242247N 0541209E		
P513	BUBAS 245938N 0570003E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	GERAR 240600N 0573616E MIXAM 234139N 0575523E *Note 7 (OO) MUSCAT (MCT) 233528.04N 0581536.48E		
P517	WAFRA (KFR) 283715N 0475729E DEKOB 283135N 0475106E *Note 7 (DEKOB-EMARO) GOVAL 281211N 0472908E DUSBO 280616N 0465254E KAPAG 280355N 0463845E NONLU 275921N 0461137E KING SAUD AIR BASE (KMC) 275250N 04533201E EMARO 273342N 0451330E	UP517	WAFRA (KFR) 283715N 0475729E GOVAL 281211N 0472908E KING SAUD AB (KMC) 275250N 0453320E
P550	ALVEN 255418N 0515315E BONAN 260201N 0515505E *Note 7 (ALVEN-SYZ) MODOG 261012N 0515935E LABOP 261907N 0520429E KUMLA 262609N 0520822E RAGAS 263537N 0521337E KAPIP 264322N 0521403E PEGET 270434N 0521515E MIXEM 271520N 0521556E LAGSA 283306N 0522056E SHIRAZ (SYZ) 293224.6N 0523519.6E REXEB 295208N 0520923E YASOUJ (YSJ) 304136.0N 0513324.1E RASLA 331202N 0493409E RIGOX 350618N 0475636E TUGEL 361220N 0470444E LAKLI 373730N 0455519E VUVAG 382529N 0452926E BORES 382829N 0452137E DASIS 385435N 0441230E		
P552	DATEG 123549N 0471627E SEPRO 132824N 0475035E ULAXI 141524N 0482317E RASBA 144124N 0484128E BOSAX 144740N 0484553E PAXUD 145436N 0485045E DEMNA 151652N 0490626E RALMO 153824N 0492155E GINBO 160349N 0494017E KEBER 170444N 0502029E ITELI 171310N 0502605E IMPOS 183137N 0511848E	UP552	DATEG 123549N 0471627E ULAXI 141524N 0482317E GINBO 160349N 0494017E IMPOS 183137N 0511848E
P555	OBVOM 241503N 0515552E LONUT 241520N 0530149E IMKUD 241513N 0535956E RAPNO 241452N 0541559E ATUDO 241708.0N 0543432.0E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
P556	ASKON 061745N 0262537E PEDOS 094018N 0290715E SISOR 124543N 0313859E ELULA 143253N 0330853E IMLAS 173413N 0354541E BOGUM 200636N 0380300E		
P557	NUBAR 220000N 0313806E *Note 7 (NABSI-NUBAR) ALKED 222152N 0313052E ORLEX 225732N 0311859E DESDO 251932N 0303034E VUTAB 252648N 0302802E IMLAX 252924N 0302707E MEVDA 254818N 0302029E DAVIX 262034N 0300904E TUDSI 264114N 0300128E MISUK 290507N 0290621E LOTOB 293510N 0290601E KATAB 292501N 0290506E OBRAN 302957N 0290522E GOMGO 311152N 0290446E NABSI 314353N 0290419E	UP557	NUBAR 220000N 0313806E *Note 6 & 7 MISUK 290507N 0290621E KATAB 292501N 0290506E
P559	RASLI 315424N 0383648E TURAIF (TRF) 314136N 03844058E *Note 7 to (DESDI-TRF-VUTEB) KAVID 303552N 0401147E GADLI 302312N 0403821E DELNI 300448N 0411627E TOKLU 294213N 0420220E LUDEP 290948N 0430646E RASMO 285713N 0433119E LOTOK 280834N 0450402E KING SAUD AIR BASE (KMC) 275250N 0453321E BOTEP 274420N 0461425E RADGI 272640N 0473708E ULOVO 274830N 0455420E ALPOT 271841N 0480511E *Note 8 (ULOVO-NAPLO) MUSKO 272640N 0473708E SILBA 270554N 0485301E KURKA 270449N 0491636E KEDAT 272149N 0475901E EGREX 270433N 0492158E JUBAIL (JBL) 270222N 0492426E DAROR 270244N 0495815E RAMSI 270249N 0500714E GASSI 270257N 0502229E KOBOK 265839N 0503349E BOXOG 265403N 0504553E DEBEN 265254N 0504856E DAVRI 264936N 05057342E SODAK 264634N 0510530E	UP559	RASLI 315424N 0383648E TURAIF (TRF) 314136N 0384405E *Note 7 to (TRF-DESDI) KAVID 303552N 0401147E TOKLU 294213N 0420220E RASMO 285713N 0433119E KING SAUD AB (KMC) 275250N 0453321E ULOVO 274830N 0455420E *Note 8 (ULOVO-NAPLO) MUSKO 272640N 0473708E KEDAT 272149N 0475901E JUBAIL (JBL) 270222N 0492426E DAROR 270244N 0495815E RAMSI 270249N 0500714E GASSI 270257N 0502229E KOBOK 265839N 0503349E BOXOG 265403N 0504553E DAVRI 264936N 0505731E SODAK 264634N 0510530E DANOB 263946N 0512640E BOTOB 263350N 0514505E ROSAN 263129N 0515220E KUMLA 262609N 0520822E ASPAK 262115N 0522257E DAVRI 264936N 0505731E TOMSO 260611N 0530214E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	DANOB 263946N 0512640E BOTOB 263350N 0514505E ROSAN 263129N 0515220E KUMLA 262609N 0520822E ASPAK 262115N 0522257E UKUBU 261428N 0524039E TOMSO 260611N 0530214E NALPO 255602N 0532945E RAPSA 253700N 0541700E SOKAK 255131N 0534251E DESDI 253603N 0544230E KIVUS 254522N 0540032E PUSOT 253919N 0542011E AMBOV 253439N 0543512E VUTEB 253644.6N 0545149.4E		NALPO 255602N 0532945E RAPSA 253700N 0541700E DESDI 253603N 0544230E
P560	PORT SUDAN (PSD) 311743N 0321416E BOGUM 200736N 0380360E AL BAHA (BHA) 2017833N 04137845E KITAP 224928N 0522923E PORT SUDAN (PSD) 311743N 0321416E	UP560	PORT SUDAN (PSD) 311743N 0321416E BOGUM 200736N 0380360E AL BAHA (BHA) 2017833N 04137845E KITAP 224928N 0522923E PORT SUDAN (PSD) 311743N 0321416E
P561	BENINA (BNA) 320728N 0201513E KATAB 292501N 0290506E	UP561	BENINA (BNA) 320728N 0201513E KATAB 292501N 0290506E
P562	DEESA 294509N 0364102E ENABI 290739N 0385650E TAMRO 283938N 0424147E LOTOK 280857N 0450512E	UP562	DEESA 294509N 0364102E ENABI 290739N 0385650E TAMRO 283938N 0424147E LOTOK 280857N 0450512E
P563	HAIL (HIL) 272530N 04140589E PASAM 273145N 0345642E HURGHADA (HGD) 271140N 0334847E	UP563	HAIL (HIL) 272630N 0414158E PASAM 273145N 0345642E HURGHADA (HGD) 271140N 0334847E
P565	KAFIA 084400N 0233100E LOPON 100606N 0240338E GINKA 124701N 0250831E HAMID 140400N 0254023E EGSUM 185726N 0274545E ATMUL 220000N 0290530E		
P566	VATEN 153358N 0323312E KAREP 151838N 0313308E ASNON 150818N 0305312E DELAM 144001N 0290644E ELFASHER (FSR) 133554.09N 0251810.66E ILBIB 123242N 0222700E		
P567	KAMAR 323900N 0604400E BIRJAND (BJD) 3258240.7N 0591200.5E PATEN 340825N 0572334E DAPIN 342034N 0570413 ALROT 351116N 0554136E ITELO 353534N 0550052E ODKAT 3540.6650N 05457.24146E DASHT-E-NAZ (DNZ) 363853.6N 0531120.1E	UP567	BIRJAND (BJD) 325821N 0591200E ODKAT 3540.6N 05457.2E DASHT-E-NAZ (DNZ) 363855.7N 0531120.4E (ULDUS 3800.00N 05101.00E) NETON 394542.7N 0481142.7E BARUS 415414.2N 0425030.5E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	DASEL 371113N 0522020E RIGAN 373543N 0514052E ULDUS 380000N 0510100E (NETON 394542N 0481142E) BARUS 415414.2N 0425030.5E		
P568	EPLAS 040000N 0341148E KUNDI 083920N 0313819E PEBOR 095738N 0305437E RAMKO 102439N 0303926E JEBRA 125520N 0291349E DEBOX 144424N 0281037E BOXIG 155958N 0272606E ELUXO 182038N 0260126E EMAMU 191646N 0252654E ORNAT 200000N 0250000E		
P570	TRIVENDRUM (TVM) 082831N 0765531E POMAN 115605.1N 0715958200.0E LATEB 171704.1N 06422.02E (TEGOR 183503.30N 0623002.70E) KITAL 200300N 0601800E GOLNI 210014N 0594130E TAVKO 211519N 0593147E BONOM 213636N 0591800E EMURU 221357N 0585338E TOLDA 224008N 0583624E GIDAN 230104N 0582232E ITURA 232351N 0580720E MIXAM 234139N 0575523E	UP570	TRIVENDRUM (TVM) 082831N 0765531E POMAN 115605.1N 0715958200.0E LATEB 171704.1N 06422.02E KITAL 2003.00N 06018.00E MIXAM 234139N 0575523E
P572	KISAL 101811N 0232526E GAILY 123030N 0270639E VATEN 153358N 0323312E		
P574	(BELGAUM) BBM (BOLIS 203333N 0650002) (BISET 1823.4N 06918.1E) TOTOX 215030N 0622230E LOSIM 223513N 0603238E KAXEM 225103N 0595243E MUSRU 230256N 0592223E PAROK 231030N 0590245E *Note 7 (OM, OO, PAROK-SERSA) KUSRA 231726N 05851022611E MIXAM 2341389N 05755253E DAPOK 235956N 0572959E EMATA 242309N 0565721E SOLUD 243223N 0564421E PUXIL 244117N 0563145E GISMO 244743N 0562236E BUBIN 245742N 0560642E MIVEK 245240N 0561516E TUKLA 2519.36N 0554010.2E IMPED 245824.5N 0560406.2E NORGA 250352N 0555415E RUKOR 250823N 0554603E	UP574	(BELGAUM) BBM (BISET 1823.4N 06918.1E) TOTOX 215030N 0622230E *Note 7 (OM, OO) KUSRA 231726N 0585102E MIXAM 234138N 0575525E SOLUD 243223N 0564421E GISMO 244743N 0562236E BUBIN 245742N 0560642E TUKLA 2519.36N 0554010.2E KUMUN 254000N 0551512E PAPAR 264000N 0542700E SHIRAZ (SYZ) 293224N 0523520E SAVEH (SAV) 350107N 0502217E ULDUS 380000N 0510100E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	SERSA 251945N 0553118E TOVIV 253302N 0551942E KUMUN 254000N 0551512E PAPAR 264000N 0542700E SHIRAZ (SYZ) 293224.6N 052352019.6E ASNIT 303854N 0520948E OBTUX 312223N 0515242E LOXAK 314454N 0514344E EGPAT 323330N 0512409E IMRAG 325142N 0511643E PEKAM 332904N 0510118E EGVEL 344258N 0503005E SAVEH (SAV) 3501076.8N 05022176.9E SOGOL 350829N 0503128E RUDESHUR (RUS) 352643.7N 0505419.3E TEHRAN (TRN) 354149.1N 0511701.6E NAGMO 360214N 0512055E DANEH 362001N 0512408E NOSHAHR (NSR) 363946.1N 0512751.4E ULEXI 374344N 0510631E ULDUS 380000N 0510100E (IBRUT 413524N 0510354E)		
P634	LALDO 251806N 0563600E *Note 7 ATBOR 251007N 0551947E	UP634	LALDO 251806N 0563600E *Note 7 ATBOR 251007N 0551947E
P693	AL AHSA (HSA) 2516445N 04929023E LADBO 242004N 0511411E *Note 8 to BUNDU BATHA (BAT) 241257N 0512707E DEMTA 241926N 0513533E BUNDU 250024N 0522924E	UP693	AL AHSA (HSA) 251644N 0492902E *Note 8 to BUNDU BATHA (BAT) 241257N 0512707E BUNDU 250024N 0522924E
P699	ATBOR 251007N 0551947E 252006N 0560525E *Note 7 (ATBOR-TUKSI-BAH) PAVAG 251546N 0554042E IVOXI 251239.6N 0552513.1E TUDIS 251009N 0550825E EGTAG 250856N 0545652E NABIX 251241.1N 0543147.3E SITAT 251105N 0544500E 251559N 0541841E KISAG 251834N 0541408E 251837N 0540803E ITMUS 252322N 0535429E 252212N 0535106E ALSOK 252607N 0533904E 252535N 0533458E RUBAL 252957N 0531723E 252950N 0531428E ORMID 253354N 0525434E *Note 8 (ORMID-KFA)	UP699	ATBOR 251007N 0551947E *Note 7 (ATBOR-BAH) SITAT 251105N 0544500E KISAG 251834N 0541408E ITMUS 252322N 0535429E ALSOK 252607N 0533904E RUBAL 252957N 0531723E ORMID 253354N 0525434E *Note 8 (ORMID-KFA) DASLO 254537N 0523029E NAGOG 255214N 0521614E BONAN 260200N 0515505E VEDED 260558N 0514627E KUNDO 261631N 0512325E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	DASLO 254537N 0523029E NAGOG 255214N 0521614E EALKAN 255214N 0521615E BONAN 2602001N 0515505E VEDED 260558N 05146278E KUNDO 261631N 0512325E SOGAT 262029N 0511443E RIKET 261952N 0510954E ASTAD 261812N 0505646E BAHRAIN (BAHR) 26155130N 0503856919E NARMI 261802N 0501939E KING FHAD (KFA) 262153N 0494910E		SOGAT 262029N 0511443E ASTAD 261812N 0505646E BAHRAIN (BAH) 261551N 0503856E NARMI 261802N 0501939E KING FHAD (KFA) 262153N 0494910E
P708	LONOS 283027N 0491713E ORGEL 281312N 0494614E DATEN 273118N 0501832E REVAX 272026N 0502651E GETAL 270410N 0504040E DEBEN 265254N 0504856E RASDI 260425N 0512407E VELAM 255426N 0514347E VUTAN 255016N 0515218E RESAR 253707N 0522328E ALSEM 252703N 0524322E OVONA 252443N 0524739E		
P715	KUVER 280925N 0500600E *Note 7 (MESVI-KUVER) ALNIN 283306N 0501036E KHARK ISLAND (KHG) 291550.0N 0501900.7E MESVI 311057N 0500006E		
P751	(ARLOS 343731N 0225959.40E) AMIBO 3456.7N 2136.4E SIDI BARANI (BRN) 313432N 0260020E METRU 340000N 0250900E *Note 7 (KUNKI-METRU) KATAB 292501N 290506E MERSA MATRUH (MMA) 311911N 0271320E DASUM 310802N 0273234E TAKRI 292503N 0290432E KUNKI 290726N 0291949E ASYUT (AST) 270152N 0310157E LUXOR (LXR) 254458N 0324607E DANOG 251341N 0330905E UMINI 234900N 0341006E ALEBA 220000N 0352700E TOMRU 204411N 0361950E PORT SUDAN (PSD) 192404.12N 0371430.21E [ASMARA] *Note 1 151704N 0385403E TOKAR 180624N 0374812E DEKRA 123924N 0431544E PARIM 123142N 0432712E ARABO 123852N 0440401E DIRAK 124211N 0442113E	UP751	AMIBO 3456.7N 2136.4E SIDI BARANI (BRN) 313432.5N 0260020.3E KATAB 2925.01N 290506.1E ASYUT (AST) 270152.9N 0310157.9E LUXOR (LXR) 254458N 0324607E ALEBA 2200.00N 03527.00E PORT SUDAN (PSD) 192404N 0371430E [ASMARA] *Note 1 151704N 0385403E TOKAR 180624304.0N 03748124238.8E PARIM 123142.7N 04327.12E ADEN (KRA) 124952N 0450125E ANGAL 161404.1N 0600004.1E MUMBAI (BBB) 190511N 0725229E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	ADEN (KRA) 124952.20N 0450125E RABOL 125856N 0454119E MIXAN 132222N 0472427E SEPRO 132824N 0475035E AMBOD 133357N 0481527E SOKEM 134235N 0485329E PAXED 135027N 0492759E XANLO 135653N 0495628E ORBAT 140638N 0503924E RIGAM 143932N 0530414E DAPAB 151115N 0552354E ANGAL 161404N 0600004E MUMBAI (BBB) 190511N 0725229E (MAMIG 161404N 0600004E)		
P752	ALSIR 165804N 0471248E UKPAD 165415N 0471848.60E ALSOD 164203.60N 0473753.40E NADAK 161935.40N 0481259.40E DANIN 160543.80N 0483437.80E SAYUN (SYN) 155742.64N 0484710.18		
P753	PADUR 172958N 0473825E TASBI 165853N 0481118E XALTA 163546.20N 0483545E GIBAX 162047N 0485137E		
P891	MAGALA (MGA) 261720N 0471225E MUSRI 261647N 0474137E *Note 7 (MUSRI to KUA) MEDGO 264433N 0475257E GESOR 270322N 0475751E KEDAT 272149N 0475901E KUTEM 264359N 0473521E VOBA 274138N 0480219E EGNOV 270301N 0474713E KEBOK 274951N 0480341E EMILU 275031N 0475943E KUNRU 283220N 0481050E KUWAIT (KUA) 291306457N 0475903717E	UP891	MAGALA (MGA) 261720N 0471225E *Note 7 to KUA KUTEM 264359N 0473521E EGNOV 270301N 0474713E EMILU 275031N 0475943E KUNRU 283220N 0481050E KUWAIT (KUA) 291306N 0475803E
P899	MIXAM 234139N 0575523E *Note 7 (MIXAM-KUPSA) VELOD 234611N 0573435E PAXIM 240245N 0561631E ITRAX 241248N 0554749E AL AIN (ALN) VAVIM 241535.1N 05536232.9E ABU DHABI (ADV) 242508N 0544024E 241825.0N 0552143.0E DASLA N243747N.8 E0533248E.8 SIXIV 242009N 0550439E VEBAT N244830N.5 E05251.00E UMIBU 242331N 0543027E MEKMA N245430 E0522506 MEKRI 243122.8N 0535500.0E *Note 8 (OB)	UP899	MIXAM 234139N 0575523E *Note 7 to KUPSA PAXIM 240245N 05617631E ITRAX 241248N 0554749E AL AIN (ALN) 241535N 0553623E ABU DHABI (ADV) 242508N 0544024E DASLA N243747N.8 E0533248E.8 VEBAT N244830N.5 E05251.00E MEKMA N245430N E0522506E *Note 8 (OB) KUPSA N250445N E0521151E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	KUPSA ——— N250445 ——— E0521151E 245050N 0523619E MEKMA 245430N 05225056E KUPSA 250445N 0521151E		
P975	(ELAZIG) EZS 384230N 0391327E *Note 7 DIYARBAKIR (DYB) 384225N 0391328E (LEKRO 371638.80N 0405817.30) LESRI 370420N 0411348E SIDNA 3633458N 0414159E TUBEN 351724N 0425434E MUTAG 343003N 0433834E *Note 7 (MUTAG-LONOS) SOGUM 341212N 0435454E PUTSI 333200N 0443700E SINKA 332137N 0444753E NOLDO 324932N 0452129E *Note 7 KATUT 323737N 0453439E DENKI 322228N 0455122E ILMAP 312133N 0465702E 351724N 0460921E PEBAD — 305023N — 0472958E EULDUR 305023N 0472958E SIDAD 295231N 0482944E LOVAR — 292424N — 0484606E EGVAL 292448N 0484545E SESRA — 2908003N — 04854543E SESRU 290900N 0485450E DANAL 28513028N 049044850E IMDOX 2834545N 04914368E LONOS 283027N 0491713E ORGEL 281312N 0494614E DATEN 273118N 0501832E REVAX 272026N 0502651E GETAL 270409N 0504039E LOSI 270118N 0504208E BOXOG 265403N 0504553E NABOS 264354N 0505145E TOTIS 261119N 0511026E	UP975	(ELAZIG) EZS 384230N 0391327E *Note 7 DIYARBAKIR (DYB) 384225N 0391328E LESRI 370420N 0411348E SIDNA 3633584.0N 0414159.0E TUBEN 351724N 0425434E MUTAG 343003N 0433834E SOGUM 341212N 0435454E SINKA 332137N 0444753E NOLDO 324932N 0452129E *Note 7 KATUT 323737N 0453439E DENKI 322228N 0455122E ILMAP 312133N 0465702E PEBAD 305023N 0472958E SIDAD 295231N 0482944E LOVAR 292424N 0484606E SESRA 290800N 0485454E DANAL 285130N 0490448E IMDOX 283454N 0491436E LONOS 283027N 0491713E ORGEL 281312N 0494614E DATEN 273118N 0501832E REVAX 272026N 0502651E GETAL 270409N 0504039E LOSI 270118N 0504208E BOXOG 265403N 0504553E NABOS 264354N 0505145E TOTIS 261119N 0511026E
R2	ATMUL 220000N 0290527E TULOP 252209N 0262226E DITAR 265903N 0250000E ARADA 304636N 0213348E BENGHAZI BENINA (BNA) 320728N 0201513E	UR2	ATMUL 220000N 0290527E TULOP 252209N 0262226E DITAR 265903N 0250000E
R205	ANARAK (ANK) 333215N 0534347E BIRJAND (BJD) 325821N 0591200E	UR205	ANARAK (ANK) 333215N 0534347E BIRJAND (BJD) 325821N 0591200E
R219	KUKLA 341438.34N 03444476.8E KALDE (KAD) 3348276.70N 03529409.53E	UR219	KUKLA 341438.6N 0344447.8E KALDE (KAD) 334827N 0352910E
R401	AMPEX 08 1000N 055 0000E (EKBEL 112256N 0550000E) SUHIL 120000N 0550000E	UR401	AMPEX 08 1000N 055 0000E SUHIL 120000N 0550000E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	BTEM 135413N 0551418E DAPAP 151115N 0552354E DAPAB 151115N 0552354E KIVEL 165306N 0553633E ERDAX 175903N 0554458E DEDSO 185811N 0560041E HAIMA (HAI) 195813.3N 0561654.82E VELIK 203322N 0561656E *Note 7 (VELIK-GABKO) ALNUN 211625N 0561041E SUTLI 220121N 0560404E DATBU 222243N 0560054E DEMKI 224941N 0562308E EKATAK 224811N 0555708E MUSAP 241754N 0555245E LABSA 230153N 0555505E GIDIS 243600N 0555600E DOLFI 233253N 0555024E ANVIX 244655N 0555616E KURTA 234205N 0554900E AVAMI 250554N 0555647E MUSAP 241754N 0555245E ULUSA 254925N 0555010E PEDOG 242225.4N 0555333.7E GIDIS 243600.0N 0555600.0E ANVIX 244655.0N 0555616.0E NORGA 250352N 0555415E SOGUR 255221N 0554943E ITBON 251426N 0555257E *Note 7 Eastbound (SOGUR-KHM) MISEG 252134N 0555205E ITLAP 254925N 0555010E ASNEK 255630.7N 0554904.7E GABKO 260404N 0554755E GHESHM (KHM) 264547N 0555428E		DAPAP 151115N 0552354E KIVEL 165306N 0553633E ERDAX 175903N 0554458E HAIMA (HAI) 195813N 0561651E DEMKI 224941N 0562308E MUSAP 241754N 0555245E GIDIS 243600N 0555600E ANVIX 244655N 0555616E AVAMI 250554N 0555647E ULUSA 254925N 0555010E SOGUR 255221N 0554943E *Note 7 Eastbound (SOGUR-KHM) GABKO 260404N 0554755E GHESHM (KHM) 264547N 0555428E
R402	LAKLU 232235N 0570401E KUNGO 230034N 0565850E NALKI 224928N 0565614E *Note 7 (NALKI-HAI) MOGOK 215057N 0564236E TUBSA 204029N 0562626E HAIMA (HAI) 195813.31N 05616510.82E	UR402	LAKLU 232235N 0570401E *Note 7 (OO) HAIMA (HAI) 195813N 0561651E
R462	JIWANI (JI) 250350N 0614744E (BIVIN 250350N 0614744E) METBI 245556N 0612816E DENDA 244230.24N 0605451E EGTAL 243458N 0603724E ASLOM 242113N 0600552E MIXOL 240523N 0592959E ALSAS 240054N 0591955E VUSET 235540N 0590812E *Note 7 (VUSET-MIXAM) MIXAM 234139N 0575523E	UR462	(JIWANI) (JI) 250350N 0614744E DENDA 244230.5N 0605451.8E VUSET 235540N 0590812E *Note 7 (OO) MIXAM 234139N 0575523E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
R611	KHARTOUM (KTM) 153357.93N 0323312.16E EMITA 142130N 0334444E TIKAT 122418N 0353812E		
R650	ASRAB 254726N 0330619E KUSAT 264748N 0333617E HURGHADA (HGD) 271040N 0334747E IMLUX 273131N 0340323E SHARM EL SHEIKH (SHM) 275953N 0342448E DELNA 283040N 0343212E NUWEIBAA (NWB) 290156N 0344016E NALSO 293210N 034525042E	UR650	ASRAB 254726.4N 0330619.3E HURGHADA (HGD) 271040N 0334747E SHARM EL SHEIKH (SHM) NUWEIBAA (NWB) 290156N 0344016E NALSO 2932.10N 03452503.0E
R651	DASUT 261832N 0531108E VEKEL 261929N 0535738E MIRIT 262013N 0545411E ORPEN 263119N 0552008E GHESHM ISLAND (KHM) 264547.1N 0555427.6E		
R652	ULINA 292451N 03458178E METSAT 292707N 0345903E BAKIR 294053N 0350708E QATIM 295600N 0351600E LOXUS 301300.90N 0352600E ROVAR 292438N 0345711E LOSIL 304851.20N 0354741.31E QATRANEH (QTR) 311454.41N 0360334.31E EGLOT 311656.94N 0363214.16E KULDI 311847.07N 0363214.16E KIPAS 3123204N 0370641E GURIAT (GRY) 312445N 371712E *Note 7(OE) TURAIF (TRF) 314136N 03844058E OVANO 314801N 0390951E *Note 7 (OVANO- GIBUX) DAXAN 320512N 0393719E KASIR 323954N 0403112E GIBUX 330500N 0411100E RAPLU 332300N 0414530E GEPAP 334906N 0422851E MUTAG 343003N 0433834E IVANO DAVAS 351724N 0451235E	UR652	ROVAR 292438N 0345711E QATRANEH (QTR) KIPAS 312320N 0370641E GURIAT (GRY) *Note 7(OE) TURAIF (TRF) OVANO 3148.01N 0390951.8E
R654	MAGRI 385408N 0462300E DARUN 383339N 0464235E GODNA 382033N 0465457E BUDED 375313N 0472032E DAMOS 372619N 0474521E ZANJAN (ZAJ) 3646476.8N 04821121.9E TULGU 362836N 0484235E SAVEH (SAV) 3501076.8N 05022176.9E EGVEL 344258N 0503005E PEKAM 332904N 0510118E ESFAHAN (ISN) 334449.1N 05149440.8E LADAL 322226N 0525543E	UR654	MAGRI 385408N 0462300E ZANJAN (ZAJ) 364647N 0482112E SAVEH (SAV) 350107N 0502217E ESFAHAN (ISN) 334449N 0514941E YAZD (YZD) 315352N 0541658E KERMAN (KER) 301706N 0465637E NABOD 2816.1N 05825.3E CHAH BAHAR (CBH) EGPIC 2508.6N 06029.5E DENDA DENDA 244230N 0605451E NABOD 2816.1N 05825.3E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
	TOVTA 320528N 0534421E YAZD (YZD) 3153521.6N 05416587.7E BOMUN 313648N 0544555E UKVEV 310557N 0553718E ALMOB 303434N 0562824E KERMAN (KER) 301706658.1N 045656372.3E ALKUL 295152N 0571535E PEDUK 285920N 0575447E NABOD 2816.1N 05825.3E NABOX 281630N 0582601E LADPA 265331N 0592514E DUGLI 264014N 0593431E NAGES 262451N 0594514E EGPER 255210N 0600737E CHAH BAHAR (CBH) 252641.9N 0602451.7E EGPIC 2508-611N 06029-53730E DENDA 24423024N 0605451E		
R655	(LARNACA) (LCA) 345222N 0333732E (KOBOR 344437N 0340624E) BALMA 342856.30N 0350302.30E CHEKA (CAK) 3418021.81N 0354200159.64E CEDAR 341713.20N 0360004.30E LEBOR 341556N 0363514E KARIATAIN (KTN) 341248N 0371551E	UR655	(LARNACA) (LCA) 345222N 0333732E CHEKA (CAK) 341802N 0354200E KARIATAIN (KTN) 341248N 0371551E
R659	TEHRAN (TRN) 354149.1N 05117021.6E *Note 7 (ISN-TRN) BOXAM 343749N 0515147E VAVIN 341709N 0520247E DAPOG 333744N 0522331E *Note 3 (DAPOG-SYZ) ESFAHAN (ISN) 324449.1N 0514940.8E GIDEN 320039N 0520026E GESIP 314556N 0520359E KAVOT 304111N 0521922E SHIRAZ (SYZ) 293224.6N 052352019.6E LAGSA 283306N 0522056E KATAG 282346N 0521841E *Note 7 (KATAG- EMISA) DURSI 271219N 0520144E KAVAM 265737N 0515818E MIDSI 264142N 0515442E *Note 8 (MIDSI-DOH) *Note 7 (MIDSI-VELAM) SOGAN 263915N 0515408E ROSAN 263129N 0515220E DASOS 262430N 0515043E BOPOV 262430N 0515043E RABLA 261506N 0514834E VEDED 260558N 0514628E VELAM 255426N 0514347E EMISA 254658N 0514207E DOHA/HAMAD INTL (DOH) 251459.66N 05136354.80E	UR659	TEHRAN (TRN) 354149N 0511702E *Note 7 (ISN-TRN) BOXAM 343749N 0515147E DAPOG 333744N 0522331E *Note 3 (DAPOG-SYZ) SHIRAZ (SYZ) 293224N 0523520E MIDSI 264142N 0515442E *Note 8 (MIDSI-DOH) *Note 7 (MIDSI-VELAM) SOGAN 263915N 0515408E ROSAN 263129N 0515220E DASOS 262430N 0515043E RABLA 261506N 0514834E VEDED 260558N 0514628E VELAM 255426N 0514347E EMISA 254658N 0514207E DOHA/HAMAD INTL (DOH) 251459N 0513635E

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	1	2
R660	(ERZURUM (ERZ) 395724N 04112265.70E) DASIS 3854345N 044122930E BORES 382829N 0452137E VUVAG 382529N 0452926E TABRIZ (TBZ) 380853.5N 04612476.6E RAKED 375621N 0470712E BUDED 375313N 0472032E RALGO 372840N 0490112E RASHT (RST) 3719354.8N 0493657.1E DEDLA 365620N 0500044E NABAX 360955N 0504816E TEHRAN (TRN) 354149N 0511702E	UR660	(ERZURUM) (ERZ) 395724N 0411226E RASHT (RST) 371935N 0493657E TEHRAN (TRN) 354149N 0511702E
R661	DULAV 3857.00N 04537.9800E RABDI 384804N 0454431E SIBVU 384444N 0454657E TABRIZ (TBZ) 380853.5N 04612476.6E RUDAD 374045N 0465741E ZANJAN (ZAJ) 3646476.8N 04821121.9E SUTBU 363324N 0484732 MIVAK 355915N 0495324E RUDESHUR (RUS) 3526443.7N 0505419.3E IMAM KHOMAINI (IKA) 352434.8N 0511042.5E VARAMIN (VR) 3520343.6N 05138143.8E DEHNAMAK (DHN) 3515145N 05243132E	UR661	DULAV 3857.0N 04537.9E TABRIZ (TBZ) 380853N 0461247E ZANJAN (ZAJ) 364647N 0482112E RUDESHUR (RUS) 352644N 0505419E VARAMIN (VR) 352034N 0513814E DEHNAMAK (DHN) 351514N 0524313E
R665	SOMAD 372645N 0543255E LOVEN 363926N 0553355E IBRAV 362041N 0555430E MUSEG 354656N 0562631E IMKUK 345602N 0571346E TASLU 342531N 0574131E BIRJAND (BJD) 325820.7N 0591200.5E		
R670	DASIS 385435N 0441230E REXUS 385624N 0451332E DULAV 385700N 0453800E		
R674	SABEL 185158N 0520339E LOTEL 180926N 0514103E PASUL 180341N 0513803E GOGRI 170752N 0510857E OBTAS 164633N 0505756E RARBA 161021N 0503920E UKORA 152407N 0501547E NAKAD 150056N 0500402E DANAN 144010N 0495334E XABIL 142924N 0494809E EMABI 141627N 0494139E PAXED 135027N 0492759E DEMGO 120258N 0483040E	UR674	SABEL 185158N 0520339E LOTEL 180926N 0514103E PASUL 180341N 0513803E GOGRI 170752N 0510857E OBTAS 164633N 0505756E RARBA 161021N 0503920E UKORA 152407N 0501547E NAKAD 150056N 0500402E DANAN 144010N 0495334E XABIL 142924N 0494809E EMABI 141627N 0494139E PAXED 135027N 0492759E DEMGO 120258N 0483040E
R775	DEDLI 224232N 0373719E DASPA 230121N 0370841E SEDVA 235813N 0354006E ELELI 251854N 0332934E		

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator or	Significant Points	Designator	Significant Points
1	2	4	2
	LUXOR (LXR) 254458N 0324607E		
R777	DANAK 160800N 0412900E LAKNA 160000N 0420000E GOBLO 154050N 0432550E IMKAR 153511N 0435039E SANAA (SAA) 1530002959.60N 04413140.60E PAVEN 144602N 0441112E EGNOL 140745N 0440929E TAIZ (TAZ) 134150N 0440819E ARABO 123852N 0440401E TORBA 121036N 0440206E	UR777	DANAK 1608.00N 04129.00E SANA'A (SAA) 153000N 0441311E TAIZ (TAZ) 134150N 0440819E ARABO 123852.8N 04404.01E TORBA 1210.36N 0440206.1E
R784	SHARJAH (SHJ) 251945N 0553118E KUSEN 251828.0N 0562340.0E *Note 7 (ORSAR-KUSEN) EMOPI 252620.0N 0560900.0E ALSIL 252911.1N 0554639.4E TOVIV 253302N 0551942E ALRAR 254058.2N 0550149.4E GONVI 254239.8N 0545630.5E TATLA 254753N 0544008E EMOTA 255254N 0542414E GIBIB 255507N 0541712E ORSAR 260430N 0535730E LEVNA 261535N 0533857E EGMIT 263340N 0530825E *Note 8 (OM) PEGET 270434N 0521515E DURSI 271219N 0520144E IMDAT 274100N 0511100E ALNIN 2833056N 0501036E NANPI 290457N 0493157E *Note 7 (SIDAD-NANPI) DESLU 292800N 0490150E SIDAD 295231N 0482944E	UR784	SHARJAH (SHJ) 251945N 0553118E ORSAR 260430.5N 0535730.5E *Note 8 (OM) DURSI 271219.3N 0520144.7 E IMDAT 27410.0N 05111003.0E ALNIN 28330540.9N 050103601.6E NANPI 290457N 0493157E SIDAD 295231N 0482944E
R785	TURAI (TRF) 314146N 0384408.10 RASLI 315424N 0383648E KAREM 325110.40N 0380324.38E ZELAF 325700N 0380000E ABBAS 332610N 0374320E BASEM 333352N 0373938E KARIATAIN (KTN) 341248N 0371551E BRAVO 344118N 0363500E BANIAS (BAN) 35134262N 0355729E DELTA 351228N 0354916E NIKAS 351136N 0354300E	UR785	TURAI (TRF) ZELAF 3256567.0N 0371121800.0E KARIATAIN (KTN) 341248N 0371551E BANIAS (BAN) 351342N 0355729E NIKAS 3511.36N 03543.00E
R794	ULDUS 380000N 0510100E ULEXI 374344N 0510631E NOSHAHR (NSR) 36393546.1N 0512805751.4E DEHNAMAK (DHN) 3515145N 05243132E TABAS (TBS) 334021N 0565331E BIRJAND (BJD) 325821N 0591200E *Note 5 (OI)	UR794	ULDUS 3800.00N 05101.00E NOSHAHR (NSR) 363935N 0512805E DEHNAMAK (DHN) 351514N 0524313E TABAS (TBS) 334021N 0565331E BIRJAND (BJD) 325821N 0591200E *Note 5 (OI)

LOWER/UPPER AIRSPACE		UPPER AIRSPACE	
Designator	Significant Points	Designator	Significant Points
1	2	4	2
R799	IMPOS 1831367N 0511848 E PASUL 180341N 0513803E TONRO 165850N 0522235E ASMAK 162327N 0524634E ENADO 153333N 0532015E	UR799	IMPOS 183136N 0511848 E PASUL 180341N 0513803E TONRO 165850N 0522235E ASMAK 162327N 0524634E ENADO 153333N 0532015E

c) Originated by: The ATM SG/7 meeting (virtual, 15-18 November 2021)

d) Intended date of implementation: As soon as practicable after approval

e) Originator's Comments

The changes proposed herein are the result of work undertaken by the MIDANPIRG ATM SG/7 meeting; and the coordinating with MID States and airspace users. The Proposal for Amendment takes also into consideration the MIDANPIRG Steering Group Conclusion 6/9 related to the removal of the prefix 'U' from ATS Routes in Table ATM II-MID-1; and the airspace restructuring projects in the MID Region to enhance the ATS route network efficiency and availability during normal and contingency situations.

f) Secretariat's Comments

The ICAO Secretariat was fully engaged in the work of the ATM SG and the bilateral and multilateral discussion/coordination with states and airspace users.

g) Proposal circulated to following States and Organizations:

Afghanistan	Ethiopia	Paraguay
Albania	Finland	Peru
Algeria	France	Philippines
Andorra	Georgia	Poland
Antigua and Barbuda	Germany	Portugal
Argentina	Greece	Qatar
Armenia	Hungary	Republic of Korea
Australia	Iceland	Republic of Moldova
Austria	India	Romania
Azerbaijan	Indonesia	Russian Federation
Bahamas	Iran (Islamic Republic of)	San Marino
Bahrain	Ireland	Saudi Arabia
Bangladesh	Israel	Senegal
Barbados	Italy	Serbia
Belarus	Jamaica	Singapore
Belgium	Japan	Slovakia
Bosnia and Herzegovina	Jordan	Slovenia
Brazil	Kazakhstan	South Africa

Bulgaria	Kenya	Spain
Cabo Verde	Kyrgyzstan	Sri Lanka
Canada	Latvia	Sudan
Chile	Libya	Sweden
China	Lithuania	Switzerland
Colombia	Luxembourg	Switzerland
Costa Rica	Malaysia	Tajikistan
Côte d'Ivoire	Malta	Thailand
Croatia	Mexico	Tunisia
Cuba	Monaco	Turkey
Cyprus	Mongolia	Turkmenistan
Czech Republic	Montenegro	Ukraine
Democratic People's Republic of Korea	Morocco	United Arab Emirates
Denmark	Netherlands	United Kingdom
Dominican Republic	New Zealand	United States
Egypt	Nigeria	Uzbekistan
Equatorial Guinea	North Macedonia	Zambia
Estonia	Norway	CANSO
European Commission	Pakistan	EUROCONTROL
IAOPA	IBAC	IFALPA
IATA	IFAIMA	IFATCA

**TERMS OF REFERENCE (TOR) OF THE
MIDANPIRG AIR TRAFFIC FLOW MANAGEMENT TASK FORCE
(ATFM TF)**

I. TERMS OF REFERENCE

- 1.1 Perform a joint assessment and confirmation of the Pre-requisites for a regional ATFM solution, This shall include:
 - a) Assessment of the performance objectives of the individual participating States and definition of common performance objectives for a regional ATFM service.
 - b) Perform a data collection and analysis to identify hot-spot areas and critical times in a regional ATFM service area where demand consistently exceeds capacity. The reasons and contributing factors for unbalanced demand and capacity are to be identified.
 - c) Analysis of air traffic flows within the designated area of the regional ATFM service that is causing unbalanced demand and capacity. The analysis shall identify the traffic fractions that due to their uniformity are candidates for effective ATFM measures to increase the efficiency without violating the equity principle.
- 1.2 Develop an ATFM Concept of Operations and a Framework which addresses ATFM minimum requirements for the implementation of ATFM in the ICAO MID Region.
- 1.3 Agree on a mechanism to support the phased implementation of ATFM measures in the MID Region, when and where required.
- 1.4 Identify, research and recommend appropriate guidance regarding:
 - a) Aerodromes and Airspace capacity under the normal circumstances and adjustment factors affecting the capacity;
 - b) regular review for all aerodromes and ATC sectors where traffic demand is expected to reach capacity, or is resulting in traffic congestion;
 - c) regular review of the implemented ATFM measures and the related publications; to support implementation of the required measures and reflection by the data houses (such as: Flight Planning Systems) and compliance of the airspace users;
 - d) mechanisms for ATFM data gathering, and exchanging operational data related to airspaces/aerodromes availability and air operation data between States, ANSPs, Airspace users, Organizations and ICAO, which may include:
 - i. adjusted aerodromes and enroute capacity due to factors affecting capacity such as:
 - Amid and after crisis management measures (mainly related to ANS Business Continuity Plans and recovery);
 - special use airspace status, runway closures; or
 - weather phenomena.
 - ii. traffic demand information which may include flight schedules, flight plan data, repetitive flight plan data as well as associated surveillance updates of flight status; and

iii. ATFM Daily Plan.

- e) measure compliance of airspace users with the applicable ATFM measures; and
- f) any other guidance relevant to the Regional ATFM Framework.

- 1.5 Consider existing and planned ATFM initiative in the Region, and make specific recommendations to ensure their alignment.
- 1.6 Ensure inter-regional ATFM harmonization with adjacent ICAO Regions.
- 1.7 Recommend appropriate inputs related to the implementations of ASBU Elements / Threads relevant to ATFM such as NOPS, A-CDM, etc.
- 1.8 Report to the ATM SG.
- 1.9 Review periodically its Terms of Reference and propose amendments as necessary.

Coordinate as deemed necessary with the relevant MIDANPIRG Sub-Groups and the Regional initiatives, matters of mutual interest.

II. COMPOSITION

- 2.1 The Task Force is composed of MID ATFM focal points and experts from:
 - a) MIDANPIRG Member States;
 - b) India, FAA, AACO, ACAO, AEROTHAI, CANSO, EUROCONTROL, IATA, and ICAO (Bangkok, Cairo, Paris Offices and HQ); and
 - c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.
- 2.2 The Task Force shall elect a Chairperson to act as the point of contact on behalf the Task Force.
- 2.3 ICAO MID Office will act as the Secretary of the ATFM Task Force meetings.

III. WORKING ARRANGMENTS

- 3.1 The Chairperson, in close co-operation with the Secretary, shall make all necessary arrangements for the most efficient working of the Task Force. The Task Force shall at all times conduct its activities in the most efficient manner possible with a minimum of formality and paper work (paperless meetings). Permanent contact shall be maintained between the Chairperson, Secretary and Members of the Task Force to advance the work. Best advantage should be taken of modern communications facilities, particularly video-conferencing (Virtual Meetings) and e-mails.
- 3.2 Face-to-face meetings will be conducted when it is necessary to do so.

FWC2022 ACTION PLAN

ACTION		Target date	Deliverable	Champion	Supported by	Status / remarks
No.	Description					
1.	Prepare a working paper on the outcome of the FWC2022 to MIDANPIRG/17	30 Mar 2019	WP to MIDANPIRG Combined with ATFM WP	Secretariat	Chairman	Completed
2.	Task the MIDRMA to carry out an airspace assessment for the MID Region based on the anticipated traffic flow during the FWC2022	18 Apr 2019	MIDANPIRG Conclusion	MIDANPIRG	ICAO MID	Completed Conclusion 17/24
3.	Initial FWC2022 Roadmap and Operation plan principles to be presented on FWC2022 TF/4 meeting	22 Sep 2020		Qatar		Completed
4.	Airspace assessment study and tool developer meeting to review the offer and agree on the details	1 Oct 2020	Detailed requirements, deliverables and timelines. Legal and financial responsibilities	Qatar, MIDRMA	ICAO MID	Completed
5.	Provide the forecasted FWC2022 FPL/Traffic data to the MIDRMA using the Traffic Data Sample template	15 Mar 2021	Forecasted FWC2022 FPL/Traffic data for at least 10 days	Qatar	MIDRMA	Completed
6.	Assess the potential impact on traffic flows within the RVSM Airspace based on the projected Traffic Data and projected LHD reports	23 Mar 2021	FWC2022 RVSM Airspace assessment	MIDRMA	Qatar	Completed
7.	Present the results of the airspace assessment to the FWC2022 TF/5 meeting	23 Mar 2021	WP/PPT	MIDRMA	ICAO MID	Completed
8.	Prepare an initial FWC2022 Roadmap and Operational Plan to be shared with ATFM Core Team that includes all required procedures, action plan, contingency measures, etc.	31 Oct 2020	Initial FWC2022 Roadmap and Operational Plan	Qatar	Core team	Completed
9.	draft FWC2022 Roadmap and Operational Plan to be presented to the FWC2022 TF/5 meeting	23 – 24 Mar 2021	WP/PPT Draft FWC2022 Roadmap and Operational Plan	FWC2022 Chairman		Completed

ACTION		Target date	Deliverable	Champion	Supported by	Status / remarks
No.	Description					
10.	Enhance the draft FWC2022 Roadmap and Operational Plan to be reviewed by ATM SG/7	15 Dec 2021	Enhanced the draft FWC2022 Roadmap and Operational Plan	Core Team		On going
11.	Present FWC2022 Roadmap, Operational Plan and Airspace structure assessment to MIDANPIRG/19	Feb 2022	WP	Chairman	ICAO MID	Completed
12.	Implementation of FWC 2022 Roadmap and Operational Plan (checklist)	Q3 2022	List of Activities: -Airspace management -ATFM Implementation -Temporary LoAs -Users consultancy	FWC TF Chair	ICAO MID	
13.	Trial period	Q3 2022	Training and experimental period	Qatar	ICAO MID	
14.	Wrap up and evaluation	FWC TF/7 Oct 2022	Operational evaluation and assessment	Doha, Qatar		
15.	Conduct familiarization visit(s) to State(s) or Organizations that would be managing major events	TBD	Familiarization visit(s) webinar(s)	Qatar and Members of FWC2022 TF, as required	FAA EUROCONTROL CANSO AEROTHAI	
16.	Post implementation and closing	TBD	Lessons learned, Best practices and post implementation reporting	ICAO MID	MID States and Airspace users	

FWC 2022 Operational Plan and Road map, Checklist

	Key Activity	Rationale / Sub activates	Champion / Support	Target Date	Status	
1	Airspace management:					
	1.1 Temporary Doha TMA Terminal flight procedures	Accommodate the demand	Qatar	Cycle Jun 2022	On going	
	1.2 CMC/FUA implementations	Increase Airspace capacity	Qatar	TBD	On going	
	1.3 Saudi Arabia implementations:	-Routing -Hasa Airport accessibility -Routing options	Saudi Arabia	Cycle 10 (6 Oct 2022)	On going	
	1.4 Egypt	-ATS routes	Egypt	TBD, by Cycle 10	On going	
	1.5 Kuwait (Parallel routes)	-ATS Route establishments	Kuwait	TBD, by Cycle 10		
2	ATFM Implementation:					
	2.1 Development of FWC 2022 CONOPS	Principles of ATFM implementations	Qatar	April 2022	On going	
	2.2 Deployment of the ATFM system/tools	Automated web-based tool to assess demand and measures	Qatar	April 2022	On going	
	2.3 General ATFM tool Training (Harmony)	All States are encouraged to participate	Qatar, All MID States	Mar 2022		Pre-requests of the attendees
	2.4 Advanced ATFM Tool Training (Harmony)	Interested States	Qatar, interested States	Q3 2022		Pre-requests of the attendees
3	Temporary LoAs amendment:					
	3.1 Coordination meeting(s)	To agree on the different amendments	Qatar adjacent States	1. MIDANPIRG/19 2. Further one to one meeting (virtually)		
	3.2 Airspace Management LoA	Related to Routes, Flight level, hand over and	Concerned States			

5.7D-2

	Key Activity	Rationale / Sub activates	Champion / Support	Target Date	Status	
		communication procedures				
	3.3 ATFM LoA	Related to ATFM data and measures	Concerned States			
4	Airspace users:					
	4.1 IATA MENA RCG briefing	Airspace users briefing	IATA, TF Chairman, Qatar team.	1 – 2 Mar 2022		
	4.2 ATFM data requirements	Exchange of operational data	IATA, Airspace users			
5	Trial and evaluation period:					
	5.1 Dry run	Simulation sessions	Qatar, MID States	July 2022		
	5.2 Evaluation and reporting	Identify shortages		FWC TF/7 Oct 2022		

**TERMS OF REFERENCE (TOR) OF THE
MIDANPIRG FIFA WORLD CUP 2022 TASK FORCE
(FWC2022 TF)**

1. OBJECTIVES AND SCOPE

- 1.1 The Task Force will be expected to apply the performance-based approach through a collaborative manner to address the most strategic decisions to reach the following:
- a) A sufficient coordination between the Air Navigation Service Providers (ANSPs), airports, airspace users and regulators;
 - b) A sufficient coordination at local, regional and inter-regional levels to accommodate safely and efficiently the expected significant increase of traffic; and
 - c) A defragmented approach from an operational perspective to achieve (gate-to-gate, city pairs, and an oriented track system) which leads to more than optimum flight and airport operations efficiency.
- 1.2 The Task Force shall support the MID Region ATFM System once established.

2. TERMS OF REFERENCE OF THE TASKFORCE

- 2.1 Develop and follow-up the implementation of FWC2022 Action Plan to accommodate the expected high increase of traffic, in a safe and efficient manner, taking into consideration similar experiences from other regions.
- 2.2 Address other major events and develop action plan(s) to accommodate the changes in traffic flows as required.
- 2.3 Define explicit and implicit strategic objectives (e.g. improved safety, increased air traffic capacity, improved efficiency, and mitigation of airspace congestion impact).
- 2.4 Identify operational and technical requirements including proposals for airspace management changes and amendment to the MID ATS Route Network to accommodate the air traffic through the establishment of temporary routes as required.
- 2.5 Develop the concept of collaborative decision-making at the strategic, tactical and pre- tactical levels, which would be implemented before and during the World Cup event.
- 2.6 Suggest methods for increased interaction between airspace providers in order to make sure that the network effects of any trajectory selection are properly incorporated in the decisions.
- 2.7 Develop collaborative regional mechanism for the implementation of ATFM solutions/measures such as Ground Delay Program (GDP), which would be implemented for departures from airports in the region.
- 2.8 Assess the operational performance of the ATM network by its capability to accommodate demand through realistically modeled network nodes, i.e. airports and airspace volumes.
- 2.9 The Task Force shall work in close coordination with the ATFM TF to avoid duplication of efforts.

3. COMPOSITION

- 3.1 The World Cup 2022 Task Force is composed of experts from:
- a) MIDANPIRG Member States;
 - b) India, FAA, AACO, ACAO, AEROTHAI, CANSO, EUROCONTROL and IATA; and
 - c) other representatives from States, Organizations and Industry may be invited on ad-hoc basis, when required.
- 3.2 ICAO MID Office will act as the Secretary of the Task Force.

4. WORKING PROCEDURES

- 4.1 Qatar shall act as the Chairman of the Task Force.
- 4.2 In order to effectively perform its tasks and responsibilities, the Task Force will meet as required in order to achieve its objectives.
- 4.3 A Core Team might be established to follow-up with the concerned State(s) and air operators the conduct of safety and operational assessments and provide support as appropriate.
- 4.4 The Chairperson, in close co-operation with the Secretary, shall make all necessary arrangements for the most efficient working of the Task Force. The Task Force shall at all times conduct its activities in the most efficient manner possible with a minimum of formality and paper work (paperless meetings). Permanent contact shall be maintained between the Chairpeson, Secretary and Members of the Task Force to advance the work. Best advantage should be taken of modern communications facilities, particularly video-conferencing (Virtual Meetings) and e-mails.
- 4.5 Face-to-face meetings will be conducted when it is necessary to do so.

MID REGION SAR AGREEMENT STATUS BETWEEN ANSPs/ACCs

Feb. 2022

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

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

GADS-B1/2: Contact Directory Service

Main Purpose: To ensure that Point of Contact (PoC) information is available and can be accessed by Rescue Coordination Centres (RCCs), ATSUs and aircraft operators in support of emergency situations.

Description: Point of Contact repository is part of the Global Aeronautical Distress and Safety System (GADSS) and is used to enable timely contact between the persons relevant to an emergency situation involving an aircraft in a specified area.

State	GADSS PoC	Job Title / ORG	Email address	Telephone	Mobile phone
Bahrain	Mr. Ahmed Al Shamlan	Head of Search & Rescue Air Navigation Directorate	ahmed.alshamlan@mtt.gov.bh ; bahrainsar@mtt.gov.bh	+973 17329969 / 9959	
Egypt	Mr. Hesham Abdel Basset Abdel Aziz	GM, Crisis Management	crimang@civilaviation.gov.eg	+202 2267 7617	+2011 41130557
	Mr. Mohamed Abbass Elgamal	Search and Rescue Senior Inspector	Visaversa82@yahoo.com		+201061826970
Iran	Mr. Hamid Reza Saanei	Aeronautical Operations Chief Expert and Aerodrome Expert	h-saanei@cao.ir ; saanei@gmail.com	+982 166073534	+989125935990
Iraq	Mr. Thaer Hasan Salim	CNS Inspector/ flight safety Iraq Civil Aviation	thaerhasan1976@gmail.com	+964 702974405	
Jordan	Mr. Ali Taleb	Chief of Amman TACC & RCC	ali.taleb@carc.gov.jo	+962 64799120/5689	+962 799766728
	Eng. Mohammed Ali Almomani	Chief Of Safety & Standard ANS	ma.almomani@carc.gov.jo	+962 6 4892282	+962 777307032
Kuwait	Fahad Abdullah Almihjan	chief of Search and rescue, DAN, DGCA	fa.almehjan@dgca.gov.kw	+965 24346529 Fax: +965 24315292	+965 55812505
Lebanon					

State	GADSS PoC	Job Title / ORG	Email address	Telephone	Mobile phone
Libya					
Oman	Mr. Jaffer Abdul Amir Moosani	AIM Director	jaffer@caa.gov.om	+968-24354945	+968-99316040
Qatar	Nasser AL-Khalaf	Head of Air Traffic Operations	Nasser.alkhalaf@caa.gov.qa	+97444705151	+974 55508688
Saudi Arabia	Mr. Fahad Saud Alharbi	Head of Aeronautical Search & Rescue Center / SANS	Fasalharbi@sans.com.sa	+966115253779	+966505329284
	Mr. Hamdan Alshaibani	Safety Inspector	hmalshaibani@gaca.gov.sa	+966502070078 +966112219895	
Sudan	Mr. Hashim Basheer	Head of SAR	Berger124@gmail.com hashim_sar@scaa.gov.sd HSSSYCYX	+249123179582 +249912382433	+249922382433 +249123277979
Syria					
UAE	Mr. Omar Al Abdouli	Senior Manager / Air Traffic Operations	oabdouli@szc.gcaa.ae	+971-2-599-6910	+971-56-688-2438
Yemen					

APPENDIX 5.8A

**Frequency Management Working Group
(FMWG)**

1. TERMS OF REFERENCE (TOR)

The FMWG will undertake the following tasks in the work required to manage the MID Region frequency assignments in order to ensure sufficient access to the resource for the provision of aeronautical communication, navigation and surveillance services (CNS) in an efficient and safe manner:

- a) develop MID Region frequency assignment plan including long term spectrum usage of radio systems;
- b) validate the ICAO Global database and keep it up to date;
- c) resolve current frequency assignments conflict in the ICAO Global database;
- d) develop recommendation or proposal for improvement to the existing regional VHF frequency assignment process based on the ICAO Global Spectrum Management tool, ICAO 9718 Volume II Handbook provision and current coordination issues;
- e) propose solutions for the interference incidents occurred in MID Region states in a timely manner;
- f) escalate the intentional frequency interference matters and coordinate with other relevant international organizations, as and when required;
- g) provide guidance/support to States to protect the GNSS signals;
- h) collaborate with ITU and other relevant international organization to address frequent interference incidents;
- i) support for ICAO Position at World Radio Communication Conference (WRC) and ensure MID States' support ICAO at ITU meetings;
- j) collaborate with Regional Groups; Arab Spectrum Management Group (ASMG) African Telecommunication Union (ATU), and Asia/Pacific Telecommunication Group (APT) to support ICAO position at WRC;
- k) ensure the continuous and coherent development of the relevant sections of the MID eANP, taking into account the evolving operational requirements in the MID Region and the need for harmonization with the adjacent regions in compliance with the Global Air Navigation Plan;
- l) develops recommendations for CNS SG about how to address the future operational needs and limitations in VHF voice communications, aiming at avoiding introduction of 8.33 kHz spacing in the MID Region for as long as practicable; and
- m) Frequency Management Working Group will be responsible for overall supervision of the frequency issues in the MID Region and will review/update the FMWG work plan whenever required.
- n) Collect and share information on the best practices implemented by States and Regional Organizations to mitigate potential radio altimeters (RADALT) interference that caused by 5G operation.
- o) Develop guidance material to protect aircraft operations from potential Radio Altimeter interference associated with the deployment of 5G ground infrastructure.

2. COMPOSITION

- a) ICAO MID Regional Office;
- b) MIDANPIRG CNS Sub Group Chairpersons;
- c) Members appointed by the MIDANPIRG member States; and
- d) other representatives, who could contribute to the activity of the Working Group, could be invited to participate as observers.

APPENDIX 5.10A

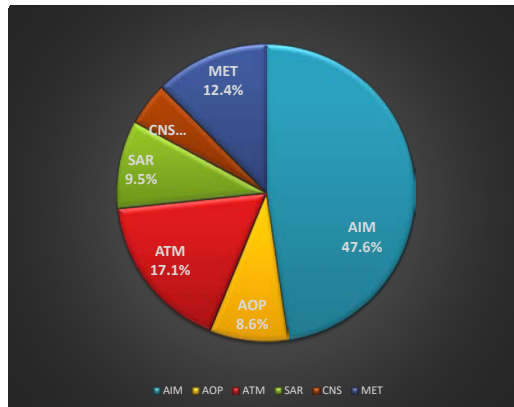
MIDANPIRG/19 RASG-MID/9-REPORT APPENDIX 5.10A

AIR NAVIGATION DEFICIENCIES IN THE THE MID REGION

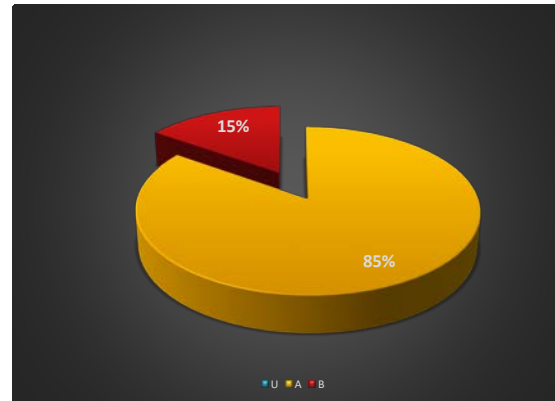
STATE	AIM							Total AIM	AOP							Total AOP	ATM							Total ATM	SAR							Total SAR	CNS							Total CNS	MET							Total MET
	Priority			Rational					Priority			Rational					Priority			Rational					Priority			Rational					Priority			Rational					Priority			Rational				
	U	A	B	F	H	S	O		U	A	B	F	H	S	O		U	A	B	F	H	S	O		U	A	B	F	H	S	O		U	A	B	F	H	S	O		U	A	B	F	H	S	O	
Bahrain							0							0													0																		0			
Egypt		2					2							0													0																		0			
Iran		3					3		1		1	1		1			1			1	1		1				0																		0			
Iraq		5	1	4	4	1	5		6		1	1	1		1		1	3			3	1	4		2			2									2						2	2		0		
Jordan		2	1	3	3			3						0		1				1	3	1					0																		0			
Kuwait							0							0						1							0																		0			
Lebanon		3	1		2		2	4		1		1	1	1		1				1		1	1		1		1																	1	1		0	
Libya		5	1				6	6		1		1	1	1		1		2			1	1	2	2		2																		2	2		2	
Oman		3					3	3						0										0		2			2	2	2														1	1		1
Qatar							0							0										0																					0			
Saudi Arabia		2					2	2						0		1					1		1					0																	0			
Sudan		2					2	2		1		1	1	1		1				1	1	1	1				0																		0			
Syria		8	1	6	7	1	2	9		3		3	3		3		2	2				2	1	4		2																		3			3	3
UAE		2					2	2						0			1	1				1	1	2				0																	0			
Yemen		7	1	4	2		4	8		1		1	1	1		1							0		2				2																3		3	
Total	0	44	6	17	18	2	33	50	0	9	0	9	9	1	1	9	0	11	7	0	5	12	10	18	0	10	0	0	2	2	10	10	0	2	3	0	0	0	5	5	0	13	0	1	1	1	10	13

TOTAL DEFICIENCIES:105

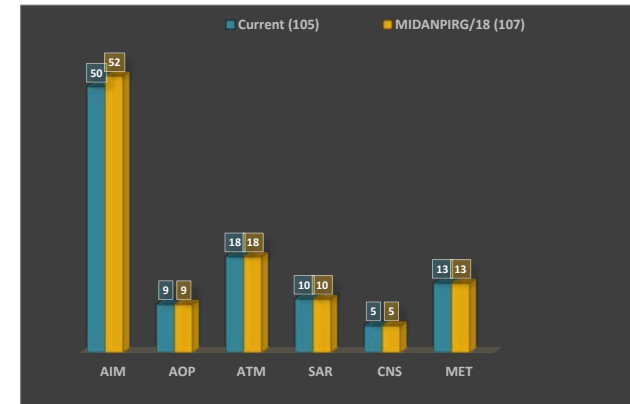
Distribution of Air Navigation deficiencies by field in %

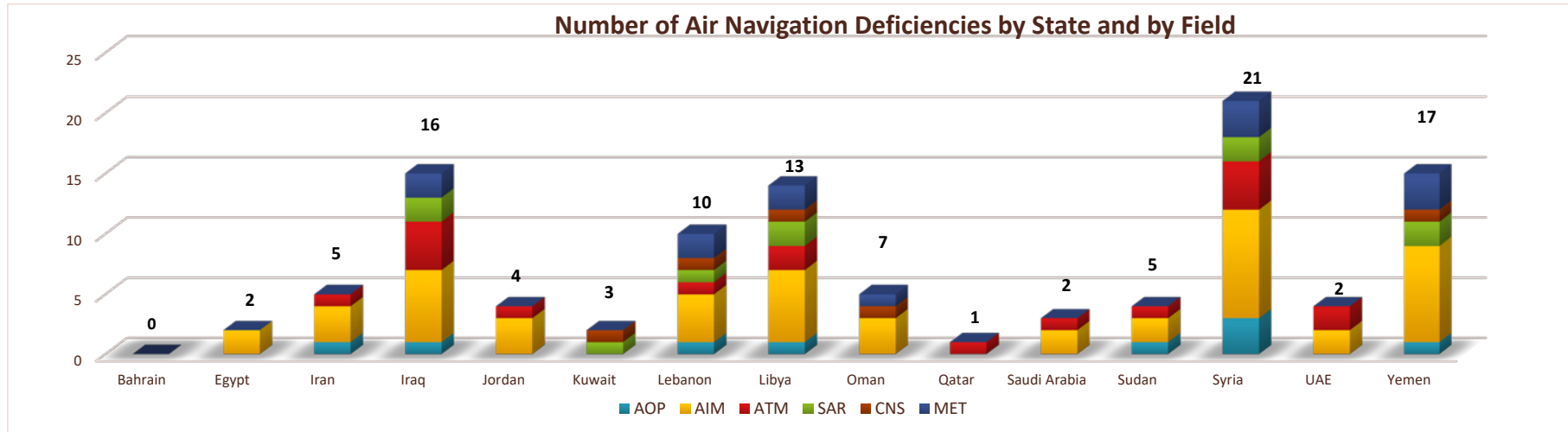


Distribution of Air navigation deficiencies by priority in %



Reported Deficiencies by field (MIDANPIRG/19 & MIDANPIRG/18)





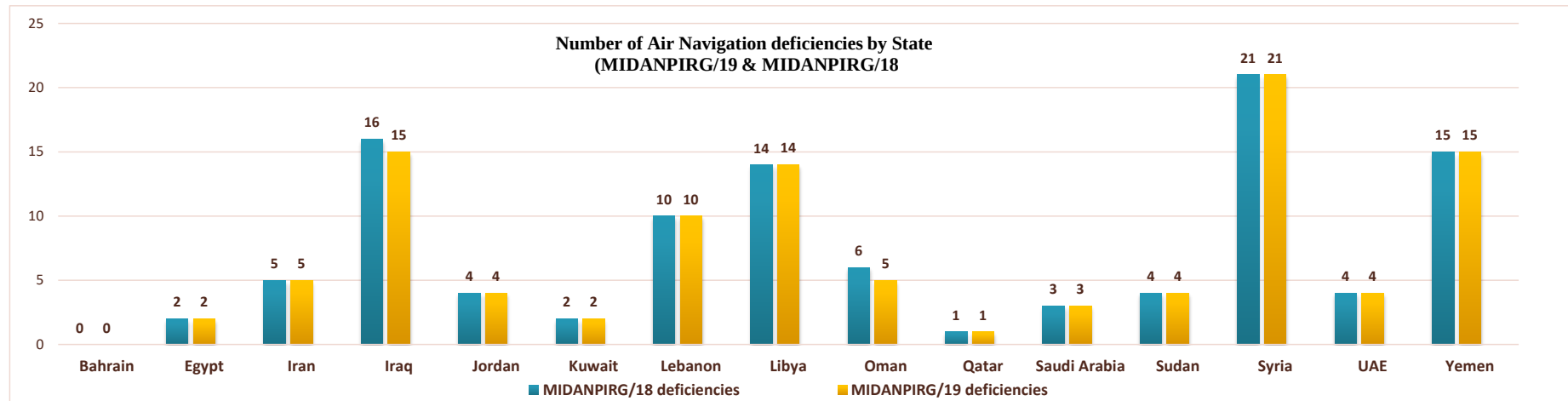
Deficiencies to be approved by MIDANPIRG/19

	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen	Total
AOP	0	0	1	1	0	0	1	1	0	0	0	1	3	0	1	9
AIM	0	2	3	6	3	0	4	6	3	0	2	2	9	2	8	50
ATM	0	0	1	4	1	0	1	2	0	1	1	1	4	2	0	18
SAR	0	0	0	2	0	1	1	2	0	0	0	0	2	0	2	10
CNS	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	5
MET	0	0	0	2	0	0	2	2	1	0	0	0	3	0	3	13
TOTAL	0	2	5	15	4	2	10	14	5	1	3	4	21	4	15	105

Deficiencies approved by MIDANPIRG/18

	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen	Total
AOP	0	0	1	1	0	0	1	1	0	0	0	1	3	0	1	9
AIM	0	2	3	7	3	0	4	6	4	0	2	2	9	2	8	52
ATM	0	0	1	4	1	0	1	2	0	1	1	1	4	2	0	18
SAR	0	0	0	2	0	1	1	2	0	0	0	0	2	0	2	10
CNS	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	5
MET	0	0	0	2	0	0	2	2	1	0	0	0	3	0	3	13
TOTAL	0	2	5	16	4	2	10	14	6	1	3	4	21	4	15	107

	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen	Total
MIDANPIRG/18 deficiencies	0	2	5	16	4	2	10	14	6	1	3	4	21	4	15	107
MIDANPIRG/19 deficiencies	0	2	5	15	4	2	10	14	5	1	3	4	21	4	15	105



THE MIDDLE EAST AIR NAVIGATION DEFICIENCIES MANAGEMENT PROCESS (MIDAND-MP)

1. Introduction

1.1 Based on the information resulting from the assessment carried out by ICAO on the input received from various regions regarding deficiencies in the air navigation field, it became evident that improvements were necessary in the following areas:

- a) collection of information;
- b) safety assessment of reported problems;
- c) identification of suitable corrective actions technical/ operational/ financial/organizational), both short-term and long-term; and
- d) method of reporting in the reports of ICAO planning and implementation regional groups (PIRGs).

1.2 This methodology is therefore prepared with the assistance of ICAO PIRGs and is approved by the ICAO Council for the efficient identification, assessment and clear reporting of air navigation deficiencies. It may be further updated by the Air Navigation Commission in the light of the experience gained in its utilization.

1.3 For the purpose of this methodology, the definition of deficiency is as follows:

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. Collection and inclusion of information in the Data Base

2.1 Collection of the information for all the sources (**Regional office, States, Users, Professional provider organizations' sources**): Refer to the **PART XX, Section 2 of the MIDANPIRG Procedural Handbook,**

2.2 MID Air Navigation Deficiencies Data Base (MANDD)

2.2.1 In order to support the implementation of the Uniform Methodology for the identification, assessment and reporting of deficiencies, the MID Air Navigation Deficiencies Data Base (MANDD) that is a web-based platform provides an online tool for States and relevant stakeholders to manage Air Navigation Deficiencies in the region. The application is available at <https://mandd.icao.int/>. **Reporting of information on Deficiencies actions taken by the MID Office**

3.1 In order to enable the MIDANPIRG to make consistent evaluation of deficiencies, States and concerned International organizations including IATA, IFALPA and IFATCA, are expected to provide the information they have to the ICAO MID Regional Office for action as appropriate, during MIDANPIRG meetings.

3.2 The information should at least include description of the deficiency, risk assessment, possible solution, deadlines, responsible entities, agreed new action to be taken to resolve identified Deficiencies.

3.3 Newly identified deficiencies shall be sent to MID Office by the State/Organization Focal Point through the MANDD. Evidences to support the information provided should be forwarded via email to the ICAO MID Regional Office (icaomid@icao.int) or attached in the MANDD (as potentially upgraded).

3.4 The newly added deficiency in the MANDD will always have an “N” status for New at the point of entering the details in the reporting form. Once approved by the concerned Regional Officer, the deficiency will appear in the database list highlighted in “Yellow” and will be available for MANDD users in the delete, update, search and print options.

3.5 Once received and updated in the MANDD system by the ICAO MID Office, the request is forwarded to the appropriate Regional Officer for review and analysis as per the paragraph 2.1.1 of the MIDANPIRG Procedural Handbook. The ICAO MID Office may contact the source of the information and the concerned State for more details when required. The result of the evaluation is submitted with all the evidences to a committee formed by the Regional Office subject matter Experts and the Deputy Regional Director for review.

3.6 If the deficiencies are confirmed, the State is informed by the ICAO MID Regional Office and given a time period to take appropriate actions. If actions are taken in time, the case is closed and captured in the MANDD as proposed for deletion and will appear highlighted in “Yellow” as a strike through then notified to the MIDANPIRG meeting.

3.7 Otherwise, the case is submitted to the MIDANPIRG Meeting for consideration and endorsement using the List of reported Deficiencies extracted from the MANDD system. The MIDANPIRG’ endorsed deficiencies are uploaded in the MANDD by the MID Office and the concerned State(s) are requested to submit a Corrective Action Plan within a given deadline.

3.8 The concerned State(s) shall follow-up the implementation of proposed mitigation actions, as established in the action plan and submit relevant evidences for consideration to the ICAO MID Office through the MANDD/by email.

3.9 In case of challenges with the implementation, the State Focal point should inform and coordinate with the Regional Officer managing the AND concerned Area (**AOP, ATM, AIM, CNS, MET and SAR**). Both, the State’s Focal Points and Regional Officer should ensure that the information provided in the MANDD is continuously updated.

3.10 The agenda of MIDANPIRG meeting should include an item on air navigation deficiencies, including information reported by States and other stakeholders in accordance with **PART XX, Section 2 of the MIDANPIRG Procedural Handbook**. The review of the deficiencies should be a top priority for each MIDANPIRG meeting which should make an assessment of the safety impact, of the reviewed lists of deficiencies, for subsequent review by the ICAO Air Navigation Commission.

3.11 In line with the above, and keeping in mind the need to eventually make use of this information in the planning and implementation process, it is necessary that once a deficiency has been identified and validated, defined fields of information should be provided in the reports on deficiencies in the air navigation systems. The Model reporting table for use in the MIDANPIRG report and Actions by the ICAO MID Office are stated in the **Part XX, Sections 5 and 6 of the MIDANPIRG Procedural Handbook**.

Additional Guidance for Minimum Reporting on non-compliances

3.12 In order to encourage reporting, the Group has adopted a list of minimum reporting areas which is reflected at **Attachment A** to this Process. The intent of the list is **NOT** to replace reporting based on ICAO Council policy, but to encourage reporting, in recognition of Assembly Resolution A37-15 Appendix L, and noting the historical critically low level of reporting, as well as the expanse of SARPs and requirements on which reporting may be effected.

3.13 Without prejudice to the definition of “deficiency” as approved by the Council, States, Regulators and Air Navigation Service Providers (ANSPs), users, and professional organizations (IFALPA, IFATCA, IFATSEA, etc.) are encouraged to report on non-compliances in the areas listed in **Attachment A**, in addition to reporting any other deficiencies as defined by the Council.

4. Monitoring & Removal of MIDANPIRG endorsed Deficiencies from the Data base

4.1 The ICAO MID Office will monitor the implementation by the States of their corrective actions plans and report to MIDANPIRG. States shall implement their action plans and submit relevant evidences for consideration to the ICAO MID Regional Office by email to icaomid@icao.int .

4.2 The relevant Regional Officers should assess on the regular basis the implementation of the States action plans until their completion. Once the implementation completed, a documented report, comprising evidences should be submitted the ICAO MID Office for their review by the ICAO MID Regional Officers and the Deputy Regional Director. The review report is submitted to the MIDANPIRG meeting for appropriate action.

4.3 If deemed satisfactory, the deficiency is deleted from the MANDD at which point will appear as a strike though highlighted in “Yellow” and the information is provided to the State.

4.4 Once validated and confirmed by the MIDANPIRG meeting to be an existing deficiency based on provided evidences, a command is run in the system to remove the resolved (proposed for deletion) deficiencies from the Database by the Regional Office.

5. Assessment and prioritization

5.1 A general guideline would be to have three levels of priority organized on the basis of safety, regularity and efficiency assessment as follows:

“U” priority (Red) = Urgent requirements having a direct impact on safety and requiring immediate corrective actions. Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

“A” priority (Orange) = Top priority requirements necessary for air navigation safety. Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

“B” priority (Green) = Intermediate requirements necessary for air navigation regularity and efficiency. Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

5.2 In addition, the MIDANPIRG’s Sub-Groups including the ASPIG (Aerodromes Safety Planning and Implementation Group) should assess, as deemed necessary, the endorsed Deficiencies based on SMS principles. As practical as it can be, the assessment and prioritization of Deficiencies is based on the safety risk matrix contained in the Safety Management Manual (SMM), Doc 9859:

DRAFT

Table 1. Safety risk probability table

Likelihood	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Note.— This is an example only. The level of detail and complexity of tables and matrices should be adapted to the particular needs and complexities of each organization. It should also be noted that organizations might include both qualitative and quantitative criteria.

Table 2. Example safety risk severity table

Severity	Meaning	Value
Catastrophic	• Aircraft / equipment destroyed • Multiple deaths	A
Hazardous	• A large reduction in safety margins, physical distress or a workload such that operational personnel cannot be relied upon to perform their tasks accurately or completely • Serious injury • Major equipment damage	B
Major	• A significant reduction in safety margins, a reduction in the ability of operational personnel to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions impairing their efficiency • Serious incident • Injury to persons	C
Minor	• Nuisance • Operating limitations • Use of emergency procedures • Minor incident	D
Negligible	• Few consequences	E

Table 3. Example safety risk matrix

Safety Risk		Severity				
Probability		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely improbable	1	1A	1B	1C	1D	1E

Note.— In determining the safety risk tolerability, the quality and reliability of the data used for the hazard identification and safety risk probability should be taken into consideration.

Table 4. Example of safety risk tolerability

Safety Risk Index Range	Safety Risk Descriptio	Recommended Action
5A, 5B, 5C, 4A, 4B, 3A	INTOLERABLE	Take immediate action to mitigate the risk or stop the activity. Perform priority safety risk mitigation to ensure additional or enhanced preventative controls are in place to bring down the safety risk index to tolerable.
5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	TOLERABLE	Can be tolerated based on the safety risk mitigation. It may require management decision to accept the risk.
3E, 2D, 2E, 1B, 1C, 1D, 1E	ACCEPTABLE	Acceptable as is. No further safety risk mitigation required.

ATTACHMENT A
AOP MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
AERODROME DESIGN									
1.	Annex 14 - Vol 1, Chapter 1 PANS- Aerodromes, Part 1, 2		Aerodrome Master Plan		The lack of airports master plans affect their short to medium term capacity enhancement projects; restricting their ability to fulfil capacity needs.				
2.	Annex 14 - Vol 1, Chapter 2, 3 PANS- Aerodromes, Part 1, 2 MID ANP, Vol II - AOP		Runways		In view of the vital function of runways in providing for safe and efficient aircraft landings and take-offs, it is imperative that their design take into account the operational and physical characteristics of the aeroplanes expected to use the runway, as well as engineering considerations.				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
3.	Annex 14 - Vol 1, Chapter 2, 3 PANS- Aerodromes, Part 1, 2		Taxiways		A properly designed taxiway system ensures a smooth, continuous flow of aircraft ground traffic, operating at the highest level of safety and efficiency and contributes to optimum aerodrome utilization				
4.	Annex 14 - Vol 1, Chapter 2, 3 PANS- Aerodromes, Part 1, 2		Aprons		Apron design should take into account safety procedures for aircraft manoeuvring and contribute to a high degree of efficiency for aircraft movements and dispensing apron services.				
5.	Annex 14 - Vol 1, Chapter 2, 5, 6, 7 PANS- Aerodromes, Part 1 MID ANP, Vol II - AOP		Visual Aids		Visual aids contribute to the safety and operational efficiency of aircraft and vehicle movements. Design and Good maintenance of these aids is essential to ensure that the cues that they provide are available in all circumstances.				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
6.	Annex 10 - Vol 1, Chapter 3		Radio Navigation Aids		Radio Navigation Aids contribute to the safety and operational efficiency of aircrafts. Good maintenance of these aids is essential to ensure that the cues that they provide are available in all				
7.	Annex 14 - Vol 1, Chapter 8 PANS- Aerodromes, Part 1 MID ANP, Vol II - AOP		Electrical Systems		Electrical systems contribute to the safety and operational efficiency of aircraft and vehicle movements. Their design and good maintenance of these aids is essential to ensure that the cues that they provide are available in all circumstances				
8.	Annex 14 - Vol 1, Chapter 1		Terminals		Architectural and infrastructure-related requirements for the optimum implementation of international civil aviation security measures shall be integrated into the design and construction of new facilities and alterations to existing facilities at an aerodrome.				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
9.	Annex 14 - Vol 1, Chapter 9 PANS- Aerodromes, Part 1		Fencing		Lack of fences on an aerodrome could lead to the entrance to the movement area of animals large enough to be a hazard to aircraft.				
AERODROME OPERATIONS									
10.	Annex 14 - Vol 1, Chapter 2 PANS- Aerodromes, Part 1, 2 MID ANP, Vol II - AOP		Aerodrome Data		Determination and reporting of aerodrome-related aeronautical data shall be in accordance with the accuracy and integrity classification required to meet the needs of the end-users of aeronautical data				
11.	Annex 14 - Vol 1, Chapter 9 PANS- Aerodromes, Part 1		Emergency planning		Lack of adequately effective emergency planning can seriously affect the effects of an emergency, particularly in respect of saving lives and maintaining aircraft operations.				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
12.	Annex 14 - Vol 1, Chapter 2, 9 PANS- Aerodromes, Part 1 MID ANP, Vol II – AOP		Rescue and Firefighting		Lack of adequately effective rescue and firefighting service can affect capabilities to save lives in the event of an aircraft accident or incident occurring at, or in the immediate vicinity				
13.	Annex 14 - Vol 1, Chapter 2, 9 PANS- Aerodromes, Part 1		Disable Aircraft Removal		Disabled aircraft can interfere with normal activity of an aerodrome. In addition, runway and taxiway closures can substantially reduce the number of arrivals and departures and restrict movement around the aerodrome, resulting in the reduction of the aerodrome capacity.				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
14.	Annex 14 - Vol 1, Chapter 9 PANS- Aerodromes, Part 1		Wildlife Strike Hazard Reduction		Lack of measures (successful bird/wildlife control programme) on an airport and in its vicinity to minimize the likelihood of collisions between wildlife and aircraft will increase the risk to aircraft operations				
15.	Annex 14 - Vol 1, Chapter 2, 9 PANS- Aerodromes, Part 1		Operational Area Management		Lack of appropriate airport operational services will affect the safety and efficiency of aircrafts operations.				
16.	Annex 14 - Vol 1, Chapter 9		Ground Servicing of Aircraft		Lack of appropriate Ground Servicing of Aircraft will affect the safety and efficiency of aircrafts operations.				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
17.	Annex 14 - Vol 1, Chapter 4, 6 PANS- Aerodromes, Part 1		Control of obstacles		The airspace around aerodromes shall be maintained free from obstacles so as to permit the intended aeroplane operations at the aerodromes to be conducted safely and to prevent the aerodromes from becoming unusable by the growth of obstacles around the aerodromes				
18.	Annex 14 - Vol 1, Chapter 10 PANS- Aerodromes, Part 1		Aerodrome Maintenance		A maintenance programme, shall be established at an aerodrome to maintain facilities in a condition which does not impair the safety, regularity or efficiency of air navigation				
19.	Annex 14 _ Vol1, Chapter 2 PANS- Aerodromes, Part 2		Global Reporting Format		Assessing and reporting the condition of the movement area and related facilities is necessary in order to provide the flight crew with the information needed for safe operation of the aeroplane. The runway condition report (RCR) is used for reporting assessed information.				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
20.	Annex 14 - Vol 1, Chapter 1 PANS- Aerodromes, Part 1		Safety Management		Implementation of SMS seeks to proactively mitigate safety risks before they result in aviation accidents/ incidents and improve operational efficiencies.				
AERODROME CERTIFICATION									
21.	Annex 14 - Vol 1, Chapter 1 to 10 PANS- Aerodromes, Part 1, 2		Aerodrome Certification		Lack of certification of an aerodrome means that aerodrome does not meet the specifications regarding the facility and its operation				
22.	PANS- Aerodromes, Part 1		Safety assessments and Aerodrome Compatibility		The compatibility between aeroplane operations and aerodrome infrastructure and operations when an aerodrome accommodates an aeroplane that exceeds the certificated characteristics of the aerodrome should be assessed				

MINIMUM REPORTING AREAS

AERODROMES OPERATIONS (AOP)									
	ICAO Reference Document	National Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Concerned Aerodromes (Location Indicators)	Corrective Action Plan planned by the State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
AOP ASBU MODULES									
23.	MIDANPIRG CONCLUSIO N 18/27 MID eANP		ACDM-B0/1		To generate common situational awareness, which will foster improved decision making within aerodromes, by sharing relevant surface operations data among the local stakeholders involved in aerodrome operations.				
24.	[MIDANPIRG Conc.] MID eANP		SURF-B0/1		To improve safety and efficiency during ground operations by providing proper indications to pilots and vehicle drivers				
25.	[MIDANPIRG Conc.] MID eANP		SURF-B0/1		To better maintain ATCO awareness of ground operations.				
26.	[MIDANPIRG Conc.] MID eANP		SURF-B0/1		Detection by the ATCO of potentially unsafe situations with regard to runway operations.				

MINIMUM REPORTING AREAS

Important Note:

All MIDANPIRG Subgroups should identify the Minimum Reporting Areas to cover, all domains in addition to AOP, notably ATM, AIM, CNS, MET and SAR.

- END -

APPENDIX 5.10E

POPOSAL FOR INCLUSION IN MIDANPIRG PROCEDURAL HANDBOOK - PART xx

PART XX - UNIFORM METHODOLOGY FOR THE IDENTIFICATION, ASSESSMENT AND REPORTING OF AIR NAVIGATION DEFICIENCIES

(Approved by the Council on 30 November 2001)

1. Introduction

1.1 Based on the information resulting from the assessment carried out by ICAO on the input received from various regions regarding deficiencies in the air navigation field, it became evident that improvements were necessary in the following areas:

- a) collection of information;
- b) safety assessment of reported problems;
- c) identification of suitable corrective actions (technical/operational/financial/organizational), both short-term and long-term; and
- d) method of reporting in the reports of ICAO planning and implementation regional groups (PIRGs).

1.2 This methodology is therefore prepared with the assistance of ICAO PIRGs and is approved by the ICAO Council for the efficient identification, assessment and clear reporting of air navigation deficiencies. It may be further updated by the Air Navigation Commission in the light of the experience gained in its utilization.

1.3 For the purpose of this methodology, the definition of deficiency is as follows:

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. Collection of information

2.1 Regional office sources

2.1.1 As a routine function, the Regional Offices should maintain a list of specific deficiencies, if any, in their regions. To ensure that this list is as clear and as complete as possible, it is understood that the Regional Offices take the following steps:

- a) compare the status of implementation of the air navigation facilities and services with the regional air navigation plan documents and identify facilities, services and procedures not implemented;
- b) review mission reports with a view to detecting deficiencies that affect safety, regularity and efficiency of international civil aviation;
- c) make a systematic analysis of the differences with ICAO Standards and Recommended Practices filed by States to determine the reason for their

- existence and their impact, if any, on safety, regularity and efficiency of international civil aviation;
- d) review aircraft accident and incident reports with a view to detect possible systems or procedures deficiencies;
- e) review inputs, provided to the Regional Offices by the users of air navigation services on the basis of Assembly Resolution A37-15, Appendix L;
- f) assess and prioritize the result of **a)** to **e)** according to **paragraph 4 (Assessment and Prioritization);**
- g) report the outcome to the State(s) concerned for resolution; and
- h) report the result of **g)** above to MIDANPIRG for further examination, advice and report to the ICAO Council, as appropriate through MIDNPIRG report.

2.2 States' sources

2.2.1 To collect information from all sources, States (regulatory bodies and air navigation service providers (ANSPs)) should, in addition to complying with the Assembly Resolution A36-10, establish reporting systems in accordance with the requirements in Annex 13, Chapter 8.

2.3 Users' sources

2.3.1 Appropriate international organizations, including the International Air Transport Association (IATA), the International Federation of Air Line Pilots' Associations (IFALPA) are valuable sources of information on deficiencies, especially those that are safety related. In their capacity as users of air navigation facilities they should identify facilities, services and procedures that are not implemented or are unserviceable for prolonged periods or are not fully operational. In this context, it should be noted that Assembly Resolution A37- 15, Appendix L and several decisions of the Council obligate users of air navigation facilities and services to report any serious problems encountered due to the lack of implementation of air navigation facilities or services required by regional plans. It is emphasized that this procedure, together with the terms of reference of the PIRGs should form a solid basis for the identification, reporting and assisting in the resolution of non-implementation matters.

2.4 Professional provider organizations' sources

2.4.1 Appropriate international professional organizations, including the International Federation of Air Traffic Controllers' Association (IFATCA) and the International Federation of Air Traffic Safety Electronics Associations (IFATSEA) also valuable sources of information on deficiencies. In their capacity as air navigation services professional bodies, they should identify facilities, services and procedures that are not implemented or are unserviceable for prolonged periods or are not fully operational.

Note:-

Guidance related to both mandatory and voluntary incident reporting systems is contained in the Safety Management Manual (SMM) (Doc 9859).

3. Reporting of information on deficiencies

5.10E-3

3.1 In order to enable the ICAO PIRGs to make detailed assessments of deficiencies, States and appropriate International organizations including IATA, IFALPA and IFATCA, are expected to provide the information they have to the ICAO regional office for action as appropriate, including action at PIRG meetings.

3.2 The information should at least include: description of the deficiency, risk assessment, possible solution, time-lines, responsible party, agreed action to be taken and action already taken.

3.3 The agenda of MIDANPIRG meeting should include an item on air navigation deficiencies, including information reported by States and other stakeholders reflected in paragraph 2.4 and 2.5 above, in addition to those identified by the Regional Office according to paragraph 2.1 above. Review of the deficiencies should be a top priority for each meeting. MIDANPIRG, in reviewing lists of deficiencies, should make an assessment of the safety impact for subsequent review by the ICAO Air Navigation Commission.

3.4 In line with the above, and keeping in mind the need to eventually make use of this information in the planning and implementation process, it is necessary that once a deficiency has been identified and validated, the following fields of information should be provided in the reports on deficiencies in the air navigation systems in line with the Model reporting table for use in the reports of the MIDANPIRG, **as at paragraph 5 (Model reporting table for use in the reports of the MIDANPIRG):**

a) Identification of the requirements

As per ICAO procedures, Regional Air Navigation Plans detail, *inter alia*, air navigation requirements including facilities, services and procedures required to support international civil aviation operations in a given region. Therefore, deficiencies would relate to a requirement identified in the regional air navigation plan documents. As a first item in the deficiency list, the requirements along with their references (name of the meeting and the related recommendation number should be included - e.g. SP AFI/08 RAN Rec. xx). In addition, the name of the State or States involved and/or the name of the facilities such as name of airport, FIR, ACC, TWR, etc. should be included.

b) Identification of the deficiency

This item identifies the deficiency and would be composed of the following elements:

- i) a brief description of the deficiency;
- ii) date deficiency was first reported;
- iii) appropriate important references (meetings, reports, missions, etc)

c) Identification of the corrective actions

In the identification of the corrective actions, this item would be composed of:

- i) a brief description of the corrective actions to be undertaken;
- ii) identification of the executing body;

- iii) expected completion date of the corrective action; and
- iv) when appropriate or available, an indication of the cost involved.

4. Assessment and prioritization

4.1 A general guideline would be to have three levels of priority organized on the basis of safety, regularity and efficiency assessment as follows:

- **“U” priority** = Urgent requirements having a direct impact on safety and requiring immediate corrective actions.

Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.
- **“A” priority** = Top priority requirements necessary for air navigation safety.

Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.
- **“B” priority** = Intermediate requirements necessary for air navigation regularity and efficiency.

Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

4.2 In addition, the MIDANPIRG’s Sub-Groups including the ASPIG (Aerodromes Safety Planning and Implementation Group) should assess, as deemed necessary, the endorsed Deficiencies based on SMS principles. As practical as it can be, the assessment and prioritization of Deficiencies is based on the safety risk matrix contained in the Safety Management Manual (SMM), Doc 9859

5. Model reporting table for use in the reports of the MIDANPIRG

MID Air Navigation Deficiencies Data Base (MANDD)

5.1 The MID Air Navigation Deficiencies Data Base (MANDD) is available at <https://mandd.icao.int/>. It provides an online tool for States and relevant stakeholders to report Air Navigation Deficiencies in the MID Region in order to be used by the MIDANPIRG for the identification, assessment, prioritization of deficiencies,

5.2 The MANDD Reporting system is based on the following model table as presented at **Appendix XX**.

Additional guidance on reporting

5.3 In order to encourage reporting, the Group has adopted a list of minimum reporting areas covering the following Air Navigation domains, **AOP, ATM, AIM, CNS,**

5.10E-5

MET and **SAR**. The intent of the list is **NOT** to replace reporting based on ICAO Council policy, but to encourage reporting, in recognition of Assembly Resolution A37-15 Appendix L, and noting the historical critically low level of reporting.

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5.4 In addition to reporting any other deficiencies as defined by the Council. And without prejudice to the definition of “deficiency” as approved by the Council, States, Regulators and Air Navigation Service Providers (ANSPs), users (IATA, AFRAA, etc.) and professional organizations (IFALPA, IFATCA, IFATSEA, etc.), are encouraged to report on non-compliances, referring to the minimum reporting guidance as agreed by the States and reflected on The Middle East Air Navigation Deficiencies Management Process (MIDAND-MP).

6. Action by the MID Office

6.1 Before each meeting of MIDANPIRG, the Regional Office will provide advance documentation concerning the latest status of deficiencies.

6.2 It is noted that the ICAO MID Office should document serious cases of deficiencies to the Air Navigation Commission (through ICAO Headquarters) as a matter of priority, rather than waiting to report the matter to the next MIDANPIRG meeting, and that the Air Navigation Commission will report to the Council.

Appendix XX

Model table to Report Deficiencies

Identification			Deficiencies				Action Plan			
ID	Requirements	State/ Facilities and Services	Description	Reporting Date	Remarks	Priority	Description	Executing Body	Target Date	Remarks
1	2	3	4	5	6	7	8	9	10	11
AGA XX	Annex 14, Vol I, Chap. 3	XXX Intl. Airport	Depression between threshold and threshold lights in both thresholds	DD/MM/YYYY	Identified during surveillance activity XXXX	A	<i>Include Action Plan coordinated with State</i>	XXXX	<i>Include as initial date that appearing in the Action Plan</i>	xxxx meeting recommended that Refer to details in the meeting report.

Explanation for the filling of the Form**Identification of Requirements**

- Column 1: ID – Deficiency number (area-sequential numbering): Example AGA ##
- Column 2: Requirements – Element from the Air Navigation Plan/Associated SARPs
- Column 3: State/Facilities and Services such as: airport, navigation aid, FIR, ACC, TWR, etc

Identification of Deficiency

- Column 4: Clear and concise description of the deficiency
- Column 5: Reporting date of deficiency (month/year)
- Column 6: Important references, such as meetings, missions, reports, etc. *Other areas being affected by this deficiency should be indicated here.*
- Column 7: Identified Priority (U, A, B)

Action Plan

- Column 8: Clear and concise description of the Action Plan coordinated with the State. It should indicate how and when the deficiency will be resolved.
- Column 9: Identification of the body/institution responsible for Action Plan implementation.
- Column 10: Target date (month/year). The date in the Action Plan coordinated with the State will be inserted here. The Action Plan may need to be periodically updated; therefore, the corresponding target date will be amended accordingly.
- Column 11: Important references such as actions recommended by MIDANPIG to promote Action Plan implementation, progress with deficiency elimination, delays with Action Plan execution missing information, etc.

ATTACHMENT A

**Nineteenth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group
and Ninth Meeting of the Regional Aviation Safety Group-Middle East
(MIDANPIRG/19 & RASG-MID/9)**

(Riyadh, Saudi Arabia, 14 – 17 February 2022)

List of Participants – In Person

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- END -