International Civil Aviation Organization

MIDANPIRG Steering Group

Fourth Meeting (MSG/4)
(Cairo, Egypt, 24 - 26 November 2014)

Agenda Item 4: MID Region Air Navigation Planning

PROGRESS ACHIEVED IN THE DEVELOPMENT OF THE MID eANP

(Presented by the Secretariat)

SUMMARY

This paper presents the progress achieved in the development of the new MID eANP based on the eANP Template approved by the ICAO Council.

Action by the meeting is at paragraph 3.

REFERENCES

- MIDANPIRG/14 Report
- Regional Air Navigation Plans and new eANP Templates (MID Region) (https://portal.icao.int/space/ANP/Pages/Home.aspx)

1. INTRODUCTION

1.1 MIDANPIRG/14, through Decision 14/24, agreed that the development of the MID eANP based on the Council-approved ANP Template, be included in the work programme of the different MIDANPIRG subsidiary bodies and the relevant Parts of the MID eANP be presented, as soon as available, to MSG/4 and/or MIDANPIRG/15 for endorsement.

2. DISCUSSION

2.1 The 12th Air Navigation Conference (AN-Conf/12) agreed to Recommendation 6/1 [Regional performance framework – planning methodologies and tools] regarding the alignment of regional air navigation plans (ANP) with the Fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750).

2.2 In line with the above, the ICAO Secretariat established a Working Group (eANP WG), composed of representatives from Regional Offices and ICAO Headquarters, to make proposals for changes to the regional ANPs which included the development of a new structure, format and content of the ANP.

2.3 The Secretariat WG had two face-to-face meetings (Paris, France, 4-8 February 2013; and Montreal, Canada, 18-22 November 2013), six (6) Teleconferences of its Steering Committee (SC) (25 March, 3 June, 27 August and 31 October 2013, 26 March and 16 April 2014) and one Teleconference of the whole WG members (5 September 2013). Most of the work has been conducted through emails among the Secretariat WG Members. The eANP WG submitted the final regional ANP Template on 22 April 2014.

2.4 The Secretariat WG recalled the limitations of the current regional ANPs and agreed that they were no longer achieving the expected results and accordingly, there was an urgent need to reshape them to keep pace with the new developments, including the outcome of the Twelfth Air Navigation Conference (AN-Conf/12).

2.5 The Secretariat WG recognized that regional ANPs were needed and represented the bridge between, from one side, the global provisions in the *ICAO Standards and Recommended Practices* (SARPs) and the *Global Air Navigation Plan* (GANP), and from the other side, the States' National Plans and real implementation. In this regard the eANP WG considered the following:

- The ANPs have so far been developed to set forth, in detail, the facilities, services and procedures required for international air navigation within a specified area. They also contained planning and guidance material. It was noted that based on a Council decision (Eighth Meeting of its 131st Session refers), the monitoring of the implementation status of air navigation facilities and services was not part of the scope and objectives of the current ANP.

- Based on Recommendation 1/2 of the AN-Conf/12, and taking into consideration the new developments related to the performance based approach, the aviation system block upgrades (ASBU) methodology, etc., it was agreed that the new eANP should also include elements related to the monitoring of the status of implementation, at least related to the ASBU modules.

- A clear separation between the mandatory requirements and the optional/selective or preferable implementation scenarios based on the ASBU methodology should be included in the eANP.

- The need to identify the elements included in the current ANPs which were no longer required.

2.6 Based on the above, the Secretariat WG agreed that the ANP should contain provisions related to:

1) assignment of responsibilities;
2) mandatory requirements subject to regional agreement;
3) additional requirement specific to the region which are not covered in SARPs; and
4) elements related to the implementation of certain air navigation systems based mainly on the ASBU modules endorsed at regional or sub-regional level.

Objective and purpose of Regional Air Navigation Plans (ANP)

2.7 The Secretariat WG agreed on the objective and purpose of the Regional ANP as follows:

a) The ANPs provide for the planning and implementation of air navigation systems within a specified area, in accordance with the agreed global and regional planning framework. They are developed to meet those needs of specific areas not covered in the worldwide provisions. The development and maintenance of the ANPs is undertaken by ICAO PIRGs with the assistance of the ICAO Secretariat.

b) The ANPs are used as a repository Document for the assignment of responsibilities to States for the provision of air navigation facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300).

c) The ANPs contain requirements related to the facilities and services to be implemented by States in accordance with regional air navigation agreements. The procedural parts of ANPs are published in the *ICAO Regional Supplementary Procedures* (SUPPs) (Doc 7030).

d) The ANPs contain provisions that States can follow in programming the provision of their air navigation facilities and services, with the assurance that facilities and services furnished in accordance with the plan will form with those of other States an integrated system adequate for the foreseeable future.

e) The ANPs may serve as a legal basis for air navigation services charges which are levied for services provided or made available to users, in accordance with ICAO's *Policies on Charges for Airports and Air Navigation Services* (Doc 9082) and *ICAO Manual on Air Navigation Services Economics* (Doc 9161).

f) The ANPs support the performance-based approach to planning adopted by ICAO to measure the efforts made by States in implementing the agreed requirements.

Format and Table of Contents of the eANP

2.8 ANP data related to air navigation facilities and services can be classified as stable, dynamic or flexible. In this regard, it was agreed that the new ANP should be composed of three volumes:

a) Volume I should contain stable plan elements, the amendment of which require approval by the Council, related to:

1) assignment of responsibilities;

2) mandatory requirements subject to regional agreement; and/or

3) additional requirements specific to the region which are not covered in SARPs.

Note. — The following is a non-exhaustive list of such elements:

flight information regions (FIR) boundaries (table and charts), search and rescue regions (SRR) boundaries (table and charts), volcanic ash advisory centres (VAAC), tropical cyclone advisory centres (TCAC), volcano observatories (VO).

b) Volume II should contain dynamic plan elements, the amendment of which does not require approval by the Council (approval is by regional agreement involving the relevant PIRG), related to:

1) assignment of responsibilities;

2) mandatory requirements subject to regional agreement; and/or

3) additional requirements specific to the region which are not covered in SARPs.

Note. — The following is a non-exhaustive list of such elements:

major traffic flows; ATS route network; meteorological watch offices (MWO); secondary surveillance radar (SSR) codes; five-letter name-codes; VOLMET broadcasts.

c) Volume III should contain dynamic/flexible plan elements providing implementation planning guidance for air navigation systems and their modernization taking into consideration emerging programmes such as the ASBUs and associated technology roadmaps described in the GANP. The ANP Volume III would also include appropriate additional guidance, particularly with regard to implementation, to complement the material contained in the ANP Volumes I and II. The amendment of Volume III would not require approval by the Council (approval of Part II is under the responsibility of the relevant PIRG).

Description of the contents of the eANP

2.9 The general structure of the technical Parts of Volumes I and II (AOP, CNS, ATM, MET, SAR and AIM) would consist of:

a) Introduction;

b) General Regional Requirements; and

c) Specific Regional Requirements.

2.10 It is to be noted that the Section "General Regional Requirements" would be harmonized for all Regions. Accordingly, an amendment of the provisions (text and table templates) in "General Regional Requirements" would lead to amendment of the eANP of all regions.

2.11 The information contained in Volume III would be related to implementation monitoring, planning and/or guidance. The structure of Volume III would be kept simple, consisting of:

a) Part 0 – Introduction;

b) Part I – General Planning Aspects (GEN); and

c) Part II – Air Navigation System Implementation.

2.12 A table for inclusion in Part I of Volume III to define a minimum set of implementation indicator(s), based on the SMART criteria (specific, measurable, achievable, relevant and time bound), for each of the 18 ASBU Block 0 modules and to include other information as deemed necessary, for use in all regions. The details related to the monitoring of the ASBU modules, including the design of supporting enablers (tables/databases) would be left to the Regions/PIRGs.

2.13 The Council approved the new eANP Template (Volumes I, II and III) and corresponding procedure for amendment on 18 June 2014 (202nd session, Fourth meeting).

Action plan for further development/approval of the eANP

2.14 With the approval by the Council of the new ANP Template, the development/approval of the eANP would be in accordance with the following action plan:

ANP Volume	eANP Activity/Task	Responsible	Completion Date
Vol I, II & III	Population of eANP with existing data completed	Regional Offices	September 2014
Vol I, II & III	Agreement on the content of the eANP	PIRGs/States	Mid 2015
Vol I	Approval of Volume I of eANPs by the Council	Regional Offices/ANB	End 2015
Vol II	Approval of Volume II of eANPs by regional agreement involving the relevant PIRG	Regional Offices/PIRGs/ANB	End 2015
Vol III	Development and approval of Part II of Volume III by PIRG. Inclusion of Volume III on web-based platform.	Regional Offices/ PIRGs/ANB	End 2015
Consequential Amendments	Amendments to existing ICAO documentation related to ANPs to ensure harmonization, including the Regional Office Manual, and review of the applicability of the Uniform Methodology for the identification, assessment and reporting of Air Navigation deficiencies to the new ANP	ANB	Mid 2015

2.15 The meeting may wish to recall that MIDANPIRG/14 agreed that the MID eANP should be developed/approved as soon as possible following the Council approval of the ANP Template in accordance with the timelines outlined in the Action Plan.

2.16 The meeting may wish to note that VOL I, II and III of the draft new MID eANP, consolidated by the Secretriate based on the Council approved Template and inputs received from the different MIDANPIRG subsidiary bodies (AIM SG/1, ATM SG/1, CNS SG/6 and MET SG/5) are at **Appendices A**, **B** and **C**.

2.17 It is to be highlighted that the population of the Tables ATM I-1 *MID Region Flight Information Regions (FIRs)/ Upper Information Regions (UIRs)* and SAR I-1 *MID Region Search and Rescue Regions (SRRs)* is a challenging process that requires the cooperation of all the concerned States. The two Tables will contain the same descriptions due to the coincidence of all the FIRs with their corresponding SSRs in the MID Region. The meeting is invited to review and update, as appropriate the above-mentioned Tables. In this regard, the inconsistencies, if any, would be reflected in the Remarks Column (a TBD note could be used). The Tables were prepared by the Secretariat taking into consideration the following order of priority:

a) The approved Proposal for Amendments (PfAs) to the MID ANP by the ICAO Council.

b) The MID RAN Meetings Reports.

c) Agreements between States communicated to ICAO.

d) AIS publications when descriptions coincide with the current Charts ATS-1 and no differences between States (TBD will reflect the inconsistencies, if any).

2.18 The meeting may wish to note that, the Secretariat highlighted the inconsistencies related to some common FIR boundaries in a separate document. In this regard, the meeting is invited to decide either to discuss the differences in plenary or to convene side meetings between the concerned States and the Secretariat to discuss the differences and challenges related to the relevant FIRs.

2.19 The meeting may wish to note that the ANP WG/2 meeting is planned to be held in Cairo, 16-18 December 2014 to consolidate the final version of the MID eANP for the endorsement by MIDANPIRG/15.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) support the work done by the Secretariat and different MIDANPIRG subsidiary bodies related to the development of the MID eANP;

b) agree on the best mechanism to be used for the population of Table ATM I-1 and SAR I-1 (para. 2.18 refers);

c) task the ANP WG/2 meeting to finalize the MID eANP for endorsement by MIDANPIRG/15; and

d) urge States to review the MID eANP Volumes I,II and III at **Appendices A**, **B** and **C** and provide updates/inputs to the ANP WG/2 meeting.

APPENDIX A

MID AIR NAVIGATION PLAN

VOLUME I

MID AIR NAVIGATION PLAN

VOLUME I

TABLE OF CONTENTS

MID ANP, VOLUME I
PART 0 – INTRODUCTION

1. GENERAL

1.1 On ***18 June 2014***, the ICAO Council decided that the regional air navigation plans (ANPs) should be published in three volumes.

1.2 ANP Volume I contains stable plan elements whose amendment necessitates approval by the Council such as the assignment of responsibilities to States for the provision of aerodrome and air navigation facilities and services in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and the current to medium term mandatory regional requirements related to aerodrome and air navigation facilities and services to be implemented by States in accordance with regional air navigation agreements and requirements specific to the region which are not covered in the ICAO Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS). The material to be included in Volume I should minimise the requirement for frequent amendment. The following is a non-exhaustive list of such elements:

- Flight Information Regions (FIR) boundaries (Table and Charts);
- Search and Rescue Regions (SRR) boundaries (Table and Charts);
- Volcanic Ash Advisory Centres (VAAC);
- Tropical Cyclone Advisory Centres (TCAC); and
- Volcano Observatories (VO).

1.3 ANP Volume II contains dynamic plan elements material related to the assignment of responsibilities to States for the provision of aerodrome and air navigation facilities and services and the current to medium term mandatory regional requirements related to aerodrome and air navigation facilities and services to be implemented by States in accordance with regional air navigation agreements involving the relevant PIRG. The amendment of these elements does not require approval by the Council. The following is a non-exhaustive list of such elements:

- Major traffic flows;
- ATS route network;
- Meteorological Watch Offices (MWO);
- Secondary Surveillance Radar (SSR) codes;
- Five-letter name-codes; and
- VOLMET Broadcasts.

1.4 ANP Volume III contains dynamic/flexible plan elements providing implementation planning guidance for air navigation systems and their modernization taking into consideration emerging programmes such as the ICAO Aviation System Block Upgrades (ASBUs) and associated technology roadmaps described in the *Global Air Navigation Plan* (GANP) (Doc 9750). The ANP Volume III would also include appropriate additional guidance, particularly with regard to implementation, to complement the material contained in the ANP Volumes I and II. The amendment of Volume III would not require approval by the Council (approval of Part II is under the responsibility of the relevant PIRG).

Note 1: The ANP does not list all facilities in the region(s) but only those required for international civil aviation operations. Documents from the Integrated Aeronautical Information Package and other States publications should be consulted for information on additional facilities and for operational information in general.

Note 2: The general structure of the regional plans for the parts which concern an air navigation field in Volumes I and II consists of an "Introduction", "General Regional Requirements" and "Specific Regional Requirements". Only Tables shown under "General Regional Requirements" are harmonized for all Regions. Should a Region require a Table for a specific field, this should be reflected under "Specific Regional Requirements" of the subject concerned. The naming convention for such tables consists of the technical field concerned (AOP, CNS, ATM, MET, SAR and AIM), the ANP Volume number

(I or II), the Region (APAC, AFI, CAR/SAM, EUR, MID, NAM and NAT) and the consecutive number of the table. Examples are as follows: Table ATM I-EUR-1, Table CNS II-MID-1 or Table MET I-AFI-2.

1.5 Guidance material on the detail of programmes or concepts should be contained in supplementary material referenced appropriately or adopted as MID Documents.

2. RELATIONSHIP BETWEEN THE GLOBAL AND REGIONAL AIR NAVIGATION PLANS

2.1 The ANPs represent the bridge between, on one side, the global provisions in the ICAO SARPs and the GANP, and on the other side, the States' air navigation plans and implementation status.

2.2 The GANP represents a rolling, 15-year strategic methodology which leverages existing technologies and anticipates future developments based on State/industry-agreed operational objectives. The GANP is an overarching framework that includes key aviation policy principles to assist ICAO Regions, sub-regions and States with the preparation of their regional and State air navigation plans and to support the establishment of air navigation priorities.

3. OBJECTIVE AND PURPOSE OF REGIONAL AIR NAVIGATION PLANS

3.1 The ANPs provide for the planning and implementation of air navigation systems within a specified area, in accordance with the agreed global and regional planning framework. They are developed to meet those needs of specific areas not covered in the worldwide provisions. The development and maintenance of the ANPs is undertaken by ICAO PIRGs with the assistance of the ICAO Secretariat.

3.2 The ANPs are used as a repository Document for the assignment of responsibilities to States for the provision of air navigation facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300).

3.3 The ANPs contain requirements related to the facilities and services to be implemented by States in accordance with regional air navigation agreements. The procedural parts of ANPs are published in the *ICAO Regional Supplementary Procedures* (SUPPs) (Doc 7030).

3.4 The ANPs contain provisions that States can follow in the planning of aerodrome and air navigation facilities and services activities, with the assurance that facilities and services furnished in accordance with the plan will form with those of other States an integrated system adequate for the foreseeable future.

3.5 The ANPs may serve as a legal basis for air navigation services charges which are levied for services provided or made available to users, in accordance with ICAO's *Policies on Charges for Airports and Air Navigation Services* (Doc 9082) and *ICAO Manual on Air Navigation Services Economics* (Doc 9161).

3.6 The ANPs support the performance-based approach to planning adopted by ICAO to measure the efforts made by States in implementing the agreed requirements.

4. MANAGEMENT AND AMENDMENT OF REGIONAL AIR NAVIGATION PLANS

4.1 The elements of the existing planning system and the planning principles, operational requirements and planning criteria as developed for the MID Region~~(s)~~ are kept under constant review by the MIDANPIRG in accordance with its schedule of meetings, in consultation with provider and user States and with the assistance of the ICAO MID Regional Office~~(s) concerned~~.

4.2 The detailed amendment procedure of the three ANP Volumes is described in paragraph 5 below.

5. PROCEDURE FOR THE AMENDMENT OF REGIONAL AIR NAVIGATION PLANS

5.1 The procedure for the amendment of regional air navigation plans in three Volumes as approved by the Council is shown in **Appendix A**.

6. ABBREVIATIONS

6.1 The abbreviations used in this document are contained in the *Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC)* (Doc 8400), with the exception of those used in the explanations of any tables appearing herein, which also give their meaning.

7. ESTABLISHMENT AND PROVISION OF A MULTINATIONAL ICAO AIR NAVIGATION FACILITY/SERVICE ~~(*If applicable*)~~

7.1 The operation of multinational air navigation services is well established within the MID Region~~(s)~~. The ICAO *Manual on Air Navigation Services Economics* (Doc 9161) details the ICAO policies on charges for air navigation services and provides additional information on the various models adopted globally. The introduction of multinational air navigation services does not dilute the principle that a State has the responsibility of overseeing the provision of air navigation services and that it shall maintain that responsibility within its sovereign airspace as well as within the airspace over the high seas for which it has accepted the responsibility for the provision of services. Where there is no intention to change or modify the FIR boundaries nor the facilities and services currently listed in the ANP there is not a requirement to amend the ANP. However, should changes to the FIR boundaries or to the facilities and services provided be required, such changes are likely to be subject to the ANP amendment procedure and should therefore be examined on a case-by-case basis. Advice on this issue can be obtained from the ICAO Regional Office(s). Any multinational arrangements for the provision of air navigation services should be registered with ICAO (Article 83 of the Convention (Doc 7300) and *Rules for Registration with ICAO of Aeronautical Agreements and Arrangements* (Doc 6685)).

APPENDIX A - PROCEDURE FOR THE AMENDMENT OF REGIONAL AIR NAVIGATION PLANS

*(Approved by Council on **18 June 2014**)*

1. Introduction

1.1. The procedure outlined below has been evolved to provide a means of maintaining the regional air navigation plans using an ANP web based platform.

2. General criteria

2.1. The Assembly has resolved that regional plans should be revised when it becomes apparent that they are no longer consistent with current and foreseen requirements of international civil aviation and that, when the nature of a required change permits, the associated amendment of the regional plan should be undertaken by correspondence between the Organization and the States and international organizations concerned.

2.2. When a State cannot immediately implement a particular part or a specific detail of a regional plan although it intends to do so, when practicable, this in itself should not lead to the State proposing an amendment to the plan.

2.3. The general structure of the regional plans for the parts which concern an air navigation field in Volumes I and II consists of an "Introduction", "General Regional Requirements" and "Specific Regional Requirements". As the section "General Regional Requirements" is harmonized for all regions, an amendment of the provisions (text) in "General Regional Requirements" will lead to amendment of Volumes I and II of the regional plans of all regions.

2.4. The amendment process of Volume III is under the responsibility of the relevant Planning and Implementation Regional Group (PIRG). The Parts 0 (Introduction) and I (General Planning Aspects) of Volume III are harmonized for all regions and the amendment of these parts should be made following inter-regional coordination.

3. User rights

3.1. Access to the ANP web based platform to develop and submit amendment proposals to the regional plan and to comment on an officially issued amendment proposal should be provided through controlled access by the State's or international organization's designated Focal Points. The State or international organization should officially inform their respective Regional Office of the registration of their designated Focal Points.

4. States and international organizations to be consulted

4.1. The Secretary General, through the relevant Regional Office, will determine the States and international organizations to be consulted on the amendment proposal. These will generally only include the provider and user States and international organizations that have a direct and obvious interest in the amendment in question.

PART A — AIR NAVIGATION PLANS, VOLUME I

5. Procedure for amendment of Volume I

5.1. If, in the light of the above general criteria, any State (or group of States) wishes to effect a change in the approved air navigation plan for that region, it should propose to the Secretary General, through the Regional Office accredited to that State, an appropriate amendment to the plan, adequately documented; the proposal should include the facts that lead the State (or group of States) to the conclusion that the amendment is necessary. Such amendments may include additions, modifications or deletions. (This procedure does not preclude a State having previous consultation with other States before submitting an amendment proposal to the Regional Office.) This proposed amendment should be submitted via the web based tool and/or by correspondence to the Regional Office.

5.2. Upon studying the proposal, if the Secretary General considers that the proposed amendment requires further coordination through the relevant Planning and Implementation Regional Group (PIRG), the proposal will be presented, adequately documented, to the PIRG. The views of the PIRG will be coordinated with the originating State and the proposed amendment will be uploaded via the ANP web based platform for processing proposals for amendment for approval by the Council.

5.3. If the proposal concerns an amendment of the provisions (text) in "General Regional Requirements", the Secretary General will coordinate and circulate, through all Regional Offices, an amendment of all the regional plans.

5.4. If the Secretary General considers that the proposed amendment conflicts with established ICAO policy, or that it raises questions which the Secretary General considers should be brought to the attention of the Air Navigation Commission, the proposal will be presented, adequately documented, to the Commission. In such cases, the Commission will decide the action to be taken on the proposal.

5.5. The Secretary General, through the Regional Office, will circulate the proposal, adequately documented, with a request for comments to all provider and user States of the region considered affected as well as to user States outside the region and international organizations which may be invited to attend suitable ICAO meetings and which may be concerned with the proposal. The States and international organizations concerned should either send their comments/agreement/objection via the ANP web based platform and/or by correspondence to the Regional Office. Any comment or objection should be adequately supported by reasons for the comment or objection.

5.6. If, in reply to the Secretary General's inquiry, no objection is raised to the proposal by a specified date, the proposal should be submitted to the President of the Council, who is authorized to approve the amendment on behalf of the Council. The approved amendment should be incorporated into Volume I of the regional plan.

5.7. If, in reply to the Secretary General's inquiry, any objection is raised, and if objection remains after further consultation, the matter will be documented for discussion by the respective planning and implementation regional group (PIRG) and, ultimately for formal consideration by the Air Navigation Commission, if it remains unresolved. If the Commission concludes that the amendment is acceptable in its original or other form, it will present appropriate recommendations to the Council.

5.8. Proposals for the amendment of Volume I of the regional plan submitted by international organizations directly concerned with the operation of aircraft, which may be invited to attend suitable ICAO meetings and which attended the meeting(s) where the relevant regional plan is managed, will be dealt with in the same manner as those received from States, except that, before circulating a proposal to States and selected international organizations, the Secretary General will ascertain whether it has adequate support from the State or States whose facilities will be affected. If such support is not forthcoming, the proposal will be presented to the Commission, and the Commission will decide on the action to be taken on the proposal.

5.9. Proposals for the amendment of Volume I of the regional plan may also be initiated by the Secretary General, through the Regional Office accredited to that State, provided that the State or States whose facilities will be affected have expressed their concurrence with the proposal.

5.10. Amendments to Volume I of the regional plan which have been approved in accordance with the above procedure will be published in the ANP web based platform at convenient intervals.

PART B — AIR NAVIGATION PLANS, VOLUME II

6. Procedure for amendment of Volume II

6.1. Amendments of Volume II of the regional plan should be effected on the basis of an adequately documented proposal submitted by a State (or a group of States) or the relevant PIRG to the Secretary General, through the Regional Office accredited to that State. The proposal should include the facts that lead to the conclusion that the amendment is necessary. Such amendments may include additions, modifications or deletions to Volume II of the regional plan. (This procedure does not preclude a State having previous consultation with other States before submitting an amendment proposal to the Regional Office.) This proposed amendment should be submitted via the ANP web based platform and/or by correspondence to the Regional Office.

6.2. If the proposal concerns an amendment of the provisions (text) in "General Regional Requirements", the Secretary General will coordinate and circulate, through all Regional Offices, an amendment of all the regional plans.

6.3. The ICAO Regional Office will circulate the proposal, adequately documented, with a request for comments to all provider and user States of the region considered affected as well as to user States outside the region and international organizations which may be invited to attend suitable ICAO meetings and which may be concerned with the proposal. The States and international organizations concerned should either send their comments/agreement/objection via the ANP web based platform and/or by correspondence to the Regional Office. Any comment or objection should be adequately supported by reasons for the comment or objection.

6.4. If, in reply to the ICAO Regional Office's inquiry, no objection is raised to the proposal by a specified date, it will be deemed that a regional agreement (involving the relevant PIRG) on the subject has been reached and the proposed amendment should be incorporated into Volume II of the regional plan.

6.5. If, in reply to the ICAO Regional Office's inquiry, any objection is raised, and if objection remains after further consultation, the matter will be documented for discussion by the respective planning and implementation regional group (PIRG) and, ultimately for formal consideration by the Air Navigation Commission, if it remains unresolved. If the Commission concludes that the amendment is acceptable in its original or other form, it will present appropriate recommendations to the Council.

6.6. Proposals for the amendment of Volume II of the regional plan submitted by international organizations directly concerned with the operation of aircraft, which may be invited to attend suitable ICAO meetings, where the relevant regional plan is managed, will be dealt with in the same manner as those received from States, except that, before circulating a proposal to States and selected international organizations, the Secretary General will ascertain whether the proposal has adequate support from the State or States whose facilities or services will be affected. If such support is not forthcoming, the proposal will not be pursued.

6.7. Proposals for the amendment of Volume II of the regional plan may also be initiated by the Secretary General, through the Regional Office accredited to that State, provided that the State or States whose facilities or services will be affected have expressed their concurrence with the proposal.

6.8. Amendments to Volume II of the regional plan which have been approved in accordance with the above procedure will be published in the ANP web based platform at convenient intervals.

PART C — AIR NAVIGATION PLANS, VOLUME III

7. Procedure for amendment of Volume III

7.1. Amendments of Volume III of the regional plan are under the responsibility of the relevant Planning and Implementation Regional Group (PIRG) and not subject to a formal application of the procedure for amendment of the ANP described in Parts A and B above. However, the amendment of the provisions of Part 0 - "Introduction" and Part I - "General Planning Aspects" needs special coordination, as specified in 7.4 below. Since these two Parts are harmonized for all regions, an amendment of the provisions contained there-in will lead to amendment of Parts 0 and I of Volume III of the regional plans of all regions.

7.2. Amendments of Volume III of the regional plan should be effected on the basis of an adequately documented proposal submitted to the ICAO Regional Office concerned by:

- a State (or a group of States); or
- the relevant Planning and Implementation Regional Group (PIRG) of the region(s); or
- the ICAO Secretariat; or
- international organisations directly concerned with the operation of aircraft, which may be invited to attend suitable ICAO meetings and/or which attended the meeting(s) where the relevant Volume III amendments were agreed.

7.3. This procedure does not preclude a State (or group of States) having previous consultation with other States before submitting an amendment proposal to the Regional Office. Such amendments may include additions, modifications or deletions to Volume III of the regional plan. In addition, the facts that led to the conclusion that the amendment should be included.

7.4. If the proposal concerns an amendment of the provisions in Part 0 - "Introduction" or Part I - "General Planning Aspects", the ICAO Regional Office concerned will submit the proposal to ICAO Headquarters (Air Navigation Bureau) for coordination with all ICAO Regional Offices. The views of the ICAO Regional Offices will be taken into consideration in the consolidation/approval of the amendment by the ANB. The approved amendment will be published in Volume III of all regional plans at convenient intervals.

7.5. The mechanism for the amendment of Part II of Volume III of the regional plan should be developed, agreed by the relevant PIRG and reflected in the corresponding PIRG Handbook.

MID ANP, VOLUME I

PART I – GENERAL PLANNING ASPECTS (GEN)

1. GEOGRAPHICAL SCOPE

1.1 The MID ANP is related to the ICAO MID air navigation region~~(s)~~. The ANP may call for the provision of basic facilities and services beyond the charted boundaries of a region where such facilities and services are necessary to meet the requirements of international air navigation within that region.

1.2 A number of States within the ICAO MID Region~~(s)~~ are members of one or more sub-regional groupings which have development plans to improve air navigation services; such plans contribute to the regional implementation of the ICAO *Global Air Navigation Plan* (GANP) (Doc 9750). Regional subgroups include the:

- Arab Civil Aviation Commission (ACAC)
- Gulf Cooperation Council (GCC)

~~• *Note: Diagram or list of regional sub groupings to be inserted in the Volume II or database. (If applicable)*~~

2. FLIGHT INFORMATION REGIONS

2.1 **Table GEN I-1** shows the current Flight Information Regions (FIR)/Upper Information Regions (UIR) which are part of the ICAO MID Region~~(s)~~. More details of the FIRs and UIRs within the MID air navigation region~~(s)~~ are contained in **Table ATM I-1** and **Charts ATM I-1** and **ATM I-2**.

3. STATES' RESPONSIBILITIES

3.1 Each Contracting State is responsible for the provision of facilities and services in its territory under Article 28 of the Convention as well as within the airspace over the high seas for which it has accepted the responsibility for the provision of services. The Council has recommended that these facilities and services include those specified in the ANPs.

~~3.2 The inclusion of the basic facilities and services provided by non-Contracting States and territories in regional ANPs is simply recognition that they are needed by or likely to affect international civil aircraft operations of Contracting States or the facilities and services of these States.~~

~~*Note. Non-Contracting States in the (NAME) region are:* **(include names as applicable)**~~

4. MID REGIONAL PLANNING

4.1 The regional planning and implementation process is the principal engine of ICAO's planning framework. It is here that the top-down approach comprising global guidance and regional harmonization measures converges with the bottom-up approach constituted by national planning by States.

4.2 PERFORMANCE BASED APPROACH

4.2.1 Global Approach

4.2.1.1 In an effort to assist planners in weighing outcomes and making appropriate decisions, the *Manual on Global Performance of the Air Navigation System* (Doc 9883) has been developed. In this respect ICAO has defined 11 Key Performance Areas (KPA), one for each of the *Global ATM Operational Concept* (Doc 9854) expectations outlined below.

4.2.1.2 These general expectations are relative to the effective operation of the ATM system. The ICAO planning objective is to achieve a performance based global air traffic management (ATM) system through the implementation of air navigation systems and procedures in a safe, progressive, cost-effective and cooperative manner.

5. RELATIONSHIP BETWEEN GLOBAL, REGIONAL AND NATIONAL PLANNING

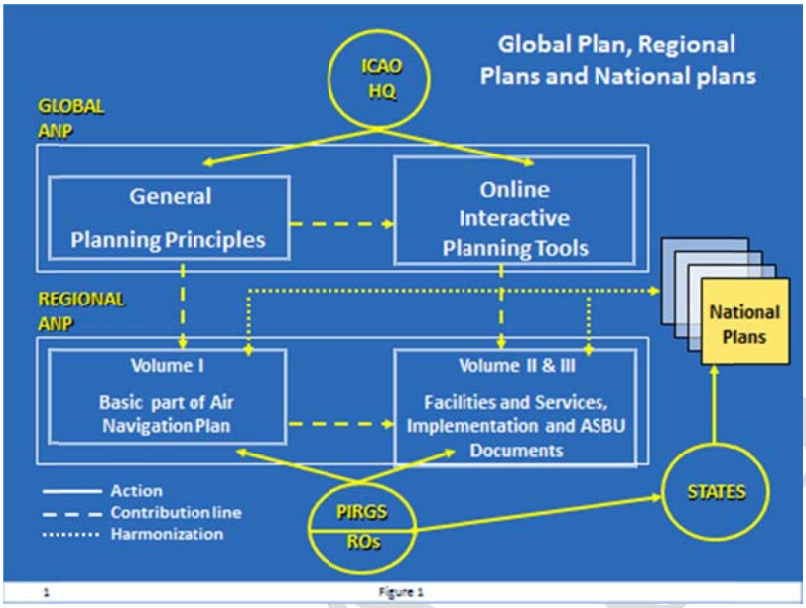


Figure 1. Relationship between global, regional and national plans.

5.1 Planning takes place at global, regional and national levels. Planning is accomplished with the help of planning tools and methodologies that are used primarily at the regional and national levels, conditioned by guidance from the global level. The basis for effective planning is the GANP (Doc 9750), which should guide the development of regional and national implementation plans that will support system architectures.

6. HUMAN RESOURCE PLANNING

6.1 Human resource planning can be considered "*the systematic and continuing process of analysing an organisation's human resource needs under changing conditions and developing personnel policies appropriate to the longer-term effectiveness of the organisation. It is an integral part of corporate planning and budgeting procedures since human resource costs and forecasts both affect and are affected by longer-term corporate plans.*"[1]

6.2 Estimating current and future requirements for civil aviation personnel and training capacity is essential for human resource planning, institutional capacity building, and related funding and policy measures. Such planning will need to take into account the interdependencies for supply and demand of qualified personnel at national, regional and global levels.

6.3 Human Performance

6.3.1 The high level of automation and interdependencies across aviation disciplines will only increase with evolving air navigation systems. To maximise potential safety and efficiency benefits that these offer, the development of human-driven, rather than engineering-driven interfaces is required, making it easier for the human operator to make sound decisions and take correct actions. Similarly, as part of a safety management systems approach, procedures need to be identified for the use of current and new

[1] Defined by the UK Institute of Personnel and Development

technologies that take into account human capabilities and manage the risk associated with human limitations.

6.3.2 States should:

a) Identify a certification process that requires at the design stage:

i) recognition of the potential human performance issues that the proposed new technology attempts to address; and

ii) consideration of the potential human performance issues, including changes in roles and the effects on individual and team behaviours, that may be introduced by the proposed new technology.

b) Identify processes for the implementation of new technologies, systems and procedures that describes the means by which human performance considerations can be addressed within operational contexts.

c) Consider the management of human performance-related risks as a necessary and essential aspect of the oversight of safety management systems.

d) Ensure that their technical personnel have exposure to training in human factors.

6.4 Training

6.4.1 A major goal of CNS/ATM systems is to create a seamless air navigation system. A seamless air navigation environment will require adequately qualified personnel prepared to perform their jobs in an evolving environment. At the same time, shortcomings in human resource planning and training are frequently mentioned as one of the reasons for the lack of implementation of regional ANPs. Human resource development challenges will be compounded during the transition period to CNS/ATM systems. As the existing and emerging air navigation technologies will co-exist in parallel for a period of time, civil aviation personnel will need to learn new skills, whilst retaining those needed to operate and maintain existing systems. To meet this challenge, a cooperative approach should be used in civil aviation training within the region. This approach should:

a) ensure that the training needs for the region are identified, documented and kept up to date;

b) facilitate the access to specialized types of training needed within the region or sub-regions that individual States cannot justify based on their national training needs alone;

c) ensure that a balanced market exists to support the development and on-going implementation of high-quality training in one or more training centres within the region or sub-regions;

d) endeavour to distribute equitably regional training activities among the training centres established within the region or sub-regions.

e) take advantage of readily available training materials including those available through the TRAINAIR Plus sharing system.

6.4.2 Appropriate bodies should be established to facilitate regional and sub-regional training planning. A quantitative approach should be used to determine the training capabilities needed within a region or sub-region. Decisions concerning required training capabilities should be based on an aggregate of training needs for existing air navigation technologies, as well as emerging technologies. A State consultation process should be used to formulate a plan for the establishment of specific regional training centres.

6.5 Training of technical personnel

6.5.1 States should develop and implement comprehensive training programmes and periodic training plans for all technical staff, including initial, on-the-job, recurrent and specialized training.

7. SAFETY CONSIDERATIONS

7.1 Safety fundamentally contributes to the sustainable growth of a sound and economically viable civil aviation system that continues to foster economic prosperity and social development. With air traffic projected to double in the next 15 years, safety risks must be addressed proactively to ensure that this significant capacity expansion is carefully managed and supported through strategic regulatory and infrastructure developments. It is imperative therefore that States and regions remain focused on their safety priorities as they continue to encourage expansion of their air transport sectors.

7.2 Acceptable safety levels are related to the establishment of State safety programmes (SSPs) that are able to anticipate and effectively respond to safety-related occurrences, resulting in continual improvements to an already low global accident rate. The *Global Aviation Safety Plan* (GASP) specifically establishes targeted safety objectives and initiatives that support SSP implementation while ensuring the efficient and effective coordination of complementary safety activities between all stakeholders.

7.3 PIRGs should harmonize activities undertaken to address aviation safety issues on a regional basis with the Regional Aviation Safety Groups (RASGs). In addition, PIRGs should coordinate relevant safety matters with RASGs to ensure consistency and avoid overlap.

7.4 PIRGs should ensure that air navigation services development programmes are consistent with the GASP safety objectives and initiatives. States are responsible for the prompt elimination of their air navigation deficiencies. Detailed information on the process of identifying and managing air navigation deficiencies is contained in the MIDANPIRG Procedural Handbook.

7.5 Adherence to the ICAO SARPs will significantly contribute to aviation safety. States should therefore ensure that they have the necessary regulatory framework in place to reinforce the adoption of the ICAO SARPs within their national regulations. States should also ensure that any differences to the ICAO SARPs have been assessed in respect of safety and are notified in accordance with ICAO requirements.

7.6 Unsatisfactory Conditions Reporting

7.6.1 States should act on any serious problems encountered due to the lack of implementation or prolonged unavailability of air navigation facilities or services required by the ANPs as reported by users of air navigation facilities and services.

8. ENVIRONMENT CONSIDERATIONS

8.1 It is an ICAO Strategic Objective to minimize the adverse effects of global civil aviation on the environment. PIRGs should ensure that environmental factors are taken into consideration when performance based systems implementation plans are developed and may wish to coordinate their plans with the State Action Plans on CO_2 Emissions Reduction. The results of environmental analysis can be useful in providing national decision-makers within the various sub-regions with information upon which to base airspace architecture decisions and in providing information on what the aviation industry is doing now to protect the environment in the future. Tools such as the ICAO Fuel Savings Estimation Tool (IFSET) are available from the ICAO public website to help quantify the environmental benefits from operational improvements. Environmental considerations should, however, not compromise acceptable levels of safety and be balanced against operational and economic considerations.

9. AIR TRAFFIC FORECASTS

9.1 Regional traffic forecasting supports the regional air navigation system planning. All States generally prepare individual forecasts, taking account of the regional information, for national planning purposes. A uniform strategy has been adopted by ICAO for the purpose of preparing traffic forecasts and other planning parameters in support of the regional planning process. This information should be shared through at least the sub-regional groupings to enable effective regional planning development.

10. CONTINGENCY PLANNING

10.1 Contingency plans may constitute a temporary deviation from the approved ANPs; such deviations are approved, as necessary, by the President of the ICAO Council on behalf of the Council.

10.2 The effects of disruption of services in particular portions of airspace are likely to affect significantly the services in adjacent airspace. States should co-ordinate with neighbouring States in the development and implementation of contingency plans, which in some cases may be developed on a sub-regional basis.

10.3 ICAO will initiate and coordinate appropriate contingency action in the event of disruption of air traffic services and related supporting services affecting international civil aviation operations provided by a State in the event that the authorities cannot adequately discharge their responsibility for the provision of such services to ensure the safety of international civil aviation operations. In such circumstances, ICAO will work in coordination with States responsible for airspace adjacent to that affected by the disruption and in close consultation with international organizations concerned.

10.4 Regional contingency plans will be developed, approved and maintained by MIDANPIRG with the support of ICAO and other organizations.

10.5 States should prepare their contingency plans in advance and ensure their availability or accessibility to the ICAO Regional Office. The plans should be reviewed at regular intervals and updated as required.

TABLE GEN I-1 - FLIGHT INFORMATION REGIONS (FIR)/UPPER INFORMATION REGIONS (UIR) OF THE ICAO MID REGION~~(S)~~

EXPLANATION OF TABLE

Column		
1	State	Name of State
2	FIR/UIR	Name of FIR/UIR

STATE	FIR/UIR
BAHRAIN	Bahrain FIR
EGYPT	Cairo FIR
IRAN, ISLAMIC REPUBLIC OF	Tehran FIR
IRAQ	Baghdad FIR
JORDAN	Amman FIR
KUWAIT	Kuwait FIR
LEBANON	Beirut FIR
LIBYA	Tripoli FIR
OMAN	Muscat FIR
SAUDI ARABIA	Jeddah FIR
SUDAN	Khartoum FIR
SYRIAN ARAB REPUBLIC	Damascus FIR
UNITED ARAB EMIRATES	Emirates FIR
YEMEN	Sana'a FIR

MID ANP, VOLUME I

PART II – AERODROMES / AERODROME OPERATIONS (AOP)

1. INTRODUCTION

1.1 This part of the MID ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of aerodromes operations (AOP) facilities and services in the MID Region~~(s)~~ and complements the provisions of ICAO SARPs and PANS related to AOP. It contains stable plan elements related to the assignment of responsibilities to States for the provision of aerodrome facilities and services within the Region(s) in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300) and mandatory requirements related to the AOP facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan elements related to the assignment of responsibilities to States for the provision of the aerodrome facilities and services including the mandatory requirements based on regional air navigation agreements related to the AOP are contained in the MID ANP Volume II Part II - AOP.

1.3 The MID ANP Volume III contains dynamic/flexible plan elements related to the implementation of air navigation systems and their modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) methodology and associated technology roadmaps described in the Global Air Navigation Plan. The ASBU modules are aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and achieving the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed ASBU modules applicable to the specified ICAO region/sub-region and associated elements/enablers necessary for the monitoring of the status of implementation of these ASBU modules.

Standards and Recommended Practices and Procedures for Air Navigation Services

1.4 The SARPs and PANS and associated guidance material applicable to the provision of AOP are contained in:

a) Annex 14 — *Aerodromes*, Volumes I and II;

b) *Procedures for Air Navigation Services – Aerodromes* (PANS-Aerodromes) (Doc 9981) *(pending final approval)*;

c) *Airport Planning Manual* (Doc 9184);

d) *Aerodrome Design Manual* (Doc 9157);

e) *Airport Services Manual* (Doc 9137);

f) *Manual on Certification of Aerodromes* (Doc 9774);

g) *Assessment, Measurement and Reporting of Runway Surface Conditions* (Cir 329);

h) *Operation of New Larger Aeroplanes at existing aerodromes* (Cir 305);

i) *Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual* (Doc 9830);

j) *Manual of Surface Movement Guidance and Control Systems (SMGCS)* (Doc 9476);

k) *Heliport Manual* (Doc 9261);

l) *Manual on the prevention of runway incursions* (Doc 9870);

m) *Stolport Manual* (Doc 9150);

n) *ICAO Bird Strike Information System Manual* (Doc 9332); and

o) *Manual on Civil Aviation Jet Fuel Supply* (Doc 9977).

2. GENERAL REGIONAL REQUIREMENTS

2.1 Regular aerodromes and their alternates required for international commercial air transport operations should be determined through regional agreements, based on the list of international aerodromes designated by States and the needs of the international commercial flights. Consideration should also be given to the needs of international general aviation flights as identified by user requirements. The alternate aerodromes should be planned/selected, to the greatest practicable extent, from the list of existing regular aerodromes used for international aircraft operations. However, where in specific cases the designation of another aerodrome in close proximity to a regular aerodrome would result in appreciable fuel conservation or other operational advantages, this aerodrome may be designated for use as an alternate aerodrome only. Planning of alternate aerodromes should be made on the basis of the following objectives:

a) to ensure that at least one suitable alternate is available for each international aircraft operation; and

b) to ensure that the facilities at the designated alternate aerodrome(s) are appropriate for the alternate aircraft operations.

2.2 The list of regular and alternate aerodromes (including their designations) required in the Region(s) to serve international civil aviation operations (international scheduled air transport, non-scheduled air transport and general aviation operations) is given in **Table AOP I-1**. Each Contracting State should ensure the provision of aerodrome facilities and services at the international aerodromes under its jurisdiction.

3. SPECIFIC REGIONAL REQUIREMENTS

3.1 ~~TBD (if necessary)~~ None.

Table AOP I-1
INTERNATIONAL AERODROMES REQUIRED IN THE MID REGION~~(S)~~

EXPLANATION OF THE TABLE

City/Aerodrome: Name of the city and aerodrome, preceded by the location indicator.
Designation: Designation of the aerodrome as:
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.

Location Indicator	Name of City/Aerodrome	Designation
BAHRAIN		
OBBI	BAHRAIN/Bahrain Intl	RS
EGYPT		
HEAX	ALEXANDRIA/Alexandria Intl	RS
HEBA	ALEXANDRIA/Borg El-Arab Intl	RS
HESN	ASWAN/Aswan Intl	RS
HEAT	ASYUT/Asyut Intl	RS
HECA	CAIRO/Cairo Intl	RS
HEAR	EL ARISH/ El Arish Intl	AS
HEGN	HURGHADA/Hurghada Intl	RS
HELX	L UXOR/Luxor Intl	RS
HEMA	MARSA ALAM/Marsa Alam Intl	RNS
HEPS	PORT SAID/ Port Said Intl	AS
HEOW	SHARK EL OWEINAT/Shark El Oweinat Intl	AS
HESH	SHARM EL SHEIKH/Sharm El Sheikh Intl	RS
HESC	ST. CATHERINE/St Catherine Intl	AS
HETB	TABA/Taba Int	AS

Location Indicator	Name of City/Aerodrome	Designation
HEAL	ALAMAIN/Alamain Intl	AS
HESG	SOHAG/Sohag Intl	AS
IRAN, ISLAMIC REPUBLIC OF		
OIKB	BANDAR ABBAS/Bandar Abbas Intl	RS
OIFM	ESFAHAN/Shahid Beheshti Intl	RS
OIMM	MASHHAD/Shahid Hashemi Nejad Intl	RS
OISS	SHIRAZ/Shahid Dastghaib Intl	RS
OITT	TABRIZ/Tabriz Intl	RNS
OIIE	TEHRAN/Imam Khomaini Intl	RS
OIII	TEHRAN/Mehrabad Intl	RS
OIZH	ZAHEDAN/Zahedan Intl	RS
IRAQ		
ORBI	BAGHDAD/Baghdad Intl	RS
ORMM	BASRAH/Basrah Intl	RS
ORER	ERBIL/Erbil Intl	RS
ORSU	SULAYMANIYAH/Sulaymaniyah Intl	RS
ORNI	AL NAJAF/Al Najaf Intl	RNS
ORBM	MOSUL/Mosul Intl	RS
JORDAN		
OJAM	AMMAN/Marka Intl	AS
OJAI	AMMAN/Queen Alia Intl	RS
OJAQ	AQABA/King Hussein Intl	RS
KUWAIT		

Location Indicator	Name of City/Aerodrome	Designation
OKBK	KUWAIT/Kuwait Intl	RS
LEBANON		
OLBA	BEIRUT/ R. B. H - Beirut Intl-	RS
LIBYA		
HLLB	BENGHAZI/Benina	RS
HLLS	SEBHA/Sebha	RS
HLLT	TRIPOLI/Tripoli Intl	RS
OMAN		
OOMS	MUSCAT/ Muscat Intl	RS
OOSA	SALALAH/Salalah	AS
QATAR		
OTBD	DOHA/Doha Intl	RS
OTHH	DOHA/Hamad Intl (Future – 2013)	RS
SAUDI ARABIA		
OEDF	DAMMAM/King Fahd Intl	RS
OEJN	JEDDAH/King Abdulaziz Intl	RS
OEMA	MADINAH/Prince Mohammad Bin Abdulaziz Intl	RS
OERK	RIYADH/King Khalid Intl	RS
SOUTH SUDAN		
HSSJ	JUBA/Juba	RS

Location Indicator	Name of City/Aerodrome	Designation
SUDAN		
HSKA	KASSALA/Kassala	AS
HSSS	KHARTOUM/Khartoum	RS
HSPN	PORT SUDAN/Port Sudan	RS
SYRIAN ARAB REPUBLIC		
OSAP	ALEPPO/Aleppo Intl	RS
OSLB	LATTAKIA/Bassel Al-Assad Intl	RS
OSDI	DAMASCUS/Damascus Intl	RS
UNITED ARAB EMIRATES		
OMAA	ABU DHABI/Abu Dhabi Intl	RS
OMAD	ABU DHABI/Al Bateen	RNS
OMAL	AL AIN/Al Ain Intl	RS
OMDB	DUBAI/Dubai Intl	RS
OMDW	DUBAI-/Dubai World Central – Al Maktoum Intl	RS
OMFJ	FUJAIRAH/Fujairah Intl	RS
OMRK	RAS AL KHAIMAH/Ras Al Khaimah Intl	RS
OMSJ	SHARJAH/Sharjah Intl	RS
YEMEN		
OYAA	ADEN/Aden Intl	RS
OYHD	HODEIDAH/Hodeidah Intl	RS
OYRN	MUKALLA/Riyan Intl	RS
OYSN	SANA'A/Sana'a Intl	RS
OYTZ	TAIZ/Taiz Intl	RS

MID ANP, VOLUME I

PART III – COMMUNICATIONS, NAVIGATION AND SURVEILLANCE (CNS)

1. INTRODUCTION

1.1 This part of the MID ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of Communications, Navigation and Surveillance (CNS) facilities and services in the MID Region~~(s)~~ and complements the provisions of ICAO SARPs and PANS related to CNS. It contains stable plan elements related to the assignment of responsibilities to States for the provision of CNS facilities and services within the ICAO MID region~~(s)~~ in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300) and mandatory requirements related to the CNS facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan elements related to the assignment of responsibilities to States for the provision of CNS facilities and services and the mandatory requirements based on regional air navigation agreements related to CNS are contained in the MID ANP Volume II, Part III – CNS.

1.3 The MID ANP Volume III contains dynamic/flexible plan elements related to the implementation of air navigation systems and their modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) methodology and associated technology roadmaps described in the Global Air Navigation Plan. The ASBU modules are aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and achieving the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed ASBU modules applicable to the specified ICAO region/sub-region and associated elements/enablers necessary for the monitoring of the status of implementation of these ASBU modules.

1.4 In planning for these elements, economy and efficiency should be taken into account in order to ensure that the requirements for the provision of CNS facilities and services can be kept to a minimum. CNS facilities and services should fulfil multiple functions whenever this is feasible.

Standards and Recommended Practices and Procedures for Air Navigation Services

1.5 The SARPs and PANS and related guidance material applicable to the provision of CNS are contained in:

a) Annex 10 – *Aeronautical Telecommunications*, Volumes I, II, III, IV and V;

b) Annex 2 – Rules of the Air;

c) Annex 3 – Meteorological Service for international air navigation;

d) Annex 6 – Operation of Aircraft, Parts I (Chapter 7), II (Chapter 7) and III (Chapter 5);

e) Annex 11 – Air Traffic Services;

f) Annex 12 – Search and Rescue;

g) Annex 15 – Aeronautical Information Services;

h) Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) (Doc 4444);

i) Regional Supplementary Procedures (Doc 7030);

j) GNSS Manual (Doc 9849);

k) Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols (Doc 9880);

l) ICAO Aeronautical Telecommunication Network (ATN) Manual for the ATN using IPS Standards and Protocols (Doc 9896);

m) *Manual of Testing of Radio Navigation Aids* (Doc 8071);

n) *Manual on the Planning and Engineering of the Aeronautical Fixed Telecommunications Network* (Doc 8259);

o) *Manual on Required Communication Performance (RCP)* (Doc 9869);

p) *Training Manual* (Doc 7192);

q) *Performance-based Navigation Manual* (Doc 9613);

r) *Handbook on Radio Frequency Spectrum Requirements for Civil Aviation* (Doc 9718);

s) *ICAO Manual on the Secondary Surveillance Radar (SSR) Systems* (Doc 9684);

t) *Manual on Airborne Surveillance Applications* (Doc 9994); and

u) *Manual of Air Traffic Services Data Link Applications* (Doc 9694).

2. GENERAL REGIONAL REQUIREMENTS

Communications

Aeronautical Fixed Service (AFS)

2.1 The aeronautical fixed service (AFS) should satisfy the communication requirements of ATS, AIS/AIM, MET and SAR, including specific requirements in terms of system reliability, message integrity and transit times, with respect to printed as well as digital data and speech communications. If need be, it should, following agreement between individual States and aircraft operators, satisfy the requirements for airline operational control.

The Aeronautical Telecommunication Network (ATN)

2.2 The ATN of the Region(s) should have sufficient capacity to meet the minimum requirements for data communications for the services mentioned in paragraph 2.1 above.

Aeronautical Mobile Service (AMS)

2.3 Air-ground communications facilities should meet the agreed communication requirements of the air traffic services, as well as all other types of communications which are acceptable on the AMS to the extent that the latter types of communications can be accommodated.

Air-ground communications for ATS

2.4 Air-ground communications for ATS purposes should be so designed to require the least number of frequency and channel changes for aircraft in flight compatible with the provision of the required service. They should also provide for the minimum amount of coordination between ATS units and provide for optimum economy in the frequency spectrum used for this purpose.

Air-ground data link communications

2.5 Air-ground data link communications should be implemented in such a way that they are regionally and globally harmonised and make efficient use of available communication means and ensure optimum economy in frequency spectrum use and system automation.

Navigation

2.6 Planning of aeronautical radio navigation services should be done on a total system basis, taking full account of the navigation capabilities as well as cost effectiveness. The total system composed of station-referenced navigation aids, satellite-based navigation systems and airborne capabilities should meet the performance based navigation (PBN) requirements for all aircraft using the system and should form an adequate basis for the provision of positioning, guidance and air traffic services.

2.7 Account should be taken of the fact that certain aircraft may be able to meet their navigation needs by means of self-contained or satellite-based aids, thus eliminating the need for the provision of station-referenced aids along the ATS routes used by such aircraft, as well as the need to carry on board excessive redundancies.

Surveillance

2.8 Planning of aeronautical surveillance systems should be made based on a system approach concept, where collaboration and sharing of data sources should be considered in support of an efficient use of the airspace.

Frequency Management

2.9 Frequency assignment planning in the Region(s) should be carried out in accordance with the provisions of Annex 10 and *ICAO Handbook on Radio Frequency spectrum for Civil Aviation* (Doc 9718), supplemented, as necessary, by regional recommendations and technical criteria developed for this purpose.

3. SPECIFIC REGIONAL REQUIREMENTS

3.1 ~~TBD (if necessary).~~ None.

MID ANP, VOLUME I

PART IV - AIR TRAFFIC MANAGEMENT (ATM)

1. INTRODUCTION

1.1 This part of the MID ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of air traffic management (ATM) facilities and services in the MID Region and complements the provisions of the ICAO SARPs and PANS related to ATM. It contains stable plan elements related to the assignment of responsibilities to States for the ATM system requirements to be applied within the ICAO MID Region in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300) and mandatory requirements related to the ATM facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan elements related to the assignment of States' responsibilities for the implementation of the ATM system and the mandatory requirements based on regional air navigation agreements related to ATM are contained in MID ANP Volume II, Part IV - ATM.

1.3 The MID ANP Volume III contains dynamic/flexible plan elements related to the implementation of air navigation systems and their modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) methodology and associated technology roadmaps described in the Global Air Navigation Plan. The ASBU modules are aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and achieving the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed ASBU modules applicable to the specified ICAO region/sub-region and associated elements/enablers necessary for the monitoring of the status of implementation of these ASBU modules.

Standards and Recommended Practices and Procedures for Air Navigation Services

1.4 The SARPs and PANS and related guidance material applicable to the provision of ATM are contained in:

a) Annex 2 — *Rules of the Air*;

b) Annex 6 — *Operation of Aircraft*;

c) Annex 11 — *Air Traffic Services*;

d) *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM) (Doc 4444);

e) *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS) (Doc 8168); and

f) *Regional Supplementary Procedures* (Doc 7030).

2. GENERAL REGIONAL REQUIREMENTS

2.1 The description of the current Flight Information Regions (FIR)/Upper Information Regions (UIR), as approved by the ICAO Council, are contained in **Table ATM I-1** and depicted in the **Charts ATM I-1**.

2.2 States should ensure that the provision of air traffic services (ATS) covers its own territory and those areas over the high seas for which it is responsible for the provision of those services, in accordance with **Charts ATM I-1**.

Regional ATS Routes and organized track structures

2.3 PIRGs are responsible for the optimization of the traffic flows through the continuous improvement of the regional ATS route network and organized track systems and implementation of random routing areas and free route airspace in the Region(s). Where applicable, details of the ATS routes within the Region(s) are contained in Volume II.

ICARD Global Database

2.4 The five-letter name-codes assigned to significant points should be coordinated through the ICAO Regional Office(s) and obtained from the ICAO International Codes and Routes Designators (ICARD) Global Database.

Aircraft Identification - SSR Code Assignments

2.5 The management of Secondary Surveillance Radar (SSR) codes is a key element of ATM in order to ensure continuous and unambiguous aircraft identification. The requirements related to the SSR code assignment system used in the MID Region is contained in Volume II.

Performance-based Navigation (PBN)

2.6 MIDANPIRG is responsible for the development of the MID Region PBN Implementation Plan. States' PBN implementation Plans should be consistent with the Regional PBN Plan.

Flexible Use of Airspace

2.7 States should implement civil/military cooperation and coordination mechanisms to enhance the application of the Flexible Use of Airspace concept, which will contribute to more direct routing with a commensurate saving in fuel and associated emissions. States should arrange for close liaison and coordination between civil ATS units and relevant military operational control and/or air defence units in order to ensure integration of civil and military air traffic or its segregation, if required. Such arrangements would also contribute to increasing airspace capacity and to improving the efficiency and flexibility of aircraft operations.

Reduced Vertical Separation Minimum (RVSM)/Regional Monitoring Agencies

2.8 The Middle East Regional Monitoring Agency (MIDRMA) is the designated Regional Monitoring Agency (RMA) responsible for monitoring the height-keeping performance and approval status of aircraft operating at these levels, in order to ensure that the continued application of RVSM meets the agreed regional safety objectives as set out by MIDANPIRG.

3. SPECIFIC REGIONAL REQUIREMENTS

3.1 None.

Table ATM I-1
FLIGHT INFORMATION REGIONS (FIR)/UPPER INFORMATION REGIONS (UIR) IN THE MID REGION

EXPLANATION OF THE TABLE

Column:

1 Name of the FIR/UIR / Location Indicator according to Doc 7910

2 Description of FIR/UIR lateral limits;

a. Describe separately in the table the limits of the UIRs if they are not similar to the FIRs limits.

3 Remarks — additional information, if necessary.

a. Describe vertical limits if necessary.

N.B. The inconsistencies related to the common FIR Boundaries are not highlighted in the table below:

FIR/UIR Location Indicator	Lateral limits coordinates	Remarks
1	2	3
Amman	**FIR/UIR Amman** 292125N 0345743E On the Gulf of Aqaba 291102N 0360420E 293002N 0363021E 295203N 0364521E 300003N 0373021E 302003N 0374021E 303003N 0380021E 313003N 0370021E 320002N 0390021E TO 320911N 0391206E At Jordan, Saudi Arabia and Iraqi boundaries. Then the point 321349N 0391804E At the Southern corner of the Jordanian-Iraqi boundaries	Source: the State's AIS Publication
Baghdad	**FIR/UIR Baghdad** Along the Iraqi boundaries with Iran, Kuwait, Saudi Arabia, Syria and Turkey	Source: the State's AIS Publication
Bahrain	**FIR/UIR Bahrain** 284400N 0494000E 270500N 0505500E 265500N 0511000E 260400N 0535700E 254900N 0530600E 240300N 0514700E thence along the Saudi Arabia / UAE national borders to the point where the national borders of Oman, Saudi Arabia and UAE meet to 224200N 0551200E, then the Saudi Arabia / Oman territorial boundary to 190000N 0520000E 253000N 0490000E 263330N 0452130E 275000N 0455500E 275000N 0490800E thence along the limit of the Saudi Arabia territorial	MID ANP PfA 00/1 ATS approved 7 March 2005 and Source: the State's AIS Publication (AIP ENR 2.1-1 dated 17 October 2013) PfA (Serial MID Basic ANP 13/03 – ATM/SAR)-

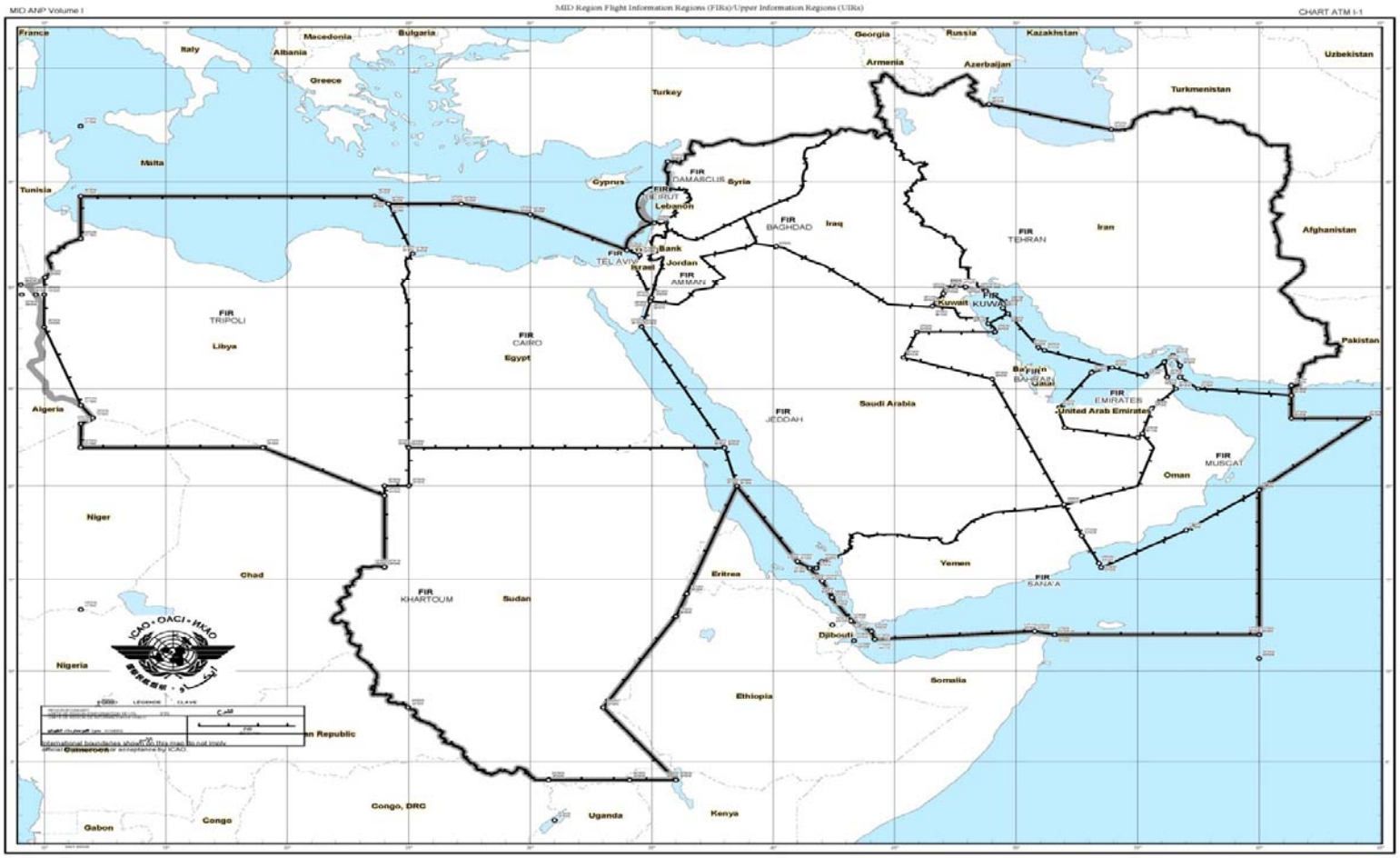
FIR/UIR Location Indicator	Lateral limits coordinates	Remarks
1	2	3
	waters to 281500N 0485200E	realignment of Bahrain and Jeddah FIRs pending approval
Beirut	**FIR/UIR Beirut** The geographical Lebanese/Syrian borders, then along the Lebanese/Palestinian borders, and a semicircular Arc, radius 45 NM centered KAD VOR	Source: the State's AIS Publication
Cairo	**FIR/UIR Cairo** ***Northern border** 340000N 0241000E 340000N 0271000E 333000N 0300000E ***Eastern border** 315000N 0335900E 313600N 0343000E then follow the International border to: 293000N 0345500E 293000N 0350000E 280600N 0343500E 220000N 0380000E ***Southern border** 220000N 0380000E 220000N 0250000E ***Western border** 220000N 0250000E 314000N 0251000E 340000N 0241000E	Source: the State's AIS Publication
Damascus	**FIR/UIR Damascus** From 355500N 0354000E to 355600N 0355500E then along the national border of Syria with Turkey and Iraq to a point 332200N 0384800E, then along the national border of Syria with Jordan to 324100N 0353800E then along the Western Syrian border to 331500N 0353700E then along the Lebanese Syrian border to a point 343800N 0355700E then to a point 343800N 0354300E then northwards along a line maintaining 12 NM from the coastline, to 355500N 0354000E	Source: the State's AIS Publication
Emirates	**FIR/UIR Emirates** 262100N 0560600E 253600N 0561300E 250000N 0563500E 240000N 0553500E 224200N 0551200E to the point where the national borders of Oman, Saudi Arabia and UAE meet, then along the national border between Saudi Arabia and UAE to 240300N 0514700E 254900N 0530600E 260400N 0535700E 253800N 0552000E 262100N 0560600E	Source MID ANP Serial No. EUR 85/02-ATS/88-COM/400-MET/75-SAR/16-AIS/1 dated 9 December 1986 and PfA Serial 00/1 ATS approved 7 march 2005

FIR/UIR Location Indicator	Lateral limits coordinates	Remarks
1	2	3
Jeddah	**FIR/UIR Jeddah** 292124N 0345718E 291131N 0360356E 293001N 0362956E 295201N 0364456E 300002N 0372956E 302002N 0373956E 303002N 0375956E 313002N 0365956E 320002N 0385956E 320915N 0391203E 315653N 0402447E 312223N 0412627E 310642N 0420508E 291155N 0444318E 290340N 0462534E 290604N 0463311E then along the national boundary between Kuwait and Saudi Arabia and then along the limit of Saudi Arabian territorial waters to: 275000N 0490800E 275000N 0455500E 263330N 0452130E 253000N 0490000E 190000N 0520000E clockwise to 184720N 0504700E 183700N 0490700E 181000N 0481100E 172700N 0473600E 170700N 0472800E 165700N 0471100E 165700N 0470000E 171700N 0464500E 171400N 0462200E 171500N 0460600E 172000N 0452400E 172600N 0451300E 172600N 0443900E 172420N 0443400E 172600N 0442800E 172600N 0442158E then follow Saudi Arabia and Republic of Yemen international boundaries in accordance with Jeddah treaty to the coast line boundary: 162415N 0424620E 162415N 0420900E 161724N 0414700E 160000N 0420000E 154700N 0415300E 153955N 0413947E 160000N 0410000E 200000N 0383000E 220000N 0380000E 280600N 0343500E then back to starting point	Source: the State's AIS Publication (AIP ENR 2.1-1 dated 11 March 2010) PfA (Serial MID Basic ANP 13/03 – ATM/SAR) realignment of Bahrain and Jeddah FIRs pending approval
Khartoum	**FIR/UIR Khartoum** 154500N 0240000E 200000N 0240000E 200000N 0250000E 220000N 0250000E 220000N 0380000E 200000N 0383000E 125500N 0360000E 080000N 0330000E 040000N 0360500E 040000N 0301200E Common national boundary: – SUDAN /KINSHASA – SUDAN/CONGO DROF – SUDAN /BRAZZAVILLE – SUDAN/CENTRAL AFRICA – SUDAN/NDJMENA.	Source: the State's AIS Publication

FIR/UIR Location Indicator	Lateral limits coordinates	Remarks
1	2	3
Kuwait	**FIR/UIR Kuwait** 290604N 0463319E 291502N 0464211E 294319N 0470024E 295105N 0470454E 300001N 0470920E 300613N 0472217E 300613N 0474228E 300113N 0475528E 295924N 0480042E 300146N 0480434E 300120N 0480952E 295110N 0482451E 295121N 0484503E 291300N 0494000E 290000N 0492700E 284400N 0494000E 281500N 0485203E then following the Saudi Arabia territorial waters and Kuwait / Saudi Arabia International boundary to the point 290604N 0463319E	Source: Limited MID RAN Jan 1996 the State's AIS Publication
Muscat	**FIR/UIR Muscat** 250000N 0563500E 253600N 0561300E 262100N 0560600E 264100N 0562700E 261000N 0564500E 253500N 0564500E 250000N 0573000E 244000N 0612000E 233000N 0612000E 233000N 0643000E 194800N 0600000E 174000N 0570000E 154000N 0533000E 163800N 0530400E 172200N 0524400E 190000N 0520000E thence along the common national boundary Sultanate of Oman/Kingdom of Saudi Arabia and along the common national boundary Sultanate of Oman/United Arab Emirates to 224200N 0551200E 240000N 0553500E 250000N 0563500E	Source: the State's AIS Publication
Sanaa'	**FIR/UIR Sanaa'** 173000N 0443500E 173500N 0430800E 164100N 0430800E 160800N 0412900E 145106N 0422354E 141542N 0423630E 123600N 0431800E 123142N 0432712E 121036N 0440206E 114500N 0441100E 114730N 0444348E 115900N 0470800E 121100N 0504500E 120718N 0510242E 120000N 0513000E 120000N 0600000E 161400N 0600000E 194800N 0600000E 174000N 0570000E 164618N 0552436E 160718N 0541648E 154000N 0533100E 163324N 0530612E 190000N 0520000E .	Source: the State's AIS Publication MID ANP
Tehran	**FIR/UIR Tehran** 372100N 0535500E 382630N 0485230E	Source: the State's AIS Publication

FIR/UIR Location Indicator	Lateral limits coordinates	Remarks
1	2	3
	thence along the Islamic Republic of Iran / Azerbaijan, Armenia, Turkey and Iraq territorial borders to Persian gulf to 295110N 0484500E 291300N 0494000E 290000N 0492700E 270500N 0505500E 265500N 0511000E 253800N 0552000E 264100N 0562700E 261000N 0564500E 253500N 0564500E 250000N 0573000E 244000N 0612000E, thence along the Islamic Republic of Iran / Pakistan, Afghanistan and Turkmenistan territorial borders to 372100N 0535500E	
Tripoli	**FIR/UIR Tripoli** 342000N 0113000E 342000N 0233500E 340000N 0241000E 314100N 0250800E 200000N 0250000E 200000N 0240000E 193000N 0240000E 220000N 0190000E 220000N 0113000E to Western Border Libya-GSPAJ along Western Border Libya-GSPAJ to 322200N 0113000E 342000N 0113000E	Source: the State's AIS Publication

Chart ATM I-1
FLIGHT INFORMATION REGIONS (FIR)/UPPER INFORMATION REGIONS (UIR) IN THE MID REGION



MID ANP, VOLUME I

PART V – METEOROLOGY (MET)

1. INTRODUCTION

1.1 This part of the MID ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of aeronautical meteorology (MET) facilities and services in the MID Region~~(s)~~ and complements the provisions of the ICAO SARPs and PANS related to MET. It contains stable plan elements related to the assignment of responsibilities to States for the provision of MET facilities and services within the ICAO MID Region~~(s)~~ in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300) and mandatory requirements related to the MET facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan element related to the assignment of responsibilities to States for the provision of MET facilities and services and the mandatory requirements based on regional air navigation agreements related to MET are contained in the MID ANP Volume II, Part V - MET.

1.3 The MID ANP Volume III contains dynamic/flexible plan elements related to the implementation of air navigation systems and their modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) methodology and associated technology roadmaps described in the Global Air Navigation Plan. The ASBU modules are aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and achieving the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed ASBU modules applicable to the specified ICAO region/sub-region and associated elements/enablers necessary for the monitoring of the status of implementation of these ASBU modules.

Standards and Recommended Practices and Procedures for Air Navigation Services

1.4 The SARPs and PANS and related guidance material applicable to the provision of MET are contained in:

a) Annex 3 — *Meteorological Service for International Air Navigation*;

b) *Regional Supplementary Procedures* (Doc 7030)*;*

c) *Handbook on the IAVW* (Doc 9766);

d) *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds* (Doc 9691); and

e) *Manual of Aeronautical Meteorological Practice* (Doc 8896).

2. GENERAL REGIONAL REQUIREMENTS

World area forecast system (WAFS) and meteorological offices

2.1 In the MID Region~~(s)~~, WAFC London has been designated as the centre for the operation of the aeronautical fixed service satellite distribution system / WAFS Internet File Service (SADIS and/or WIFS) and the Internet-based Secure SADIS FTP service. The status of implementation of SADIS/WIFS by States in the MID Region~~(s)~~ is detailed in Volume III.

2.2 In the MID Region~~(s)~~, WAFS products in digital form should be disseminated by WAFC London using the SADIS 2G satellite broadcast and the Secure SADIS FTP service and/or WIFS.

Volcanic Ash

2.3 Volcanic ash advisory centres (VAACs) Toulouse has been designated to prepare volcanic ash advisory information for the MID Region~~(s)~~, as indicated below. The status of implementation of volcanic ash advisory information is detailed in Volume III.

- VACC Toulouse

2.4 Selected State volcano observatories have been designated for notification of significant pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash in the atmosphere for the MID Region~~(s)~~ to their corresponding ACC/FIC, MWO and VAAC, as indicated at **Table MET I-1**. The status of implementation of volcano observatory notice for aviation (VONA) is detailed in Volume III.

Tropical Cyclone

2.5 Tropical cyclone advisory centre (TCAC) New Delhi has been designated to prepare tropical cyclone advisory information for the MID Region~~(s)~~, as indicated below. The status of implementation of tropical cyclone advisory information is detailed in Volume III. ~~***[if applicable]***~~

- TCAC New Delhi

3. SPECIFIC REGIONAL REQUIREMENTS

3.1 ~~***TBD (if necessary)***~~ None.

TABLE MET I-1 - STATE VOLCANO OBSERVATORIES
Explanation of the Table

Column

1 Name of the State responsible for the provision of a volcano observatory

2 Name of the volcano observatory

State	Volcano observatory
1	2
~~**Iceland**~~	~~Icelandic Meteorological Office~~
…	…

Not Applicable to the MID Region

MID ANP, VOLUME I

PART VI - SEARCH AND RESCUE (SAR)

1. INTRODUCTION

1.1 This part of the MID ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of search and rescue (SAR) facilities and services in the MID Region and complements the provisions of ICAO SARPs and PANS related to SAR. It contains stable plan elements related to the assignment of responsibilities to States for the provision of SAR facilities and services within the ICAO MID Region in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300) and mandatory requirements related to the SAR facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan elements related to the assignment of States' responsibilities for the provision of SAR facilities and services and the mandatory requirements based on regional air navigation agreements related to SAR are contained in the MID ANP, Volume II, Part VI – SAR.

Standards and Recommended Practices and Procedures for Air Navigation Services

1.3 The SARPs and PANS and related guidance material applicable to the provision of SAR are contained in:

a) Annex 12 – *Search and Rescue*;

b) Annex 6 — *Operation of Aircraft*;

c) *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM) (Doc 4444);

d) *Regional Supplementary Procedures* (Doc 7030); and

e) *International Aeronautical and Maritime Search and Rescue Manual* (Doc 9731-AN/958).

2. GENERAL REGIONAL REQUIREMENTS

2.1 Each Contracting State should ensure that the provision of search and rescue services covers its own territory and those areas over the high seas for which it is responsible for the provision of those services. The description of the current Search and Rescue Regions (SRRs), as approved by the ICAO Council, are contained in **Table SAR I-1** and depicted in the **Chart SAR I-1**. The list of Rescue Coordination Centres (RCCs) and Rescue Sub-centres (RSCs) in the Region(s) are detailed in Volume II.

2.2 The three volumes of the *IAMSAR Manual* (Doc 9731) provide guidance for a common aviation and maritime approach to organizing and providing SAR services. States are invited to use the *IAMSAR Manual* to ensure the availability of effective aeronautical SAR services and to cooperate with neighbouring States.

2.3 States which rely on military authorities and/or other sources for the provision of SAR facilities should ensure that adequate arrangements are in place for coordination of SAR activities between all entities involved.

2.4 Arrangements should be made to permit a call on any national services likely to be able to render assistance on an ad-hoc basis, in those cases when the scope of SAR operations requires such assistance.

3. SPECIFIC REGIONAL REQUIREMENTS

3.1 None.

TABLE SAR I-1 – SEARCH AND RESCUE REGIONS (SRR) OF THE MID REGION

EXPLANATION OF THE TABLE

Column:

1. Name of the SRR.
2. Description of SRR lateral limits.
3. Additional information, if necessary.

N.B. The inconsistencies related to the common FIR Boundaries are not highlighted in the table below:

SSR	Lateral limits coordinates	Remarks
1	**2**	**3**
Amman	**FIR/UIR Amman** 292125N 0345743E On the Gulf of Aqaba 291102N 0360420E 293002N 0363021E 295203N 0364521E 300003N 0373021E 302003N 0374021E 303003N 0380021E 313003N 0370021E 320002N 0390021E TO 320911N 0391206E At Jordan, Saudi Arabia and Iraqi boundaries. Then the point 321349N 0391804E At the Southern corner of the Jordanian-Iraqi boundaries	Source: the State's AIS Publication
Baghdad	**FIR/UIR Baghdad** Along the Iraqi boundaries with Iran, Kuwait, Saudi Arabia, Syria and Turkey	Source: the State's AIS Publication
Bahrain	**FIR/UIR Bahrain** 284400N 0494000E 270500N 0505500E 265500N 0511000E 260400N 0535700E 254900N 0530600E 240300N 0514700E thence along the Saudi Arabia / UAE national borders to the point where the national borders of Oman, Saudi Arabia and UAE meet to 224200N 0551200E, then the Saudi Arabia / Oman territorial boundary to 190000N 0520000E 253000N 0490000E 263330N 0452130E 275000N 0455500E 275000N 0490800E thence along the limit of the Saudi Arabia territorial waters to 281500N 0485200E	MID ANP PfA 00/1 ATS approved 7 March 2005 and Source: the State's AIS Publication (AIP ENR 2.1-1 dated 17 October 2013) PfA (Serial MID Basic ANP 13/03 – ATM/SAR)- realignment of Bahrain and Jeddah FIRs pending approval
Beirut	**FIR/UIR Beirut** The geographical Lebanese/Syrian borders, then along the Lebanese/Palestinian borders, and a	Source: the State's AIS Publication

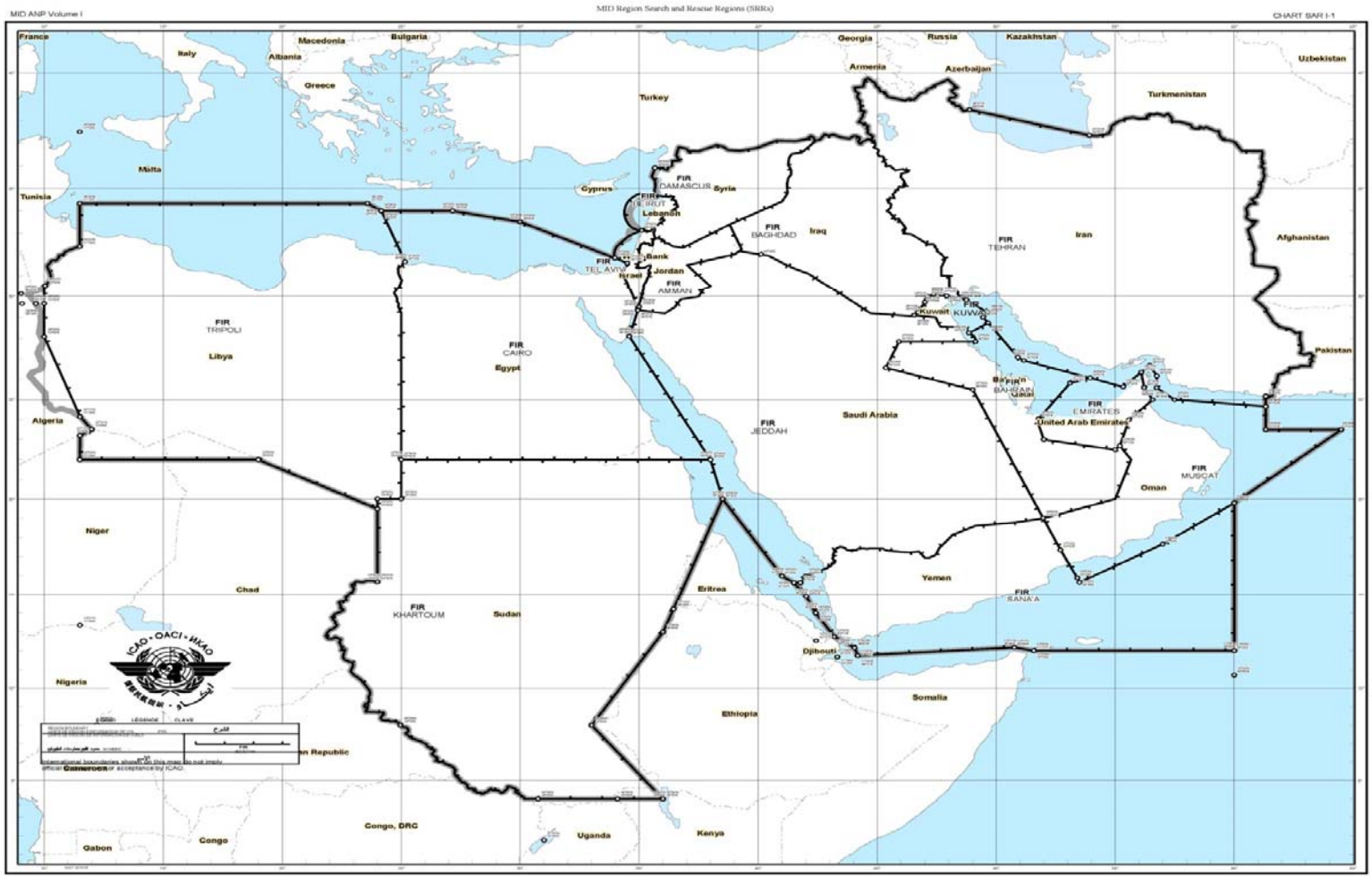
SSR	Lateral limits coordinates	Remarks
1	2	3
	semicircular Arc, radius 45 NM centered KAD VOR	
Cairo	**FIR/UIR Cairo** ***Northern border** 340000N 0241000E 340000N 0271000E 333000N 0300000E ***Eastern border** 315000N 0335900E 313600N 0343000E then follow the International border to: 293000N 0345500E 293000N 0350000E 280600N 0343500E 220000N 0380000E ***Southern border** 220000N 0380000E 220000N 0250000E ***Western border** 220000N 0250000E 314000N 0251000E 340000N 0241000E	Source: the State's AIS Publication
Damascus	**FIR/UIR Damascus** From 355500N 0354000E to 355600N 0355500E then along the national border of Syria with Turkey and Iraq to a point 332200N 0384800E, then along the national border of Syria with Jordan to 324100N 0353800E then along the Western Syrian border to 331500N 0353700E then along the Lebanese Syrian border to a point 343800N 0355700E then to a point 343800N 0354300E then northwards along a line maintaining 12 NM from the coastline, to 355500N 0354000E	Source: the State's AIS Publication
Emirates	**FIR/UIR Emirates** 262100N 0560600E 253600N 0561300E 250000N 0563500E 240000N 0553500E 224200N 0551200E to the point where the national borders of Oman, Saudi Arabia and UAE meet, then along the national border between Saudi Arabia and UAE to 240300N 0514700E 254900N 0530600E 260400N 0535700E 253800N 0552000E 262100N 0560600E	Source MID ANP Serial No. EUR 85/02-ATS/88-COM/400-MET/75-SAR/16-AIS/1 dated 9 December 1986 and PfA Serial 00/1 ATS approved 7 march 2005
Jeddah	**FIR/UIR Jeddah** 292124N 0345718E 291131N 0360356E 293001N 0362956E 295201N 0364456E 300002N 0372956E 302002N 0373956E 303002N 0375956E 313002N 0365956E 320002N 0385956E 320915N 0391203E	Source: the State's AIS Publication (AIP ENR 2.1-1 dated 11 March 2010)

SSR	Lateral limits coordinates	Remarks
1	2	3
	315653N 0402447E 312223N 0412627E 310642N 0420508E 291155N 0444318E 290340N 0462534E 290604N 0463311E then along the national boundary between Kuwait and Saudi Arabia and then along the limit of Saudi Arabian territorial waters to: 275000N 0490800E 275000N 0455500E 263330N 0452130E 253000N 0490000E 190000N 0520000E clockwise to 184720N 0504700E 183700N 0490700E 181000N 0481100E 172700N 0473600E 170700N 0472800E 165700N 0471100E 165700N 0470000E 171700N 0464500E 171400N 0462200E 171500N 0460600E 172000N 0452400E 172600N 0451300E 172600N 0443900E 172420N 0443400E 172600N 0442800E 172600N 0442158E then follow Saudi Arabia and Republic of Yemen international boundaries in accordance with Jeddah treaty to the coast line boundary: 162415N 0424620E 162415N 0420900E 161724N 0414700E 160000N 0420000E 154700N 0415300E 153955N 0413947E 160000N 0410000E 200000N 0383000E 220000N 0380000E 280600N 0343500E then back to starting point	PfA (Serial MID Basic ANP 13/03 – ATM/SAR) realignment of Bahrain and Jeddah FIRs pending approval
Khartoum	**FIR/UIR Khartoum** 154500N 0240000E 200000N 0240000E 200000N 0250000E 220000N 0250000E 220000N 0380000E 200000N 0383000E 125500N 0360000E 080000N 0330000E 040000N 0360500E 040000N 0301200E Common national boundary: – SUDAN /KINSHASA – SUDAN/CONGO DROF – SUDAN /BRAZZAVILLE – SUDAN/CENTRAL AFRICA – SUDAN/NDJMENA.	Source: the State's AIS Publication
Kuwait	**FIR/UIR Kuwait** 290604N 0463319E 291502N 0464211E 294319N 0470024E 295105N 0470454E 300001N 0470920E 300613N 0472217E 300613N 0474228E 300113N 0475528E 295924N 0480042E 300146N 0480434E 300120N 0480952E 295110N 0482451E 295121N 0484503E 291300N 0494000E	Source: Limited MID RAN Jan 1996 the State's AIS Publication

SSR	Lateral limits coordinates	Remarks
1	2	3
	290000N 0492700E 284400N 0494000E 281500N 0485203E then following the Saudi Arabia territorial waters and Kuwait / Saudi Arabia International boundary to the point 290604N 0463319E	
Muscat	**FIR/UIR Muscat** 250000N 0563500E 253600N 0561300E 262100N 0560600E 264100N 0562700E 261000N 0564500E 253500N 0564500E 250000N 0573000E 244000N 0612000E 233000N 0612000E 233000N 0643000E 194800N 0600000E 174000N 0570000E 154000N 0533000E 163800N 0530400E 172200N 0524400E 190000N 0520000E thence along the common national boundary Sultanate of Oman/Kingdom of Saudi Arabia and along the common national boundary Sultanate of Oman/United Arab Emirates to 224200N 0551200E 240000N 0553500E 250000N 0563500E	Source: the State's AIS Publication
Sanaa'	**FIR/UIR Sanaa'** 173000N 0443500E 173500N 0430800E 164100N 0430800E 160800N 0412900E 145106N 0422354E 141542N 0423630E 123600N 0431800E 123142N 0432712E 121036N 0440206E 114500N 0441100E 114730N 0444348E 115900N 0470800E 121100N 0504500E 120718N 0510242E 120000N 0513000E 120000N 0600000E 161400N 0600000E 194800N 0600000E 174000N 0570000E 164618N 0552436E 160718N 0541648E 154000N 0533100E 163324N 0530612E 190000N 0520000E .	Source: the State's AIS Publication MID ANP
Tehran	**FIR/UIR Tehran** 372100N 0535500E 382630N 0485230E thence along the Islamic Republic of Iran / Azerbaijan, Armenia, Turkey and Iraq territorial borders to Persian gulf to 295110N 0484500E 291300N 0494000E 290000N 0492700E 270500N 0505500E 265500N 0511000E 253800N 0552000E 264100N 0562700E 261000N 0564500E 253500N 0564500E 250000N 0573000E 244000N 0612000E, thence along the Islamic Republic of Iran / Pakistan, Afghanistan and	Source: the State's AIS Publication

SSR	Lateral limits coordinates	Remarks
1	2	3
	Turkmenistan territorial borders to 372100N 0535500E	
Tripoli	**FIR/UIR Tripoli** 342000N 0113000E 342000N 0233500E 340000N 0241000E 314100N 0250800E 200000N 0250000E 200000N 0240000E 193000N 0240000E 220000N 0190000E 220000N 0113000E to Western Border Libya-GSPAJ along Western Border Libya-GSPAJ to 322200N 0113000E 342000N 0113000E	Source: the State's AIS Publication

Chart SAR I-1 – SEARCH AND RESCUE REGIONS (SRR) OF THE MID REGION



MID ANP, VOLUME I

PART VII - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

1. INTRODUCTION

1.1 This part of the MID ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of aeronautical information services (AIS) and aeronautical information management (AIM) facilities and services in the MID Region~~(s)~~ and complements the provisions of the ICAO SARPs and PANS related to AIS/AIM. It contains stable plan elements related to the assignment of responsibilities to States for the provision of AIS/AIM facilities and services within the ICAO MID Region~~(s)~~ in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to the AIS/AIM facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan elements related to the assignment of responsibilities to States for the provision of AIS/AIM facilities and services and the mandatory requirements based on regional air navigation agreements related to the AIS/AIM facilities and services are contained in the MID ANP Volume II, Part VII – AIM.

1.3 The MID ANP Volume III contains dynamic/flexible plan elements related to the implementation of air navigation systems and their modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) methodology and associated technology roadmaps described in the Global Air Navigation Plan. The ASBU modules are aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and achieving the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed ASBU modules applicable to the specified ICAO region/sub-region and associated elements/enablers necessary for the monitoring of the status of implementation of these ASBU modules, which include service improvement through digital aeronautical information management and interoperability and data through globally interoperable system wide information management (SWIM).

Standards and Recommended Practices and Procedures for Air Navigation Services

1.4 The SARPs and PANS and related guidance material applicable to the provision of AIS, and ultimately AIM, are contained in:

a) Annex 4 — *Aeronautical Charts*;

b) Annex 15 — *Aeronautical Information Services*;

c) *Regional Supplementary Procedures* (Doc 7030);

d) *Aeronautical Information Services Provided by States* (Doc 7383);

e) *Location Indicators* (Doc 7910);

f) *Aeronautical Information Services Manual* (Doc 8126);

g) *Procedures for Air Navigation Services – Aircraft Operations – Construction of Visual and Instrument Flight Procedures* (PANS-OPS, Volume I and Volume II) (Doc 8168);

h) *ICAO Abbreviations and Codes* (PANS-ABC) (Doc 8168);

i) *Aeronautical Charts Manual* (Doc 8697);

j) *Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services* (Doc 9377);

k) *World Geodetic System (1984) Manual* (Doc 9674);

l) *Guidelines on the Use of the Public Internet for Aeronautical Applications* (Doc 9855);

m) *Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information* (Doc 9881);

n) *Flight Procedure Design Quality Assurance System*, Volume I (Doc 9906);

o) "*AIM QMS Manual*" (Doc 9839) (Draft); and

p) "*Training Manual for AIM*" (Doc 9991) (Draft).

2. GENERAL REGIONAL REQUIREMENTS

2.1 States should ensure that the provision of aeronautical data and aeronautical information covers its own territory and those areas over the high seas for which it is responsible for the provision of air traffic services, in accordance with **Charts ATM I-1 and ATM I-2**.

2.2 States are responsible for the aeronautical information/data published by its aeronautical information service or by another State or a non-governmental agency on its behalf.

2.3 Aeronautical information published for and on behalf of a State should clearly indicate that it is published under the authority of that State.

2.4 The responsibility for the provision of AIS/AIM facilities and services in the MID Region~~(s)~~ is reflected in the Volume II.

3. SPECIFIC REGIONAL REQUIREMENTS

~~3.1 TBD (if necessary)~~ None.

APPENDIX B

MID AIR NAVIGATION PLAN

VOLUME II

MID AIR NAVIGATION PLAN

VOLUME II

TABLE OF CONTENTS

MID ANP, VOLUME II
PART 0 – INTRODUCTION

1. GENERAL

1.1 The background to the publication of ANPs in three volumes is explained in the Introduction in Volume I. The procedure for amendment of Volume II is also described in Volume I.

1.2 Volume II contains dynamic plan elements related to:

a) the assignment of responsibilities to States for the provision of aerodrome and air navigation facilities and services; and

b) the mandatory requirements related to aerodrome and air navigation facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.3 Volume II does not list all facilities in the region(s) but only those required for international civil aviation operations in accordance with regional air navigation agreements. A regional air navigation agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified. Documents from the Integrated Aeronautical Information Package and other publications should be consulted for information on additional facilities and for operational information in general. Detailed guidance material or concepts, complementary to the material in Volumes I, II and III are contained in documents that are referenced as MID Documents.

2. MANAGEMENT OF REGIONAL AIR NAVIGATION PLANS

2.1 The elements in Volume II are reviewed by the MIDANPIRG in accordance with its schedule of meetings, in consultation with provider and user States, and with the assistance of the ICAO MID Regional Office~~(s)~~.

2.2 The information on States' facilities and services included in Volume II, should be updated following the process of regional air navigation agreements.

2.3 The development and maintenance of region-specific documents that provide detailed guidance material or concepts that are complementary to the material in Volumes I, II and III is the responsibility of the MIDANPIRG.

MID ANP, VOLUME II

PART I – GENERAL PLANNING ASPECTS (GEN)

1. INTRODUCTION

1.1. The material in this part of Volume II of ANP is applicable to one or more parts of the ANP. It should be taken into consideration in the overall planning process for the MID Region~~(s)~~.

2. GENERAL REGIONAL REQUIREMENTS

2.1. To facilitate air navigation systems planning and implementation, homogenous ATM areas and/or major traffic flows/routing areas have been defined for the Region~~(s)~~. While these areas of routing do not encompass all movements in the Region(s), they include the major routes. This includes the domestic flights in that particular area of routing.

Homogeneous ATM area

2.2. A homogeneous ATM area is an airspace with a common ATM interest, based on similar characteristics of traffic density, complexity, air navigation system infrastructure requirements or other specified considerations. In such an ATM area a common detailed plan will foster the implementation of interoperable ATM systems. Homogeneous ATM areas may extend over States, specific portions of States, or groupings of States. They may also extend over large oceanic and continental areas. They are considered areas of shared interest and requirements.

2.3. The method of identifying homogeneous ATM areas involves consideration of the varying degrees of complexity and diversity of the worldwide air navigation infrastructure. Based on these considerations, planning could best be achieved at the global level if it was organized based on ATM areas of common requirements and interest, taking into account traffic density and the level of sophistication required.

Major traffic flows/routing areas

2.4. A major traffic flow refers to a concentration of significant volumes of air traffic on the same or proximate flight trajectories. Major traffic flows may cross several homogeneous ATM areas with different characteristics.

2.5. A routing area encompasses one or more major traffic flows, defined for the purpose of developing a detailed plan for the implementation of ATM systems and procedures. A routing area may cross several homogeneous ATM areas with different characteristics. A routing area specifies common interests and requirements of underlying homogeneous areas, for which a detailed plan for the implementation of ATM systems and procedures either for airspace or aircraft will be specified.

2.6. The homogeneous ATM areas and major traffic flows/routing areas identified are given in **Table GEN II-1**.

TABLE GEN II-1 - HOMOGENEOUS ATM AREAS AND/OR MAJOR TRAFFIC FLOWS IDENTIFIED IN THE MID REGION~~(S)~~

EXPLANATION OF TABLE

Column		
1	Area of routing (AR)	Sequential number of area of routing
2	Homogeneous Areas and/or Traffic flows/ routing areas	Brief description and/or name
3	FIRs involved	List of FIRs concerned
4	Type of area covered	Brief description of type of area, examples: Oceanic or Continental High or low density Oceanic en-route or Continental en-route
5	Remarks	Homogeneous ATM Area and/or Major Traffic Flow and Region(s) concerned

Area of routing (AR)	Homogeneous Areas and/or Traffic flows/ routing areas	FIRs involved	Type of area covered	Remarks
1	2	3	4	5
AR1	Asia and Europe, Asia and the Middle East, Europe and the Middle East, via the northern Arabian Peninsula and Eastern Mediterranean	Amman, Bahrain, Beirut, Damascus, Emirates, Jeddah, Kuwait, Muscat,	Continental high density	Mainly intraregional and MID to/from ASIA and EUR. Some overflying EUR/ASIA traffic
AR2	Egypt and the southern Arabian Peninsula to/from Europe, Africa ,Asia and North Africa	Cairo, Bahrain, Emirates, Jeddah, Muscat, Sana'a	Remote continental and oceanic low density (but seasonally high density)	Major traffic flow mainly landing and departing the MID region. Some EUR/AFI traffic and North Africa
AR3	Asia and Europe, Asia and the Middle East, Europe and the Middle East, north of the Gulf	Teheran, ,Emirates	Continental high density	Major traffic flow ASIA/EUR
AR4	Gulf, Asia (Indian subcontinent) to/from North of Europe	Bahrain, Baghdad, Kuwait, Muscat, Emirates	Continental high density	MID to/from Asia and EUR
AR5	Gulf Area to/from Eastern, Central and West Africa	Bahrain, Muscat, Jeddah, Emirates	Continental low density (Seasonal high density)	Traffic flow Intraregional. Seasonal pilgrim flights to/from, East, Central, and West AFI

MID ANP, VOLUME II

PART II – AERODROMES / AERODROME OPERATIONS (AOP)

1. INTRODUCTION

1.1 This part of the MID ANP, Volume II, complements the provisions in ICAO SARPs and PANS related to aerodrome design and operations (AOP). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of AOP facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to AOP facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified.

2. GENERAL REGIONAL REQUIREMENTS

2.1 **Table AOP II-1** contains the list of facilities and services to be provided by the State concerned at each aerodrome that is listed in **Table AOP I-1** in Volume I. Table AOP II-1 shows the operational requirements at each aerodrome to be considered in planning the facilities and services for safe and efficient aircraft operations.

Visual aids for low visibility aerodrome operations

2.2 At aerodromes where there is a requirement to conduct low visibility operations, the appropriate visual and non-visual aids should be provided.

Non-precision approach aids

2.3 Where required by the topographic and/or environmental situation of an aerodrome, improved track guidance during departure and/or approach by specific non-visual and/or visual aids should be provided even if such aids would not normally be required in accordance with the SARPs.

Reduced runway declared distances for take-off

Note. — In the following operational requirements the term "intersection" is used to cover both intersection and junction concepts.

2.4 The reduced runway declared distances for take-off, as for those used for full runway declared distances, should consist of take-off run available (TORA), take-off distance available (TODA) and accelerate-stop distance available (ASDA).

2.5 The datum-line from which the reduced runway declared distances for take-off should be determined is defined by the intersection of the downwind edge of the specific taxiway with the runway edge. The loss, if any, of runway length due to alignment of the aircraft prior to take-off should be taken into account by the operators for the calculation of the aircraft's take-off weight.

2.6 Intersections used as intermediate take-off positions should be identified by the "taxiway designator" to which the datum-line of the associated reduced runway declared distance for take-off refers.

2.7 At each international aerodrome, specific minima visibility for take-off should be established, regulating the use of intersection take-off positions. These minima should permit the appropriate ATC unit to maintain a permanent surveillance of the ground movement operations, and the flight crews to constantly secure their position on the manoeuvring area, so as to exclude any potential risk of confusion as

to the identification of the aircraft and intersections used for take-off. The minima should be consistent with the surface movement guidance and control system (SMGCS) provided at the aerodrome concerned.

2.8 The provision of marking and lighting aids together with signs should ensure the safe control and guidance of aircraft towards and at take-off intersections appropriate to the minima visibility criteria retained. At the runway holding position of the associated intersection take-off position, such signs should indicate the runway heading and the remaining TORA in metres.

2.9 At aerodromes regularly used by international commercial air transport, take-offs from runway/taxiway intersections may be justified for the following reasons:

a) runway capacity improvement;
b) taxi routes distances reduction;
c) noise alleviation; and
d) air pollution reduction.

2.10 The appropriate authorities should, upon prior consultation with aircraft operators, agree on the selection of suitable intermediate intersection take-off positions along the runway(s). Accordingly, authorities should determine the reduced runway declared distances for take-off associated with each selected intersection take-off position and establish the specific ATC rules and operational procedures/limitations. Such provisions should be published in the State aeronautical information publications (AIP).

Aerodrome capacity management

2.11 As an integral part of the air navigation system, the aerodrome should provide the needed ground infrastructure including, *inter alia*, lighting; taxiways; runway, including exits; aprons and precise surface guidance to improve safety and to maximize aerodrome capacity in all weather conditions. An efficient aerodrome capacity planning and management should include:

a) reduction of runway occupancy time;
b) the capability to safely manoeuvre in all weather conditions whilst maintaining capacity;
c) precise surface guidance to and from a runway required in all conditions; and
d) availability of information on the position (to an appropriate level of accuracy) and intent of all vehicles and aircraft operating on the movement area for the appropriate ATM community members.

2.12 States should ensure that adequate consultation and, where appropriate, cooperation between airport authorities and users/other involved parties are implemented at all international aerodromes to satisfy the provisions of aerodrome capacity assessment and requirement.

2.13 When international aerodromes are reaching designed operational capacity, a better and more efficient utilization of existing runways, taxiways and aprons is required. Runway selection procedures and standard taxi routes at aerodromes should ensure an optimum flow of air traffic with a minimum of delay and a maximum use of available capacity. They should also, if possible, take account of the need to keep taxiing times for arriving and departing aircraft as well as apron occupancy time to a minimum. The airport collaborative decision making (A-CDM) concept should be implemented to improve airport capacity as early as possible.

Aerodrome capacity assessment and requirement

2.14 The declared capacity/demand condition at aerodromes should be periodically reviewed in terms of a qualitative analysis for each system component and, when applicable, the result of the qualitative assessment upon mutual agreement be used for information.

2.15 The future capacity/demand, based on a forecast for the next five years, should be agreed upon after close cooperation between aerodrome authorities and affected users.

2.16 Operators should consult with aerodrome authorities when future plans indicate a significant increased requirement for capacity resulting in one of the elements reaching a limiting condition.

2.17 Aerodrome capacity should be assessed by aerodrome authorities in consultation with the parties involved for each component (terminal/apron/aircraft operations) using agreed methods and criteria for level of delays.

2.18 Where restrictions in aerodrome capacity are identified, a full range of options for their reduction or removal should be evaluated by the aerodrome authority, in close cooperation with the operators and other involved parties. Such options should include technical/operational/procedural and environmental improvements and facility expansion.

2.19 At many aerodromes, airspace capacity has influence on the aerodrome capacity. If the declared capacity of a specified airspace has influence on aerodrome operations, this should be indicated and action undertaken to reach a capacity in this airspace corresponding to the aerodrome capacity.

2.20 The possibility of overcoming capacity limitations should also take the use of other aerodromes in the vicinity into consideration.

Closure of regular aerodromes

2.21 When a regular aerodrome is to be closed, States should ensure that sufficient alternate aerodromes remain open to provide for the safety and efficiency of aircraft approaching the regular aerodrome that may be required to divert to an alternate.

Scheduling aerodrome maintenance

2.22 States, when planning major aerodrome maintenance work that would affect the regularity of international aircraft operations, should consider the need to notify aircraft operators sufficiently in advance prior to undertaking the scheduled work.

3. SPECIFIC REGIONAL REQUIREMENTS

~~3.1 TBD (if required).~~ None.

Table AOP II-1 – REQUIREMENTS AND CAPACITY ASSESSMENT

EXPLANATION OF THE TABLE

Note: Columns 3 to 5 for physical characteristics relate to runways and taxiways. The physical characteristics of taxiways and aprons should be compatible with the aerodrome reference code (Column 3) and appropriate for the runways with which they are related.

Column

1 Name of the city and aerodrome, preceded by the location indicator.

Note 1— 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 a city.

Designation of the aerodrome as:
RS — international scheduled air transport, regular use;
RNS — international non-scheduled air transport, regular use;
AS — international scheduled air transport, alternate use; and
ANS — international non-scheduled air transport, alternate use.

2 Required rescue and firefighting service (RFF). The required level of protection expressed by means of an aerodrome RFF category number, in accordance with Annex 14, Volume I, 9.2.

3 Aerodrome reference code (RC). The aerodrome reference code for aerodrome characteristics expressed in accordance with Annex 14, Volume I, chapter 1. The code letter or number within an element selected for design purposes is related to the critical aeroplane characteristics for which the facilities are provided.

4 Runway Designation numbers

5 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume I, Chapter 1, are:
NINST — non-instrument runway;
NPA — non-precision approach runway;
PA1 — precision approach runway, Category I;
PA2 — precision approach runway, Category II;
PA3 — precision approach runway, Category III.

6 Remarks. Additional information including critical design aircraft selected for determining RC, critical aircraft selected for determining the RFF category and critical aircraft for pavement strength. Only one critical aircraft type is shown if it is used to determine all the above three elements: otherwise different critical aircraft types need to be shown for different elements.

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
BAHRAIN					
OBBI BAHRAIN/Bahrain Intl RS	10	4E	1f2 R 30 L 12 L 30 R	NPA NPA PA 2 PA 2	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
EGYPT					
HEAX ALEXANDRIA/Alexandria Intl	7	4C	04	NPA	
			22	NPA	
RS			18	NPA	
			36	NPA	
HEBA ALEXANDRIA / Borg El-Arab Intl	8	4E	14	PA1	
			32	PA	
RS					
HESN ASWAN/Aswan Intl	9	4E	17	NPA	
			35	PA1	
RS					
HEAT ASYUT/Asyut Intl	7	4C	13	PA2	
			31	PA	
RS					
HEAZ CAIRO/Almaza Intl	4	3C	18	PA1	
			36	PA	
ANS					
			05	NINST	
			23	NINST	
HECA CAIRO/Cairo Intl	9	4E	05L	PA2	
RS			23R	PA2	
		4F	05C	PA2	
		4E	23C	PA2	
			05R	PA2	
			23L	PA2	
		4D			
			16	NINST	
			34	NINST	
HEAR EL-ARISH/El-Arish Intl	7	4C	16	NPA	
			34	NPA	
AS					
HEGN HURGADA/Hurghada Intl	9	4E	16	NPA	
			34	PA2	
RS					
HELX LUXOR/Luxor Intl	9	4E	02	NPA	
RS			20	PA1	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
HEMA MARSA ALAM/Marsa Alam Intl RNS	7	4C	15 33	NPA NPA	
HEPS PORT-SAID/ Port-Said Intl AS	6	4C	10 28	NPA NPA	
HEOW SHARK EL OWEINAT/ Shark El Oweinat Intl AS	5	4C	01 19	NPA NINST	
HESH SHARM EL-SHEIKH/ Sharm El Sheikh Intl RS	9	4E	04L 22R 04R 22L	PA1 NPA NPA NPA	
HESC ST. CATHERINE/St. Catherine Intl AS	7	3C	17 35	NPA NINST	
HETB TABA/Taba Intl AS	7	4E	04 22	PA2 NINST	
IRAN, ISLAMIC REPUBLIC OF					
OIKB BANDAR ABBAS/Bandar Abbas Intl RS	8	4D	03R 21L 03L 21R	NPA PA1 NINST NINST	
OIFM ESFAHAN/Shahid Beheshti Intl RS	9	4E	08L 26R 08R 26L	NPA PA1 NPA NPA	
OIMM MASHHAD/Shahid Hashemi Nejad Intl RS	9	4D	13L 31R 13R 31L	NPA PA1 NPA NPA	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
OISS SHIRAZ/Shiraz Intl RS	9	4D	11R 29L	NINST PA1	
			11L	NINST	
			29R	NPA	
OITT TABRIZ/Tabriz Intl RNS	9	4D	12L 30R	NPA PA1	
			12R	NINST	
			30L	NINST	
OIIE TEHRAN/Emam Khomaini Intl RS	9	4E	11L	NPA	
			29R	PA2	
OIII TEHRAN/Mehrabad Intl RS	9	4E	11R 29L	NPA PA1	
			11L	NPA	
			29R	NPA	
OIZH ZAHEDAN/Zahedan Intl RS	8	4D	17 35	NINST PA1	
IRAQ					
ORBI BAGHDAD/Baghdad Intl RS	8	4E	15R 33L	PAI PA2 NINST PA1	
			15L	PA1 NINST	
			33R	PA1/ NINST	
ORMM BASRAH/Basrah Intl RS	8	4E	14 32	NINST NINST PA2	
ORER ERBIL/Erbil Intl RS	7	4C	15	PA1	
			33	NINST	
ORSU SULYMANIYAH/Sulaymaniyah Intl RS	9	4E	31 13	PA1 PA1	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
ORNI Al Najaf/Al Najaf Intl RNS	8	4D	28 10	NP1	
JORDAN					
OJAM AMMAN/Marka Intl ANS	8	4C	06 24	NPA PA1	
OJAI AMMAN/Queen Alia Intl RS	9	4E	08R 26L 08L 26R	NPA PA2 PA 2 PA 2	
OJAQ AQABA/ King Hussein Intl RS	9	4E	01 19	PA1 NPA PA1	
KUWAIT					
OKBK KUWAIT/Kuwait Intl RS	9	4E	15R 33L 15L 33R	PA2 PA2 PA2 PA2	
LEBANON					
OLBA BEIRUT/R. B. H - Beirut Intl RS	9	4E	03 21 16 34 17 35	PA1 PA1 PA1 NINST PA1 NINST	
LIBYA					
HLLB BENGHAZI/Benina RS	8	4D 4C	15L 33R 15R 33L	PA1 NPA NPA PA1	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
HLLS SEBHA/Sebha RS	7	4C	13 31 06 24	PA1 NPA	
HLLT TRIPOLI/Tripoli Intl RS	8	4E	09 27 18 36	PA1 PA2	
OMAN					
OOMS MUSCAT/Muscat Intl RS	9	4E	08 26	PAI PA1	
OOSA SALALAH/Salalah	9	4E	07 25	NPA PA1	
QATAR					
OTBD DOHA/Doha Intl RS	9	4E	16 34	NPA PA1	
OTHH DOHA/New Doha Int'l (Future -2010) RS (No available Data)					
SAUDI ARABIA					
OEDF DAMMAM/Kind Fahid Intl RS	9	4E	16L 34R 16R 34L	PA2 PA2 PA2 PA2 PA2	
OEJN JEDDAH/King Abdulaziz Intl RS	9	4E	16R 34L 16C 34C 16L 34R	PA2 PA2 PA2 PA2 PA1 PA1	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
OEMA MADINAH/Prince Mohammad Bin Abdulaziz Intl	8	3D	17	PA1	
			35	PA1	
RS		4E			
			18	NPA	
			36	PA1	
OERK RIYADH/King Khalid Intl	9	4E	15L	PA1	
			33R	PA1	
RS					
			15R	PA1	
			33L	PA1	
SOUTH SUDAN					
HSSJ JUBA/Juba	6	4C	13	PA1	
RS			31	NINST	
SUDAN					
HSKA KASSALA/Kassala	7	4D	02	NINST	
AS			20	NINST	
HSSS KHARTOUM/Khartoum	8	4D	18	PA1	
			33	NPA	
RS					
HSPN PORT SUDAN/Port Sudan Intl	6	4C	18	NPA	
			36	PA1	
RS					
SYRIAN ARAB REPUBLIC					
OSAP ALEPPO/Aleppo Intl	7	4D	09	PA2	
			27	PA2	
RS					
OSLK LATTAKIA /Bassel AL-Assad Intl	5	4D	17	NPA	
			35	NPA	
RS					
OSDI DAMASCUS/Damascus Intl	8	4E	05L	PA2	
			23R	PA2	
RS			05R	PA2	
			23L	PA2	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
UNITED ARAB EMIRATES					
OMAA ABU DHABI/Abu Dhabi Intl	10	4E	13 R	PA1	
			31 L	PA3	
RS					
	10	(will be upgraded to 4F 2010)	13 L	PA 3	
			31 R	PA 3	
OMAL AL AIN/Al Ain Intl	9	4E	01	PA1	
RS			19	NPA	
OMDB DUBAI/Dubai Intl	10	4F	12L	PA3	
RS			30R	PA3	
			12R	PA1	
			30L	PA1	
OMFJ FUJAIRAH/Fujairah Intl	9	4E	11	NPA	
			29	PA1	
RS					
OMRK RAS AL KHAIMAH/Ras Al Khaimah Intl	9	4E	16	NPA	
			34	PA1	
RS					
OMSJ SHARJAH/Sharjah Intl	9	4E	12	PA1	
			30	PA2	
RS					
OMDW DUBI, Al Maktoum Int'l (Future 2009 - 2012)	10	4F	12L	PA3	
			30R	PA3	
RS					
	10		12R	PA3	
			30L	PA3	
YEMEN					
OYAA ADEN/Aden Intl	9	4E	08	NPA	
RS			26	PA1	
OYHD HODEIDAH/Hodeidah Intl	9	4E	03	NPA	
			21	NPA	
RS					
OYRN MUKALLA/Riyan Intl	9	4E	06	NPA	
			24	NPA	
RS					

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
OYSN	SANA'A/Sana'a Intl	9	4E	18	PA1	
	RS			36	NPA	
OYTZ	TAIZ/ Taiz Intl	9	4E	01	NPA	
	RS			19	NPA	

MID ANP, VOLUME II

PART III – COMMUNICATIONS, NAVIGATION AND SURVEILLANCE (CNS)

1. INTRODUCTION

1.1 This part of the MID ANP, Volume II, complements the provisions in ICAO SARPs and PANS related to communication, navigation and surveillance (CNS). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of CNS facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to CNS facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified.

2. GENERAL REGIONAL REQUIREMENTS

Communications

Aeronautical Fixed Service (AFS)

2.1 The aeronautical fixed service should comprise the following systems and applications that are used for ground-ground (i.e. point-to-point and/or point-to-multipoint) communications in the international aeronautical telecommunication service:

a) ATS direct speech circuits and networks;

b) meteorological operational circuits, networks and broadcast systems, including World Area Forecast System – Internet File Service (WIFS) and/or Satellite Distribution System for Information Relating to Air Navigation (SADIS);

c) the aeronautical fixed telecommunications network (AFTN);

d) the common ICAO data interchange network (CIDIN);

e) the air traffic services (ATS) message handling services (AMHS); and

f) the inter-centre communications (ICC).

2.2 To meet the data communication requirements, a uniform high-grade aeronautical network should be provided, based on the aeronautical telecommunication network (ATN), taking into account the existence and continuation of current networks.

2.3 Contingency procedures should be in place to ensure that, in case of a communication centre breakdown, all the parties concerned are promptly informed of the prevailing situation. All possible arrangements should be made to ensure that, in case of breakdown of a communications centre or circuit, at least high-priority traffic continues to be handled by appropriate means.

2.4 AFS planning should permit flexibility in detailed development and implementation. The required AFTN Stations and Centres are listed in the AFTN Plan in **Table CNS II-1**.

The Aeronautical Telecommunication Network (ATN)

2.5 The ATN should be able to:

a) support applications carried by the existing networks;

b) support gateways enabling inter-operation with existing networks; and

c) support ground-ground communications traffic associated with air-ground data link applications.

2.6 The ATN should make optimum use of dedicated bilateral/multilateral aeronautical links and other communication means commensurate with the operational Quality of Service (QoS) requirements.

2.7 The implementation of the ATN should take into account the need for cost-effective evolution in terms of network capacity, requirements and time-frame and allow for a progressive transition from existing communication networks and services to a uniform, harmonised and integrated communications infrastructure, capable of supporting the implementation of future aeronautical services such as Flight and Flow Information in a Collaborative Environment (F-FICE), System-Wide Information Management (SWIM) applications, etc.

2.8 In case means other than dedicated bilateral links are used by the ATN, States should ensure that service level agreements (SLA) are met in terms of implementation priority, high availability, priority in restoration of service and appropriate levels of security.

2.9 The ATN should provide for interregional connections to support data exchange and mobile routing within the global ATN.

2.10 In planning the ATN, provisions should be made, where required, for interfacing with other international networks. The Required ATN Infrastructure Routing Plan is described under **Table CNS II-2**.

Network services

2.11 The Internet Society (ISOC) communications standards for the Internet Protocol Suite (IPS) should be used for the implementation of AMHS.

2.12 The migration from legacy bit-oriented protocols such as X.25 Protocol suite to IPS should be planned.

2.13 The migration of international or sub-regional ground networks to the ATN based on Internet Protocol (IP) to support AFS communication requirements, while reducing costs, should be planned.

2.14 States should ensure that the solutions provided for the implementation of the ATN meet the air traffic management and aeronautical fixed service requirements. Such requirements should consist of:

a) Performance requirements: availability, continuity, integrity, monitoring and alerting criteria per data flow. In the case where a required communication performance (RCP) is globally prescribed, requirements derived from RCP should be stated;
b) Interoperability requirements;
c) Safety and security requirements, duly derived after the identification of operational hazards and threats, and allocation of objectives; and
d) Implementation process requirements (creation, test, migration, upgrades, priority in restoration of service, termination).

Network management

2.15 An ICAO centralised off-line network management service is provided to participating AFTN/ AMHS centres in the MID Region~~(s)~~ under the ATS Messaging Centre (AMC).

2.16 In the case of integrated communications services procured and shared by several States, organizational provisions should allow for the planning and performing of the management of technical performance, network configuration, fault, security, cost division/allocation, contract, orders and payment.

Specific air traffic management (ATM) requirements

2.17 Where ATS speech and data communication links between any two points are provided, the engineering arrangements should be such as to avoid the simultaneous loss of both circuits. The required ATS direct speech circuits plan is detailed under **Table CNS II-3**.

2.18 Special provisions should be made to ensure a rapid restoration of ATS speech circuits in case of outage, as derived from the performance and safety requirements.

2.19 Data circuits between ATS systems should provide for both high capacity and message integrity.

2.20 The Inter-Centre Communication (ICC), consisting of ATS Inter-facility Data Communication (AIDC) application and the Online Data Interchange (OLDI) application, should be used for automated exchange of flight data between ATS units to enhance the overall safety of the ATM operation and increase airspace capacity.

2.21 Where Voice over IP is planned or implemented between ATS units for voice communications, it should meet the ATS requirements. When data and voice are multiplexed, particular attention should be paid to the achievement of the ATM performance and safety requirements.

Specific meteorological (MET) requirements

2.22 The increasing use of the GRIB (Gridded Binary or General Regularly-distributed Information in Binary form) and BUFR (Binary Universal Form for the Representation of meteorological data) code forms for the dissemination of the upper wind and temperature and significant weather forecasts and the planned transition to digital form using extensible markup language (XML)/geography markup language (GML) for the dissemination of OPMET data should be taken into account in the planning process of the ATN.

2.23 In planning the ATN, account should be taken of changes in the current pattern of distribution of meteorological information resulting from the increasing number of long-range direct flights and the trend towards centralized flight planning.

Specific aeronautical information management (AIM) requirements

2.24 The aeronautical fixed service should meet the requirements to support efficient provision of aeronautical information services through appropriate connections to area control centres (ACCs), flight information centres (FICs), aerodromes and heliports at which an information service is established.

Aeronautical Mobile Service (AMS)

2.25 To meet the air-ground data communication requirements, a high-grade aeronautical network should be provided based on the ATN, recognising that other technologies may be used as part of the transition. The network needs to integrate the various data links in a seamless fashion and provide for end-to-end communications between airborne and ground-based facilities.

2.26 Whenever required, use of suitable techniques on VHF or higher frequencies should be made. The required HF network designators applicable for the MID Region~~(s)~~ are listed in **Table CNS II-4**.

2.27 Aerodromes having a significant volume of International General Aviation (IGA) traffic should also be provided with appropriate air-ground communication channels.

Air-Ground Data Link Communications

2.28 A Strategy for the harmonised implementation of the data link communications in the MID Region~~(s)~~ should be developed based on the Global Operational Data Link Document (GOLD) adopted by ICAO Regions and the Aviation System Block Upgrade (ASBU) methodology.

2.29 Where applicable, controller-pilot data link communications (CPDLC), based on ATN VDL data link Mode 2 (VDL2) and/or FANS-1/A, should be implemented for air-ground data link communications.

2.30 Partial or divergent aircraft data link evolutions that result in excluding messages from aircraft systems should not be pursued. Interim steps or phases toward full implementation of the common technical definition in ground systems should only be pursued on a regional basis, after coordination between all States concerned.

2.31 Harmonization of operational procedures for implementation of the above packages is essential. States, Planning and Implementation Regional Groups (PIRGs) and air navigation services

providers should adopt common procedures to support seamless ATS provision across FIR boundaries, rather than each State or Region developing and promulgating unique procedures for common functions.

Required Communication Performance (RCP)

2.32 The Required Communication Performance (RCP) concept characterizing the performance required for communication capabilities that support ATM functions without reference to any specific technology should be applied wherever possible.

2.33 States should determine, prescribe and monitor the implementation of the RCP in line with the provisions laid down in the *ICAO Manual on Required Communication Performance* (Doc 9869).

Navigation

Navigation Infrastructure

2.34 The navigation infrastructure should meet the requirements for all phases of flight from take-off to final approach and landing.

Note: Annex 10 to the Convention on International Civil Aviation—Aeronautical Telecommunications, Volume I — Radio Navigation Aids, Attachment B, provides the strategy for introduction and application of non-visual aids to approach and landing.

2.35 The MID Region PBN Implementation Plan provides guidance to air navigation service providers, airspace operators and users, regulators, and international organizations, on the expected evolution of the regional air navigation system in order to allow planning of airspace changes, enabling ATM systems and aircraft equipage. It takes due account of the operational environment of the MID Region~~(s)~~.

PBN Transition Strategy

2.36 During transition to performance-based navigation (PBN), sufficient ground infrastructure for conventional navigation systems should remain available. Before existing ground infrastructure is considered for removal, users should be given reasonable transition time to allow them to equip appropriately to attain a performance level equivalent to PBN. States should approach removal of existing ground infrastructure with caution to ensure that safety is not compromised. This should be guaranteed by conducting safety assessments and consultations with the users.

Use of specific navigation aids

2.37 Where, within a given airspace, specific groups of users have been authorized by the competent authorities to use special aids for navigation. The respective ground facilities should be located and aligned so as to provide for full compatibility of navigational guidance with that derived from the SARPs.

2.38 States should ensure and oversee that service providers take appropriate corrective measures promptly whenever required by a significant degradation in the accuracy of navigation aids (either space based or ground based or both) is detected.

Surveillance

2.40 An important element of modern air navigation infrastructure required to manage safely increasing levels and complexity of air traffic is aeronautical surveillance systems.

2.41 When operating Mode S radars, States should coordinate with their respective ICAO Regional Office the assignment of their corresponding interrogator identifier (II) codes and surveillance identifier (SI) codes, particularly where areas of overlapping coverage will occur.

Frequency Management

Aeronautical Mobile Service (AMS)

2.42 Frequencies should be assigned to all VHF aeronautical mobile service (AMS) facilities in accordance with the principles laid out in Annex 10, Volume V and *ICAO Handbook on Radio Frequency Spectrum Requirements for Civil Aviation* (Doc 9718) Volumes I and II, and take into account:

a) agreed geographical separation criteria based on 25 kHz or 8.33 kHz interleaving between channels;
b) agreed geographical separation criteria for the implementation of VDL services;
c) the need for maximum economy in frequency demands and in radio spectrum utilization; and
d) a deployment of frequencies which ensures that international services are planned to be free of interference from other services using the same band.

2.43 The priority order to be followed in the assignment of frequencies to service is:

a) ATS channels serving international services (ACC, APP, TWR, FIS);
b) ATS channels serving national purposes;
c) channels serving international VOLMET services;
d) channels serving ATIS and PAR; and
e) channels used for other than ATS purposes.

2.44 The criteria used for frequency assignment planning for VHF AMS facilities serving international requirements should, to the extent practicable, also be used to satisfy the need for national VHF AMS facilities.

2.45 Special provisions should be made, by agreement between the States concerned, for the sharing and the application of reduced protection of non-ATS frequencies in the national sub-bands, so as to obtain a more economical use of the available frequency spectrum consistent with operational requirements.

2.46 States should ensure that no air/ground frequency is utilized outside its designated operational coverage and that the stated operational requirements for coverage of a given frequency can be met for the transmission sites concerned, taking into account terrain configuration.

Radio navigation aids for Aeronautical Radio Navigation Services (ARNS)

2.47 Frequencies should be assigned to all radio navigation facilities taking into account agreed geographical separation criteria to ILS localizer, VOR and GBAS, X and Y channels to DME, in accordance with the principles laid out in Annex 10, Volume V and *ICAO Handbook on Radio Frequency Spectrum Requirements for Civil Aviation* (Doc 9718) Volumes I and II. Also, the need for maximum economy in frequency demands and in radio spectrum utilization and a deployment of frequencies which ensures that international services are planned to be free of interference from other services using the same band, need to be considered.

2.48 The principles used for frequency assignment planning for radio navigation aids serving international requirements should, to the extent possible, also be used to satisfy the needs for national radio aids to navigation.

Support to ICAO Positions for ITU World Radiocommunication Conferences (WRCs)

2.49 Considering the importance and continuous demand of the radio frequency spectrum and for the protection of the current aeronautical spectrum and the allocation of new spectrum for the new services and system to be implemented in civil air navigation, States and international organizations are to support ICAO's position at ITU World Radiocommunication Conferences (WRCs) and in regional and other international activities conducted in preparation for ITU WRCs.

Note: The Handbook on Radio Frequency Spectrum Requirements for Civil Aviation *(Doc 9718) Volume I, contains ICAO policy statements relevant to the aviation requirements for radio frequency spectrum. The handbook is intended to assist States and ICAO in preparing for ITU WRCs.*

3. SPECIFIC REGIONAL REQUIREMENTS

None.

~~*EXAMPLES*~~

~~*3.1 The surveillance systems to be used in the* **(NAME)** *Region(s) are:*~~

~~*a) Secondary Surveillance Radars (SSR) Mode A, C and S in terminal and en-route continental airspace;*~~

~~*b) Primary Surveillance Radars (PSR) mainly in terminal airspace;*~~

~~*c) Automatic Dependent Surveillance – Broadcast (ADS-B) and Multilateration (MLAT) in terminal areas;*~~

~~*d) ADS-B and Wide Area Multilateration (WAM) in most of the airspace;*~~

~~*e) Automatic Dependent Surveillance – Contract (ADS-C) in some parts of the oceanic and remote continental airspace.*~~

~~***(as appropriate)***~~

~~*3.2 List of assigned frequencies…* ***(as appropriate)***~~

~~*3.3 Where implemented, the criteria for MLS frequency planning in the* **(NAME)** *Region(s) should be applied, aimed at allowing the maximum number of MLS-associated DME frequencies on X and Y channels so as to minimize the possible use of W and Z channels.* ***(as appropriate)***~~

TABLE CNS II-1 - AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK (AFTN) PLAN
EXPLANATION OF THE TABLE

Column

1 The AFTN Centres/Stations of each State are listed alphabetically. Each circuit appears twice in the table. The categories of these facilities are as follows:
M - Main AFTN COM Centre
T - Tributary AFTN COM Centre
S - AFTN Station

2 Category of circuit:
M - Main trunk circuit connecting Main AFTN communication centres.
T - Tributary circuit connecting Main AFTN communication centre and Tributary AFTN Communications Centre.
S - AFTN circuit connecting an AFTN Station to an AFTN Communication Centre.

3 Type of circuit provided:
LTT/a - Landline teletypewriter, analogue (e.g. cable, microwave)
LTT/d - Landline teletypewriter, digital (e.g. cable, microwave)
LDD/a - Landline data circuit, analogue (e.g. cable, microwave)
LDD/d - Landline data circuit, digital (e.g. cable, microwave)
SAT/a/d - Satellite link, with /a for analogue or /d for digital

4 Circuit signalling speed in bits/s.

5 Circuit protocols

6 Data transfer code (syntax):
ITA-2 - International Telegraph Alphabet No. 2 (5-unit Baudot code).
IA-5 - International Alphabet No. 5 (ICAO 7-unit code).
CBI - Code and Byte Independency (ATN compliant).

7 Remarks

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
BAHRAIN						
BAHRAIN	M					
ABU DHABI	M		64 – 96 bps	CIDIN	IA-5	
BEIRUT	T		9600 bps	CIDIN	IA-5	
DOHA	M		64 – 96 bps	None	IA-5	
JEDDAH	T		64 – 96 bps		IA-5	
~~KABUL~~	M		--	None		
KUWAIT	M		64 – 96 bps	None	IA-5	
MUSCAT	M		300 baud	None	IA-5	
SINGAPORE	M		9600 bps	None	IA-5	
TEHRAN			64 – 96 bps		IA-5	

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
EGYPT						
CAIRO	M					
AMMAN	M		64/9.6	None	IA-5	
ATHENS	T		64/9.6	CIDIN	IA-5	
BEN GURION	M		64/9.6	None	IA-5	
BEIRUT	M		9600	CIDIN	IA-5	
JEDDAH	T		128/9.6	CIDIN	IA-5	
KHARTOUM	M		9600	None	IA-5	
NAIROBI	M		9600	None	IA-5	
TUNIS	M		64/9.6	None	IA-5	
TRIPOLI	M		64/19.2	None	IA-5	
TRIPOLI	M		9600	None	IA-5	
DAMASCUS			64/9.6	None	IA-5	
IRAN						
TEHRAN	T					
BAHRAIN	M		64 Kbps	None	IA-5	
KABUL	T		-			
KUWAIT	M		64 Kbps	None	IA-5	
ABU-DHABI						
IRAQ						
BAGHDAD	T					
AMMAN	T		-	None	IA-5	
BEIRUT			-	None	IA-5	
KUWAIT						
ANKARA						
JORDAN						
AMMAN	T					
BAGHDAD	M		-	-	-	
BEIRUT	T		-	-	-	
BEN GURION	M		1200	None	IA-5	
CAIRO	T		64/9.6	None	IA-5	
DAMASCUS	S		64/9.2	None	IA-5	
JEDDAH	T		64/19.2	None		

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
KUWAIT						
KUWAIT						
BAHRAIN	M	LDD/d	64/9.6 bps	None	I A-5	
DAMASCUS	T	LDD/a	50 BD	None	ITA-2	
BEIRUT	M	LDD/a	100 baud	None	ITA-2	
DOHA	M	LDD/a	64/9.6 bps	None	IA- 5	
(EUR)	-					
KARACHI	M	LDD/d	2.4 K	None	IA-5	
TEHRAN	M	LDD/d	64/9.6 baud	None	IA-5	
BAGHDAD	T	SAT/ad	9.6 bps	None	IA- 5	
LEBANON						
BEIRUT	M					
AMMAN	T		-	-	-	
BAGHDAD	M		-	None	-	
BAHRAIN	M		9600	CIDIN	IA-5	
CAIRO	T		9600	CIDIN	IA-5	
DAMASCUS	M		2 x 50 bd	None	ITA-2	
JEDDAH	M		9600	CIDIN		
KUWAIT	M		100 BD	None	ITA-2	
NICOSIA			9600	CIDIN	IA-5	
LIBYA						
TRIPOLI	T					
MALTA	T					
TUNIS	M					
BENGHAZI	T					
CAIRO	T					
KHARTOUM	T					
OMAN						
MUSCAT						
ABU DHABI	T		9600	AMHS		
BAHRAIN	M		300 BD	None	IA-5	
MUMBAI	M		9600	None	ITA-2	
JEDDAH	M		300 BD	None	ITA-2	
SANA'A	T		100 BD	None	ITA-2	
QATAR						
DOHA						
BAHRAIN	M		9600	None	IA-5	
KUWAIT	M		100 BD	None	ITA-2	
ABU DHABI	T		9600	AMHS		

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
SAUDI ARABIA						
JEDDAH						
ADDIS-ABABA	M		9600	None	IA-5	
BAHRAIN	M		64 /9.6	CIDIN	IA-5	
BEIRUT	M		9600	CIDIN	IA-5	
CAIRO	M		128/9.6	CIDIN	IA-5	
MUSCAT	M		300	None	ITA-2	
SANA'A	T		9600	None	IA-5	
AMMAN						
SUDAN						
KHARTOUM	M					
CAIRO	T					
JEDDAH	M					
TRIPOLI	T					
NDJAMENA	M					
KIGALI	M					
SYRIA						
DAMASCUS						
ATHENS	M		2 X 50	None	ITA-2	
AMMAN	T		64/9.6	None		
BEIRUT	M		2 X 50	None	ITA-2	
CAIRO	M		50 BD	None	ITA-2	
KUWAIT	M		50BD	None	ITA-2	
TEHRAN	T		50BD	None	ITA-2	
UAE						
ABU DHABI						
BAHRAIN	M		64 – 96 bps	CIDIN	IA-5	
AMMAN	T		2 MG bps	AMHS		
MUSCAT	M				IA-5	
QATAR			9600 bps	None		
TEHRAN	M					
			64 – 96 bps	None	IA-5	
YEMEN						
SANA'A						
JEDDAH	M		9600	None	IA-5	
MUSCAT	M		9600	None	IA-5	

TABLE CNS II-2 - REQUIRED ATN INFRASTRUCTURE ROUTING PLAN

Chapter 1 EXPLANATION OF THE TABLE

Column

1 Name of the Administration and Location of the ATN Router
2 Type of Router (in end systems (ES) of the Administration shown in column 1)
3 Type of Interconnection:
Inter Regional: Connection between different Regions/ domains
Intra Regional: Connection within a Region/ domain.
4 Connected Router: List of the Administration and location of the ATN routers to be connected with the router shown in column 1.
5 Bandwidth: Link Speed expressed in bits per second (bps)
6 Network Protocol: If Internet Protocol Suite is used, indicate version of IP (IPv4 or IPv6)
7 Via: The media used to implement the interconnection of the routers. (in case of IP service bought from a service provider, indicate VPN)
8 Remarks

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
BAHRAIN, Bahrain	BIS		ASIA/PAC Oman,Saudi Arabia Kuwait,Lebanon Iran, Afganistan Qatar, UAE				
EGYPT, Cairo	BIS		AFI, EUR Israel, Jordan, Lebanon, Athena Saudi Arabia				
IRAN, Tehran	BIS		Kuwait, Bahrain Afganistan				
IRAQ, Baghdad	IS		Jordan, Lebanon				
JORDAN, Amman	BIS		Egypt,Israel Lebanon,Iraq,Syria				
KUWAIT,Kuwait	BIS		EUR, Pakistan, Iran,Qatar,Bahrain, Lebanon				
LEBANON, Beirut	BIS		EUR Jordan,Syria Iraq,Kuwait,Bahrain Saudi Arabia,Egypt				
LIBYA	IS						
OMAN, Muscat	BIS		ASIA/PAC Yemen, Bahrain, UAE, Saudi Arabia				
QATAR, Doha	IS		Kuwait, Bahrain				
SAUDI ARABIA, Jeddah	BIS		AFI Egypt, Lebanon Bahrain,Oman Yemen				
SUDAN	IS						
SYRIA, Damascus	IS		Jordan, Lebanon				
U.A.E, Abu Dhabi	BIS		Bahrain, Oman Qatar				
YEMEN, Sana'a	IS		Oman, Saudi Arabia				

TABLE CNS II-3 - ATS DIRECT SPEECH CIRCUITS PLAN
EXPLANATION OF THE TABLE

Column

1 and 2 Circuit terminal stations are listed alphabetically by the Terminal I.

3 A — indicates ATS requirement for the establishment of voice communication within 15 seconds.
D — indicates requirements for instantaneous communications.

4 Type of service specified:
LTF — landline telephone (landline, cable, UHF, VHF, satellite).
RTF — radiotelephone.

5 Type of circuits; Direct (DIR) or Switched (SW).
D — indicates a direct circuit connecting Terminals I and II.
S — indicates that a direct circuit does not exist and that the connection is established via switching at the switching centre(s) indicated in column 6.
IDD — International direct dialling by public switch telephone network

Note 1.— Number of D and/or S circuits between Terminals I and II are indicated by numerical prefix, i.e. 2 D/S means 2 direct circuits and one switched circuit.

Note 2.— Pending the implementation of proper ATS voice circuits, and provided that aeronautical operational requirements are met, IDD services may be used for the ATS voice communications in low traffic areas.

6 Location of switching centre(s). Alternate routing location, if available, is indicated in brackets.

7 Remarks

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS			CIRCUIT			
TERMINAL I	TERMINAL II	TYPE	SERVICE	DIR/SW	TO BE SWITCHED VIA	REMARKS
1	2	3	4	5	6	7
BAHRAIN						
Bahrain	Emirates ACC	A	LTF	DIR		2 LINES
	Dammam	A	LTF	DIR		
	Doha	A	LTF	DIR		2 LINES
	Jeddah	A	LTF	DIR		2 LINES
	Kuwait	A	LTF	DIR		
	Muscat	A	LTF	DIR		
	Riyadh	A	LTF	DIR		
	Shiraz	A	LTF			
	Tehran	A	LTF	DIR		
EGYPT						
Cairo	Amman	A	LTF	DIR		
	Athens	A	LTF	DIR		
	Jeddah	A	LTF	DIR		
	Khartoum	A	LTF			
	Nicosia	A	LTF	DIR		
	Tel Aviv	A	LTF	DIR		
	Tripoli	A	LTF	DIR		
IRAN (ISLAMIC REPUBLIC OF)						
Abadan	Basrah	A	LTF			
	Shiraz	A	LTF	DIR		

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS			CIRCUIT			REMARKS
TERMINAL I	TERMINAL II	TYPE	SERVICE	DIR/SW	TO BE SWITCHED VIA	
1	2	3	4	5	6	7
Shiraz	Abadan	A	LTF	DIR		
	Bahrain	A	LTF	DIR		
	Basrah	A	LTF			
	Doha	A	LTF	DIR		
	Karachi	A	LTF	DIR		
	Kuwait	A	LTF	DIR		
	Tehran	A	LTF	DIR		
Tehran	Emirates ACC	A	LTF	DIR		1I
	Ankara	A	LTF	DIR		
	Ashgabat	A	LTF	DIR		
	Baghdad	A	LTF			
	Bahrain	A	LTF	DIR		
	Baku	A	LTF	DIR		
	Basrah	A	LTF			
	Doha	A	LTF	DIR		
	Kabul	A	LTF			
	Karachi	A	LTF	DIR		
	Kuwait	A	LTF	DIR		
	Muscat	A	LTF	DIR		
	Shiraz	A	LTF	DIR		
	Yerevan/Zvartnots	A	LTF	DIR		
IRAQ						
Baghdad	Amman	A	LTF			
	Ankara	A	SAT			
	Basrah	A	LTF			
	Damascus	A	LTF			
	Jeddah	A	LTF			
	Kuwait	A	LTF			
	Mosul	A	LTF			
	Tehran	A				
Basrah	Abadan	A	LTF			
	Baghdad	A	LTF			
	Kuwait	A	LTF			
	Shiraz	A	LTF			
	Tehran	A	LTF			
Mosul	Baghdad	A	LTF			
JORDAN						
Amman	Baghdad	A	LTF			
	Cairo	A	LTF			
	Damascus	A	LTF			
	Jeddah	A	LTF			
	Tel Aviv	A	LTF			

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS			CIRCUIT			REMARKS
TERMINAL I	TERMINAL II	TYPE	SERVICE	DIR/SW	TO BE SWITCHED VIA	
1	2	3	4	5	6	7
KUWAIT						
	Baghdad	A	LTF			
Kuwait	Bahrain	A	LTF	DIR		
	Basrah	A	LTF			
	Jeddah	A	LTF	DIR		
	Shiraz	A	LTF	DIR		
	Tehran	A	LTF	DIR		
LEBANON						
Beirut	Ankara	A	LTF	DIR		
	Damascus	A	LTF	DIR		
	Nicosia	A	LTF	DIR		
LIBYA						
Tripoli	Cairo					
	Malta					
	Khartoum					
OMAN						
Muscat	Emirates ACC	A	LTF	DIR		
	Bahrain	A	LTF	DIR		
	Mumbai	A	LTF	DIR		
	Jeddah	A	LTF	DIR		
	Karachi	A	LTF	DIR		
	Salalah	A	LTF	DIR		
	Sana'a	A	LTF	DIR		
	Tehran	A	LTF	DIR		
Salalah	Muscat	A	LTF			
QATAR						
Doha	Emirates ACC	A	LTF	DIR		1I + 1
	Bahrain	A	LTF	DIR		
	Shiraz	A	LTF	DIR		
	Tehran	A	LTF	DIR		
SAUDI ARABIA						
Dammam	Bahrain	A	LTF	DIR		
	Jeddah	A	LTF	DIR		
	Riyadh	A	LTF	DIR		
Jeddah	Addis Ababa	A	LTF			
	Amman	A	LTF	DIR		

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS			CIRCUIT			
TERMINAL I	TERMINAL II	TYPE	SERVICE	DIR/SW	TO BE SWITCHED VIA	REMARKS
1	2	3	4	5	6	7
	Asmara	A	LTF			
	Baghdad	A	LTF			
	Bahrain	A	LTF	DIR		
	Cairo	A	LTF	DIR		
	Dammam	A	LTF	DIR		
	Khartoum	A	LTF			
	Kuwait	A	LTF	DIR		
	Muscat	A	LTF	DIR		
	Riyadh	A	LTF	DIR		
	Sana'a	A	LTF	SW	Via Bahrain	
Riyadh	Bahrain	A	LTF	DIR		
	Jeddah	A	LTF	DIR		
	Dammam	A	LTF	DIR		
SUDAN						
Khartoum	Cairo	A	LTF			
	Jeddah	A	LTF			
SYRIAN ARAB REPUBLIC						
Damascus	Amman	A	LTF			
	Ankara	A	LTF			
	Baghdad	A	LTF			
	Beirut	A	LTF	DIR		
	Nicosia	A	LTF			
UNITED ARAB EMIRATES						
Emirates ACC	Abu Dhabi	A	LTF	DIR		21
	Al Ain	A	LTF	SW		
	Bahrain	A	LTF	DIR		
	Doha	A	LTF	DIR		
	Dubai	A	LTF	DIR		
	Muscat	A	LTF	DIR		
	Tehran	A	LTF	DIR		
Abu Dhabi	Emirates ACC	A	LTF	SW		21
	Al Ain	A	LTF	DIR		21
	Dubai	A	LTF	SW		21
Al Ain	Emirates ACC	A	LTF	SW		21
	Abu Dhabi	A	LTF	DIR		21
	Dubai	A	LTF	SW		21
Dubai	Emirates ACC	A	LTF	DIR		2I + 1

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS			CIRCUIT			REMARKS
TERMINAL I	TERMINAL II	TYPE	SERVICE	DIR/SW	TO BE SWITCHED VIA	
1	2	3	4	5	6	7
	Abu Dhabi	A	LTF	DIR		2I
	Al Ain	A	LTF	SW		1I
	Fujairah	A	LTF	DIR		1I
	Ras Al KhaimahSharjah Sharjah	A	LTF	DIR		3I
Fujairah	Ras Al Khaimah	A	LTF	DIR		1I
	Emirates ACC	A	LTF	DIR		1I
Ras Al Khaimah	Dubai	A	LTF	DIR		1I
Sharjah	Dubai	A	LTF	DIR		31
YEMEN						
Aden	Djibouti	A	LTF			
	Sana'a	A	LTF			
Mukalla	Aden	A	LTF			
	Sana'a	A	LTF			
Sana'a	Aden	A	LTF			
	Addis Ababa	A	LTF			
	Asmara	A	LTF			
	Mumbai	A	LTF			
	Djibouti	A	LTF			
	Jeddah	A	LTF		Via	
	Mogadishu	A	LTF	DIR	Bahrain	
	Muscat	A	LTF			
	Riyan	A	LTF			

TABLE CNS II-4 - HF NETWORK DESIGNATORS
EXPLANATION OF THE TABLE

Column

1 Name of station, preceded by its location indicator.

2 Network designators assigned to the facility providing HF radiotelephony en-route communications (selected from the provisions of the allotment plan in Appendix S27 to the ITU Radio Regulations).

NOTES

The ICAO designators for HF MWARA and VOLMET networks in the MID region~~(s)~~ are derived from the ITU allotment area abbreviations as contained in Appendix S27 to the ITU Radio Regulations.

ITU allotment area:

*Two- and three-letter alpha entries indicate major world air route areas (MWARA): **TBD***

*Four-letter alpha entries indicate VOLMET areas: **TBD***

Location Indicator and Name of location	HF en-route family
1	2
Aden	MID-1, AFI-3
Bahrain	MID-1, MID-2
Jeddah	AFI-3
Riyan	MID-1, AFI-3
Sanaa	MID-1, AFI-3
Shiraz	MID-1, MID-2
Tehran	MID-1, MID-2

HF FREQUENCIES AND THEIR ICAO NETWORK DESIGNATORS BASED ON ITU APPENDIX S27 ALLOTMENT AREAS

Frequency (kHz)	ITU allotment area	AFI-3	MID-1	MID-2	MID-3	V MID	Remarks
1	2	3	4	5	6	7	8
2944	MID				X		
2956	V MID					X	
2992	MID		X				
3467	MID, AFI	X		X			
3473	MID (1)						
4669	MID				X		
5589	V MID					X	
5658	MID, AFI	X		X			
5667	MID		X				
6625	MID (1)						
6631	MID			X			
8918	MID		X				
8945	V MID					X	
8951	MID				X		
10018	MID			X			
11375	MID				X		
11393	V MID (2)					X	
13288	MID, AFI	X		X			
13312	MID		X				
17961	AFI, MID	X			X		

MID ANP, VOLUME II
PART IV - AIR TRAFFIC MANAGEMENT (ATM)

1. INTRODUCTION

1.1 This part of the MID ANP, Volume II, complements the provisions in ICAO SARPs and PANS related to Air Traffic Management (ATM). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of ATM facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to ATM facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified.

2. GENERAL REGIONAL REQUIREMENTS

Optimization of traffic flows

2.1 The Planning and Implementation Regional Groups (PIRGs), through regional air navigation agreement, are responsible for the optimization of the traffic flows through the continuous improvement of the regional ATS route network and organized track systems and implementation of random routing areas and free route airspace in the Regions through the set-up of appropriate mechanisms for regional and inter-regional planning and coordination.

2.2 Whenever practicable, States should, in close coordination with operators, establish the most efficient routings.

2.3 The requirements for regional ATS route network, in particular, for ATS routes over the high seas and airspace of undetermined sovereignty, should be agreed upon through regional air navigation agreement.

Note: States' AIPs and other States publications should be consulted for information on the implemented ATS routes.

Aircraft Identification-SSR Code Management

2.4 Within the context of air traffic management (ATM) and the provision of air traffic services (ATS), SSR code management is a key element of ATM to ensure continuous, unambiguous aircraft identification. The number of secondary surveillance radar (SSR) codes is limited and poor management of the assignment of SSR codes results in capacity constraints and aircraft delays. States and air navigation service providers (ANSP) should apply the SSR Code Allocation Plan approved by MIDANPIRG. The SSR Codes Allocation Plan of the MID Region is addressed in the Specific Regional Requirements of Volume II.

3. SPECIFIC REGIONAL REQUIREMENTS

Working Principles for the Construction of Air Routes

3.1. The ATS routes agreed through regional air navigation agreement are listed in **Table ATM II-MID-1**. The routes should be developed based on the ICAO SARPS and PANS-OPS and PANS-ATM criteria and parameters, the following should be taking into consideration for the management of MID Region ATS route Network:

a) Where possible, routes should be established to increase efficiency, reduce complexity and provide additional benefits to users;

b) separation assurance principles should apply;

c) routes should be established with sufficient separation to operate independently;

d) where possible, routes in a radar environment should be procedurally (laterally) separated;

e) segregated tracks should be established on medium/high density routes and be determined by set criteria;

f) where required, routes should be constructed to support terminal area management procedures, e.g. SID s/STARs and flow management techniques, as applicable;

g) holding patterns should be laterally separated from other tracks, and tolerances captured within a single sector;

h) a maximum of two routes containing high traffic density should be blended at a single point. Inbound tracks should be blended at <90 degrees. Up to three low traffic density routes may be blended at a single point;

i) multiple crossing points involving major traffic flows should be avoided.

j) en-route crossings should be minimized. Where crossings are inevitable, they should, where possible, be established for cruise configuration. Such crossings should occur, wherever possible, within radar coverage;

k) airspace sectorization should take account of the route structure, and workload considerations. If necessary, airspace should be re-sectorized to accommodate changes to air route configuration;

l) routes should be constructed so as to reflect the optimum navigation capabilities of the principle users (e.g. RNAV or conventional);

m) the prime determinant should not be the number of track miles. A small increase in track miles may optimize traffic flows, avoid unpredicted delays or avoid holding requirements. Consideration should also be given to the provision of a range of routes which will permit operators to choose cost-efficient routes over the range of expected seasonal wind patterns;

n) due allowance should be given to existing and future flight data processing (FDP) and radar data processing (RDP) capability (i.e. notification of messages for auto hand-off etc.);

o) periodic safety audit and review process of routes should be conducted to test demand against capacity criteria, and the principles. This should ideally be done in parallel with the annual sectorization review; and

p) routes that can no longer be justified should be deleted.

Table ATM II-MID-1 MID Region ATS Route Network

EXPLANATION OF THE TABLE

Column

1 *Designator of ATS route and Type (Conventional, RNAV5 or RNAV1 etc.)*

2 *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.*

Note 1. *Not representing the operator's requirements. Operator's required route and/or navaids are shown in square brackets ([ ]).*

Note 2. *Subject to further study. Including the associated navigation aid coverage.*

Note 3 *Subject to military agreement.*

Note 4. *Not acceptable at present.*

Note 5. *At present, implementation possible only during specific periods (e.g. weekends, nights, etc., as published).*

Note 6. *At present, implementation of the RNAV route only possible above FL 300, or as published.*

Note 7. *Unidirectional use.*

Note 8. *For ATS route or part thereof is RNAV 1*

Whenever reference to name States is made in Table ATM II-XX in connection with the above notes, the following abbreviations, based on those indicated in Location Indicators (Doc 7910), are used:

OB	Bahrain	OK	Kuwait	OE	Saudi Arabia
HE	Egypt	OL	Lebanon	HS	Sudan
OI	Iran	HL	Libya	OS	Syria
OR	Iraq	OO	Oman	OM	UAE
OJ	Jordan	OT	Qatar	OY	Yemen

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
A1	METRU 340000N 0250900E SOKAL 323601N 0273706E KATEX 320701N 0282436E BOPED 312939N 0292655E ALEXANDRIA (NOZ) 311113N 0295701E MENKU 310531N 0301806E CAIRO (CVO) 300532N 0312318E	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 03104406E BALTIM (BLT) 313144N 0311035E 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 SALEH 140000N 0420000E ORNIS 1416.2N04236.9E HODEIDAH 1446.4N 04259.2E	UA408	(ADDIS ABABA) GWZ SALEH 140000N 0420000E ORNIS 1416.2N04236.9E HODEIDAH 1446.4N 04259.2E
A411	BNINA (BNA) 3207.28N 0201513E NASER 3151.2N 2355.3E LOSUL 314100N 250800E SIDI BARANI (BRN) 313532N 260020E	UA411	BNINA (BNA) 3207.28N 0201513E NASER 3151.2N 2355.3E LOSUL 314100N 250800E SIDI BARANI (BRN) 313532N 260020E
A412	TANF ZELAF 325656N 0371121E DAXEN 324444N 0374105E ASLON 321211N 0365111E NADEK 322728N 0371429E KUPRI 320825N 0364530E LUDAN 320256N 0363713E QAA 314423N 0360926E	UA412	TANF ZELAF 325656N 0371121E DAXEN 324444N 0374105E ASLON 321211N 0365111E NADEK 322728N 0371429E KUPRI 320825N 0364530E LUDAN 320256N 0363713E QAA 314423N 0360926E
A416	TABRIZ (TBZ) ARDABIL (ARB) RASHT (RST) RAMSAR (RSR) NOSHAHR (NSR) DASHTE NAZ (DNZ) SABZEVAR (SBZ) MASHHAD (MSD) SOKAM 331316N 0603754E	UA416	TABRIZ (TBZ) ARDABIL (ARB) RASHT (RST) RAMSAR (RSR) NOSHAHR (NSR) DASHTE NAZ (DNZ) SABZEVAR (SBZ) MASHHAD (MSD) SOKAM 331316N 0603754E
A418	KUMUN 254000N 0551515E PAPAR 2640N 05427E * Note 7 Segment KUMUN-PAPAR (OI and OM)	UA418	KUMUN 254000N 0551515E PAPAR 2640N 05427E * Note 7 Segment KUMUN-PAPAR (OI and OM)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	SHIRAZ (SYZ)		SHIRAZ (SYZ)
A422	UROMIYEH (UMH) SETNA 3756.3N 04555.4E TABRIZ PARSABAD (PAD) PARSU 3937.8N 04804.8E KARAD 4014.3N 04929.5E (BAKU)	UA422	UROMIYEH (UMH) SETNA 3756.3N 04555.4E TABRIZ PARSABAD (PAD) PARSU 3937.8N 04804.8E KARAD 4014.3N 04929.5E (BAKU)
A424	LOVEK 322208N 04440 01E LOTAN 2959.7N 04338.8E RAFHA HAIL MADINAH (PMA) ASTOL 2255.0N 03935.2E KING ABDULAZIZ (JDW)	UA424	LOVEK 322208N 04440 01E LOTAN 2959.7N 04338.8E RAFHA HAIL MADINAH (PMA) ASTOL 2255.0N 03935.2E KING ABDULAZIZ (JDW)
A453	PIRAN 2934.1N 06128.1E ZAHEDAN (ZDN) BANDAR ABBAS (BND) GHESHM (KHM) BANDAR LENGEH (LEN) KISH MIDSI 2641.7N05152.5E TOBLI 262134N0512301E OTATA 261843N0510052E BAHRAIN * Note 7 (OB, OI) PEBOS 262722N0503043E RULEX 264529N0501745E ALVUN 271028N0494455E SOLEM 275229N0491136E KUMBO 281705N0495526E AWADI 2834.5N 04843.9E DEBTI 2844.1N 04829.4E KUA 2913.1N 04759.1E	UA453	PIRAN 2934.1N 06128.1E ZAHEDAN (ZDN) BANDAR ABBAS (BND) GHESHM (KHM) BANDAR LENGEH (LEN) KISH MIDSI 2641.7N05152.5E TOBLI 262134N0512301E OTATA 261843N0510052E BAHRAIN * Note 7 (OB, OI) PEBOS 262722N0503043E RULEX 264529N0501745E ALVUN 271028N0494455E SOLEM 275229N0491136E KUMBO 281705N0495526E AWADI 2834.5N 04843.9E DEBTI 2844.1N 04829.4E KUA 2913.1N 04759.1E
A454	(KC) 2454.6N 06710.6E BEGIM 2443.0N 06700.0E * Note 7 (OO, OP) MELOM 2505.0N 06632.0E PUNEL 2520.0N 06523.0E PARET 2527.2N 06451.5E TAPDO 242400N 0612000E VUSET 235540N 0590812E PASOV 243841N 0565037E	UA454	(KC) 2454.6N 06710.6E BEGIM 2443.0N 06700.0E * Note 7 (OO, OP) MELOM 2505.0N 06632.0E PUNEL 2520.0N 06523.0E PARET 2527.2N 06451.5E TAPDO 242400N 0612000E VUSET 235540N 0590812E PASOV 243841N 0565037E
A727	(PAXIS 3357.1N 02720.0E OTIKO 3134.3N 02936.6E	UA727	(PAXIS 3357.1N 02720.0E OTIKO 3134.3N 02936.6E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	ALEXANDRIA (NOZ) MENKU 3105.5N 03018.1E CAIRO (CVO) LUXOR (LXR) ABU SIMBLE (SML) NUBAR 220000N 03118.1E MEROWE (MRW) KHARTOUM (KTM) KENANA (KNA) LODWAR (LOV) NAKURU (NAK) NAIROBI (NV) KILIMANJARO (KV)		ALEXANDRIA (NOZ) MENKU 3105.5N 03018.1E CAIRO (CVO) LUXOR (LXR) ABU SIMBLE (SML) NUBAR 220000N 03118.1E MEROWE (MRW) KHARTOUM (KTM) KENANA (KNA) LODWAR (LOV) NAKURU (NAK) NAIROBI (NV) KILIMANJARO (KV)
		UA775	REXOD 211230N 0613830E TUMET 222307N 0595702E IMDEK 224647N 0592217E OBTIN 230216N 0585920E KUSRA 231726N 0585102E
A777	TONVO 250500N 0563200E BUBAS 245938N 05700 03E * Note 7 (OO) NADSO 244957N 0574926E MUNGA 242516N 0584533E MIXOL 240618N 0592739E VAXIM 231900N 0611100E		
A788	HALAIFAH HAIL HAFR AL BATIN (HFR) *Note 7 WAFRA 2837. 3N 04757. 5E PATIR 285606N 0492923E KHARK (KHG) SHIRAZ	UA788	HALAIFAH HAIL HAFR AL BATIN (HFR) *Note 7 WAFRA 2837. 3N 04757. 5E PATIR 285606N 0492923E KHARK (KHG) SHIRAZ
B12	TANSA 340000N 0264900E SOKAL 323601N 0273706E EL DABA (DBA) 310041N 0282801E KATAB 292501N 0290506E BOPOS 264318N 0300722E 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	RUDESHUR (RUS) RASHT (RST)	UB121	RUDESHUR (RUS) RASHT (RST)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	MAGRI 385408N 0462300E		MAGRI 385408N 0462300E
B400	MUSCAT (MCT) ITURA 232351N 0580720E IZKI (IZK) HAIMA (HAI) ASTUN 180832N0551040E DAXAM 171612N 0544715E MUTVA 165325N 0543201E IMKAD 155245N 0535147E NODMA 152603N 0533358E RIGAM 143932N 0530414E RAPDO 132317N 0521532E VEDET 120134N 0512410E (MOGADISHU)	UB400	MUSCAT (MCT) ITURA 232351N 0580720E IZKI (IZK) HAIMA (HAI) ASTUN 180832N0551040E DAXAM 171612N 0544715E MUTVA 165325N 0543201E IMKAD 155245N 0535147E NODMA 152603N 0533358E RIGAM 143932N 0530414E RAPDO 132317N 0521532E VEDET 120134N 0512410E (MOGADISHU)
		UB403	MANDERA BOMIX 121002N 0502757E ODBEN 123747N 0505648E KAVAN 133250N 0515431E RIGAM 143932N 0530414E
B404	HARGA (HARGEISA) DEMGO 120258N 0483040E PURKA 131208N 0503042E GESIX 134440N 0512823E RIGAM 143932N 0530414E	UB404	HARGA (HARGEISA) DEMGO 120258N 0483040E PURKA 131208N 0503042E GESIX 134440N 0512823E RIGAM 143932N 0530414E
B407	KING ABDULAZIZ (JDW) KAROX 205717N 0381547E MAHDI 2026.0N 03739.3E (PORT SUDAN) PSD	UB407	KING ABDULAZIZ (JDW) KAROX 205717N 0381547E MAHDI 2026.0N 03739.3E (PORT SUDAN) PSD
B411	ROVAR 292438N0345711E AL SHIGAR (ASH) ARAR (AAR) MURIB 311337N 0415136E LOVEK 3222.1N 04440.0E NOLDO 3249.5N 04521.5E PAXAT 332056N 0460519E ILAM (ILM) KERMANSHAH(KMS) SAVEH (SAV) [TEHRAN] (TRN) * Note 1 DEHNAMAK (DHN) SABZEVAR (SBZ) MASHHAD (MSD)	UB411	ROVAR 292438N0345711E AL SHIGAR (ASH) ARAR (AAR) MURIB 311337N 0415136E LOVEK 3222.1N 04440.0E NOLDO 3249.5N 04521.5E PAXAT 332056N 0460519E ILAM (ILM) KERMANSHAH(KMS) SAVEH (SAV) [TEHRAN] (TRN) * Note 1 DEHNAMAK (DHN) SABZEVAR (SBZ) MASHHAD (MSD)
B412	HALAIFA (HLF)	UB412	HALAIFA (HLF)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	RABIGH (RBG) [KING ABDULAZIZ] (JDW		RABIGH (RBG) [KING ABDULAZIZ] (JDW
B413	LADEN 1853.7N 03805.1E DANAK 1608.0N 04129.0E HODEIDAH TAIZ ADEN ZIZAN 1151.6N 04539.2E AVIMO 0332.9N 05052.6E	UB413	LADEN 1853.7N 03805.1E DANAK 1608.0N 04129.0E HODEIDAH TAIZ ADEN ZIZAN 1151.6N 04539.2E AVIMO 0332.9N 05052.6E
B415	DOHA (DOH) *Note 8 (DOH-BUNDU) AFNAN 2508.9N 05155.9E BUNDU 2500.4N 05229.4E *Note 7 (BUNDU-ADV) GADVO 2441.4N 05343.0E KUNGU 2437.9N 05356.4E ABU DHABI ADV 2425.1N 05440.4E	UB415	DOHA (DOH) *Note 8 (DOH-BUNDU) AFNAN 2508.9N 05155.9E BUNDU 2500.4N 05229.4E *Note 7 (BUNDU-ADV) GADVO 2441.4N 05343.0E KUNGU 2437.9N 05356.4E ABU DHABI ADV 2425.1N 05440.4E
B416	KUWAIT (KUA) AMBIK 283222N 0492025E *Note 8 (AMBIK-KUVER) TESSO 282852N0492723E GEVAL 283625N0492722E GOGMA 281421N 0495612E KUVER 280924N0500600E IMDAT 2741.0N 05111.0E ORSAR 2604.5N 05357.5E PEBAT 2551.9N 05423.9E DESDI 2536.0N 05442.5E	UB416	KUWAIT (KUA) AMBIK 283222N 0492025E *Note 8 (AMBIK-KUVER) TESSO 282852N0492723E GEVAL 283625N0492722E GOGMA 281421N 0495612E KUVER 280924N0500600E IMDAT 2741.0N 05111.0E ORSAR 2604.5N 05357.5E PEBAT 2551.9N 05423.9E DESDI 2536.0N 05442.5E
B417	MAHSHAHR (MAH) TULAX 2938 53N 04903 01E DESLU 2928.0N 04901.8E ALVIX 2919.3N04824.2E KUWAIT (KUA) *See Note 3 HAFR AL BATIN (HFR) KMC GASSIM (GAS) BIR-DARB (BDB) TAGNA 231652N 0403851E KING ABDULAZIZ (JDW)	UB417	MAHSHAHR (MAH) TULAX 2938 53N 04903 01E DESLU 2928.0N 04901.8E ALVIX 2919.3N04824.2E KUWAIT (KUA) *See Note 3 HAFR AL BATIN (HFR) KMC GASSIM (GAS) BIR-DARB (BDB) TAGNA 231652N 0403851E KING ABDULAZIZ (JDW)
B419	(DHA) 261538N 0500824E * Note 8 (DHA-RAMSI) KING FAHD (KFA) * Note 7 (KFA-RAMSI)	UB419	(DHA) 261538N 0500824E * Note 8 (DHA-RAMSI) KING FAHD (KFA) * Note 7 (KFA-RAMSI)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	ASTOM 265552N 0500408E RAMSI 270249N 0500714E		ASTOM 265552N 0500408E RAMSI 270249N 0500714E
B424	ITOLI 152825N 0450927E SABEL 185200N 05203.7E OTISA 201000N 0554556E GISKA 213503N 0574014E	UB424	ITOLI 152825N 0450927E SABEL 185200N 05203.7E OTISA 201000N 0554556E GISKA 213503N 0574014E
B441	MASHHAD (MSD) OTRUZ 363108N 0610956E MARAD 3637.6N 06127.8E	UB441	MASHHAD (MSD) OTRUZ 363108N 0610956E MARAD 3637.6N 06127.8E
B451	DEHNAMAK (DHN) BOJNORD (BRD) DOLOS 375006N 0580200E (ASHGABAT) (ASB	UB451	DEHNAMAK (DHN) BOJNORD (BRD) DOLOS 375006N 0580200E (ASHGABAT) (ASB
B457	BAHRAIN (BAH) * Note7 ELOSA 2548.8N 05142.6E	UB457	BAHRAIN (BAH) * Note7 ELOSA 2548.8N 05142.6E
B505	LALDO 251806N 0563600E * Note 7/8 (OO) NADSO 244957N 0574926E ITLOB 244325N 0590701E EGTAL 2434 58N 06037 24E APELO 2434.9N 0612000E PASNI (PI) 2517.3N 06320.9E		
B524	NADSO 244957N 0574926E * Note 7 DAMUM 243236N 0591307E VEKAN 241235N 0604454E ALPOR 2404 42N 06120E		
B526	(ASMARA) ASM HODEIDAH (HDH) MUKALLA (RIN) RIGAM 143932N 0530414E	UB526	(ASMARA) ASM HODEIDAH (HDH) MUKALLA (RIN) RIGAM 143932N 0530414E
B535	(DJIBOUTI) DTI ADEN (KRA) MUKALLA (RIN) KAPET 1633 22N 0530614E SALALAH (SLL) ASTUN 180832N0551040E	UB535	(DJIBOUTI) DTI ADEN (KRA) MUKALLA (RIN) KAPET 1633 22N 0530614E SALALAH (SLL) ASTUN 180832N0551040E
B538	ALEPPO KARIATAIN	UB538	ALEPPO KARIATAIN

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
B540	GERAR 240600N 0573616 PASOV 243841N 0565037E KUPMA 245148N 0562648E BUBIN 245742N 0560642E		
B544	(GAZIANTEP) GAZ ALEPPO (ALE) TANF (TAN) NAMBO 331826N0383939E SODAR 315532N0384317E TURAIF (TRF) AL SHIGAR (ASH) HALAIFA (HLF) MADINAH (PMA) RABIGH (RBG) KING ABDULAZIZ (JDW) QUNFIDAH (QUN) ABHA (ABH) NOBSU KRA	UB544	(GAZIANTEP) GAZ ALEPPO (ALE) TANF (TAN) NAMBO 331826N0383939E SODAR 315532N0384317E TURAIF (TRF) AL SHIGAR (ASH) HALAIFA (HLF) MADINAH (PMA) RABIGH (RBG) KING ABDULAZIZ (JDW) QUNFIDAH (QUN) ABHA (ABH) NOBSU KRA
B549	THAMUD 171700N 0495500E ITELI 171310N 0502605E GOGRI 170752N 0510857E TONRO 165850N 0522235E PUTRA 165432N 0525631E LADAR 165324N 0534655E MUTVA 165325N 0543201E KIVEL 165306N 0553633E	UB549	THAMUD 171700N 0495500E ITELI 171310N 0502605E GOGRI 170752N 0510857E TONRO 165850N 0522235E PUTRA 165432N 0525631E LADAR 165324N 0534655E MUTVA 165325N 0543201E KIVEL 165306N 0553633E
G183	(KAROL 3252.0N 03229.0E) PASOS EL ARISH (ARH) TABA (TBA)		
G202	(VELOX 3349.0N 03405.0E) SILKO 3347.9N 03435.0E KHALDEH (KAD) * Note 4 (OS) DAKWE 3338.9N 03555.0E DAMASCUS (DAM) TANF (TAN) MODIK 3328.1N 03901.0E RAPLU 3323.0N 04145.5E PUSTO 3321.0N 04245.0E DELMI 331918.31N 0431327.59E LAGLO 331538N 0441457E ITOVA 331950.91N 0444128.97E RAGET 3330.8N 04553.8E	UG202	(VELOX 3349.0N 03405.0E) SILKO 3347.9N 03435.0E KHALDEH (KAD) * Note 4 (OS) DAKWE 3338.9N 03555.0E DAMASCUS (DAM) TANF (TAN) MODIK 3328.1N 03901.0E RAPLU 3323.0N 04145.5E PUSTO 3321.0N 04245.0E DELMI 331918.31N 0431327.59E LAGLO 331538N 0441457E ITOVA 331950.91N 0444128.97E RAGET 3330.8N 04553.8E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	ILAM (ILM) KHORAM ABAD (KRD) ESFAHAN (ISN) NODLA BIRJAND (BJD) (KAMAR 3239.0N 06044.0E)		ILAM (ILM) KHORAM ABAD (KRD) ESFAHAN (ISN) NODLA BIRJAND (BJD) (KAMAR 3239.0N 06044.0E)
G208	(PANJGUR) PG KEBUD 2735.9N 06250.4E ZAHEDAN (ZDN) DARBAND (DAR) NODLA 325330N 0545850E ANARAK (ANK) TEHRAN (TRN) ZANJAN (ZAJ) UROMIYEH (UMH) ALRAM 3743.0N 04437.0E (SIIRT)		
G216	LAKLU 232235N 0570401E *Note 7 (OO/OP) Muscat (MCT) ITILA 234055N 0584817E SODEB 234747N 0593023E DORAB 235033N 0594746E ALPOR 240441N 0612000E LATEM (KC)	UG216	LAKLU 232235N 0570401E *Note 7 (OO/OP) Muscat (MCT) ITILA 234055N 0584817E SODEB 234747N 0593023E DORAB 235033N 0594746E ALPOR 240441N 0612000E LATEM (KC)
G452	SHIRAZ (SYZ) KERMAN (KER) ZAHEDAN (ZDN) DERBO 2925.7N 06117.0E (RAHIMYAR KHAN) RK	UG452	SHIRAZ (SYZ) KERMAN (KER) ZAHEDAN (ZDN) DERBO 2925.7N 06117.0E (RAHIMYAR KHAN) RK
G462	ROVOS 241825N 0552143E Note 7 to ITROK NIBAX 245748N 0541437E RAGTA 250850N 0535840E ALSOK 252607N 0533904E ITROK 253557N 0532751E TUMAK 255031N 0531108E	UG462	ROVOS 241825N 0552143E Note 7 to ITROK NIBAX 245748N 0541437E RAGTA 250850N 0535840E ALSOK 252607N 0533904E ITROK 253557N 0532751E TUMAK 255031N 0531108E
G650	KING ABDULAZIZ (JDW) RASKA 190732N 0390329E ASMARA (ASM)	UG650	KING ABDULAZIZ (JDW) RASKA 190732N 0390329E ASMARA (ASM)
G652	ADEN (KRA) IMPOS 183136N 0511848E DUDRI 190000N 0520000E	UG652	ADEN (KRA) IMPOS 183136N 0511848E DUDRI 190000N 0520000E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	*Note 8 (DUDRI-TOKRA) TOKRA 220925N 0553350E TAPDO 2424N 06120 E		*Note 8 (DUDRI-TOKRA) TOKRA 220925N 0553350E TAPDO 2424N 06120 E
G660	(PORT SUDAN) PSD BOGUM 2006.6N 03803.0E MIPOL 203322N 0382145E KING ABDULAZIZ (JDW)	UG660	(PORT SUDAN) PSD BOGUM 2006.6N 03803.0E MIPOL 203322N 0382145E KING ABDULAZIZ (JDW)
G662	BUSRA 322000N 0363700E KUPRI 320825.87N 0364530.21E ALKOT 313254.22N 0371121.51E GRY 3124.8N 3717.2E AL SHIGAR (ASH) HAIL (HIL) GASSIM (GAS) KING KHALID (KIA)	UG662	BUSRA 322000N 0363700E KUPRI 320825.87N 0364530.21E ALKOT 313254.22N 0371121.51E GRY 3124.8N 3717.2E AL SHIGAR (ASH) HAIL (HIL) GASSIM (GAS) KING KHALID (KIA)
G663	KING KHALID (KIA) SILNO 2640.4N 04757.7E *Note 7 (KIA-KFA) GIBUS 255724N 0472829E *Note 8 (GIBUS-ALSER) KING FAHD (KFA) ALSER 2710.8 05049.5E SHIRAZ (SYZ) YAZD (YZD) NODLA 3253.3N 05458.8E TABAS (TBS) MASHAD (MSD)	UG663	KING KHALID (KIA) SILNO 2640.4N 04757.7E *Note 7 (KIA-KFA) GIBUS 255724N 0472829E *Note 8 (GIBUS-ALSER) KING FAHD (KFA) ALSER 2710.8 05049.5E SHIRAZ (SYZ) YAZD (YZD) NODLA 3253.3N 05458.8E TABAS (TBS) MASHAD (MSD)
G665	ARAR (AAR) ABADAN (ABD) SHIRAZ (SYZ) * Note 5 (OI) NABOD 2816.1N 05825.8E LOXOL 2745.9N 06045.6E ASVIB 265724N 0631812E (PANJGUR) PG	UG665	ARAR (AAR) ABADAN (ABD) SHIRAZ (SYZ) * Note 5 (OI) NABOD 2816.1N 05825.8E LOXOL 2745.9N 06045.6E ASVIB 265724N 0631812E (PANJGUR) PG
G666	SHIRAZ (SYZ) LAMERD (LAM) LAVAN (LVA) * Note 7 (OI) ORSAR 2604 .5N 05357.5E ITITA 254410N 0541839E SINBI 250842N 0543741E ABU DHABI (ADV)	UG666	SHIRAZ (SYZ) LAMERD (LAM) LAVAN (LVA) * Note 7 (OI) ORSAR 2604 .5N 05357.5E ITITA 254410N 0541839E SINBI 250842N 0543741E ABU DHABI (ADV)
G667	PUTMA 3748.0N 05157.6E	UG667	PUTMA 3748.0N 05157.6E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	NOSHAHR (NSR) TEHRAN (TRN) SAVEH (SAV) MIS AHWAZ (AWZ) ABADAN (ABD) ALSAN 295707N 0481456E FALKA KUWAIT (KUA) WAFRA (KFR) *Note 7 (KFR-MGA) COPPI 275033N 0474359E *Note 8 (COPPI-AVOBO) EMENI 273232N 0473849E MUSKO 272640N 0473708E ALSAT 270611N 0473118E LUGAL 264533N 0472528E MAGALA (MGA) AVOBO 260334N 0470719E KING KHALID (KIA) WADI AL DAWASIR (WDR) NEJRAN (NEJ) SANA'A (SAA) PARIM 123142.7N 0432712E DJIBOUTI (DTI)		NOSHAHR (NSR) TEHRAN (TRN) SAVEH (SAV) MIS AHWAZ (AWZ) ABADAN (ABD) ALSAN 295707N 0481456E FALKA KUWAIT (KUA) WAFRA (KFR) *Note 7 (KFR-MGA) COPPI 275033N 0474359E *Note 8 (COPPI-AVOBO) EMENI 273232N 0473849E MUSKO 272640N 0473708E ALSAT 270611N 0473118E LUGAL 264533N 0472528E MAGALA (MGA) AVOBO 260334N 0470719E KING KHALID (KIA) WADI AL DAWASIR (WDR) NEJRAN (NEJ) SANA'A (SAA) PARIM 123142.7N 0432712E DJIBOUTI (DTI)
G669	AL SHIGAR (ASH) AL JOU (AJF) RAFHA (RAF) NISER 2930.5N 04418.4E *Note 3 (OK) SOLAT 290942N 0463810E KUWAIT (KUA) SESRA 290803N 0485453E NANPI 290457N 0493157E KHARK(KHG) SHIRAZ (SYZ)	UG669	AL SHIGAR (ASH) AL JOU (AJF) RAFHA (RAF) NISER 2930.5N 04418.4E *Note 3 (OK) SOLAT 290942N 0463810E KUWAIT (KUA) SESRA 290803N 0485453E NANPI 290457N 0493157E KHARK(KHG) SHIRAZ (SYZ)
G670	RASHT (RST) LALDA 3817.1N 04943.0E (BAKU) GYD	UG670	RASHT (RST) LALDA 3817.1N 04943.0E (BAKU) GYD
G674	MADINAH (PMA) GASSIM (GAS) 2617.9N 04346.8E BOPAN (BPN)	UG674	MADINAH (PMA) GASSIM (GAS) 2617.9N 04346.8E BOPAN (BPN)
G775	(ASHGHABAT) (ASB) ORPAB 3742N 05834.5E MASHHAD (MSD) [BIRJAND] (BJD)	UG775	(ASHGHABAT) (ASB) ORPAB 3742N 05834.5E MASHHAD (MSD) [BIRJAND] (BJD)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	* Note 1 ZAHEDAN (ZDN)		* Note 1 ZAHEDAN (ZDN)
G781	(VAN) BONAM 3802.9N 04418.0E UROMIYEH (UMH) ROVON 3716 01N 0455322E ZANJAN (ZAJ) NOSHAHR(NSR)	UG781	(VAN) BONAM 3802.9N 04418.0E UROMIYEH (UMH) ROVON 3716 01N 0455322E ZANJAN (ZAJ) NOSHAHR(NSR)
G782	KING ABDULAZIZ (JDW) DAFINAH (DFN) RAGA\HBA (RGB) KING KHALID (KIA) MAGALA (MGA) *Note 7 (MGA-KFR) LUGAL 264533N 0472528E WAFRA (KFR) 283715N 0475729E KUWAIT (KUA)	UG782	KING ABDULAZIZ (JDW) DAFINAH (DFN) RAGA\HBA (RGB) KING KHALID (KIA) MAGALA (MGA) *Note 7 (MGA-KFR) LUGAL 264533N 0472528E WAFRA (KFR) 283715N 0475729E KUWAIT (KUA)
G783	PURDA 210805N 0510329E TANSU 224136N 0542828E RIGIL 230146N 0551430E ELUDA 235107N 0552905E ALN 241535N 0553623E GIDIS 243600N 055600E BUBIN 245742N 0560642E	UG783	PURDA 210805N 0510329E TANSU 224136N 0542828E RIGIL 230146N 0551430E ELUDA 235107N 0552905E ALN 241535N 0553623E GIDIS 243600N 055600E BUBIN 245742N 0560642E
G792	BODKA 3939.0N 05130.0E GIRUN 3806.2N 05620.3E BOJNORD (BRD) MASHAD (MSD)	UG792	BODKA 3939.0N 05130.0E GIRUN 3806.2N 05620.3E BOJNORD (BRD) MASHAD (MSD)
G795	FALKA 2926.2N 04818.3E TASMI 300120N 0475505E BSR 303132.4N 0472112E RAFHA (RAF)	UG795	FALKA 2926.2N 04818.3E TASMI 300120N 0475505E BSR 303132.4N 0472112E RAFHA (RAF)
G799	PMA DAFINAH (DFN)	UG799	PMA DAFINAH (DFN)
		UL124	(VAN) BONAM URUMIYEH (UMH) ZANJAN (ZAJ) SAVEH (SAV) DISEL 332904N 0510118E YAZD (YZD) (R654) KERMAN (KER) KEBUD 273558N 0625028E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			(PANJGUR) PG
		UL125	DULAV 3857N 04537.9E TABRIZ (TBZ) ZANJAN (ZAJ) PAROT 360940N 0495756E TEHRAN (TRN) ANARAK (ANK) DARBAND (DAR) ZAHEDAN (ZDN) DANIB 290706N 0611717E KEBUD 273558N 0625028E
L126	PUSTO 3321.0N 04245.0E SOGUM 3412.2N 04354.9E SIGNI 3400.1N 04442.2E MIGMI 3345.9N 04527.4E ILAM (ILM)	UL126	PUSTO 3321.0N 04245.0E SOGUM 3412.2N 04354.9E SIGNI 3400.1N 04442.2E MIGMI 3345.9N 04527.4E ILAM (ILM)
L200	***AMM*** ***AN*** LOXER 320256N 362500E LUDAN 320256N 0363713 E KUPRI 320825N 0364530 E ASLON 321211N 0365111E NADEK 322728N 0371429E DAXEN 324444N 0374105E ORNAL 324755N0375153E KAREM 325110N 0380324 E KUMLO 325811N 0382807 E DAPUK 330139N 0384026 E PASIP 330600N 0385600E GIBUX 330715N 0411625E SIGBI 330200N 0422000E SILBO 325900N 0432900E	UL200	***AMMA*** ***N*** LOXER 320256N 362500E LUDAN 320256N 0363713 E KUPRI 320825N 0364530 E ASLON 321211N 0365111E NADEK 322728N 0371429E DAXEN 324444N 0374105E ORNAL 324755N0375153E KAREM 325110N 0380324 E KUMLO 325811N 0382807 E DAPUK 330139N 0384026 E PASIP 330600N 0385600E GIBUX 330715N 0411625E SIGBI 330200N 0422000E SILBO 325900N 0432900E
L223	SIRRI (SIR) NALTA 250242N 0553955E * Note 7 (OI-OM-OO) TARDI 243418N 0560915E LAKLU 232235N 05704 01E	UL223	DASIS 385430N 0441230E UROMIYEH (UMH) SANANDAJ (SNJ) KHORAM ABAD (KRD) MESVI 312920N 0495701E LAMERD (LAM) SIRRI (SIR) * Note 7 (OI-OM-OO) NALTA 250242N 0553955E TARDI 243418N 0560915E LAKLU 232235N 05704 01E
L300	LUXOR (LXR) MEMPO 252518N 0335457E	UL300	LUXOR (LXR) MEMPO 252518N 0335457E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	GIBAL2437.2N03634.7E YENBO (YEN) 2408.8N 03803.9E		GIBAL2437.2N03634.7E YENBO (YEN) 2408.8N 03803.9E
L301	RASKI 230330N 0635200E VAXIM 231900N 0611100E RAGMA 232301N 0603846E	UL301	AAU 5153N 07523 38.6E NOBAT 210902.5N 0880000.1E LADOT 220502N 0660001 RASKI 230330N 0635200E VAXIM 231900N 0611100E RAGMA 232301N 0603846E
L305	DOHA (DOH) *Note 7 (DOH-ITITA) *Note 8 (DOH-ASTOG) ASTOG 252822N 0525025E ITITA 2544.2N 05418.7E	UL305	DOHA (DOH) *Note 7 (DOH-ITITA) *Note 8 (DOH-ASTOG) ASTOG 252822N 0525025E ITITA 2544.2N 05418.7E
L306	TOKRA 220925N 0553350E * Note- 7 (OO) DEMKI 224941N 0562308E LAKLU 232235N 0570401E	UL306	TOKRA 220925N 0553350E * Note- 7 (OO) DEMKI 224941N 0562308E LAKLU 232235N 0570401E
L308	EGNOV 270301N 0474713E *Note 7 (EGNOV- SERSA) *Note 8 (EGNOV- OBNET) (JBL) 270220N 0492427E RAMSI 270249N 0500714E GASSI 2702.9N 05022.5E TOSDA 270005N 0505629E TORBO 265223N 0511024E SOGAN 263915N 0515408E DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E DESDI 253603N 0544230E RAGOL 252743N 0550739E SERSA 251945N 0553118E TUKLA 251936N 0554010E NADNI 251915N 0555658E LALDO 251806N 0563600E IMLOT 2517.1N 05708.1E KATUS 2515.9N 05747.0E DIVAB 2510.7N 05952.1E EGPIC 2508.6N 06029.5E (JIWANI) LATEM 2431.7N 06449.7E	UL308	EGNOV 270301N 0474713E *Note 7 (EGNOV- SERSA) *Note 8 (EGNOV- OBNET) (JBL) 270220N 0492427E RAMSI 270249N 0500714E GASSI 2702.9N 05022.5E TOSDA 270005N 0505629E TORBO 265223N 0511024E SOGAN 263915N 0515408E DEGSO 261054N 0531946E OBNET 260032N 0534514E ITITA 254410N 0541839E DESDI 253603N 0544230E RAGOL 252743N 0550739E SERSA 251945N 0553118E TUKLA 251936N 0554010E NADNI 251915N 0555658E LALDO 251806N 0563600E IMLOT 2517.1N 05708.1E KATUS 2515.9N 05747.0E DIVAB 2510.7N 05952.1E EGPIC 2508.6N 06029.5E (JIWANI) LATEM 2431.7N 06449.7E
L310	BOXAK 244536N 0540032E *Note 7 & 8 to LALDO SIGBO 2455.4N 05456.9E NALTA 2502.7N 05539.8E	UL310	BOXAK 244536N 0540032E *Note 7 & 8 to LALDO SIGBO 2455.4N 05456.9E NALTA 2502.7N 05539.8E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	AVAMI 2505.9N 05556.8E LALDO 251806N 0563600E		AVAMI 2505.9N 05556.8E LALDO 251806N 0563600E
L314	NABAN 163124N 0430148E GOMRI 131816N 0443224E	UL314	NABAN 163124N 0430148E GOMRI 131816N 0443224E
L315	CAIRO(CVO) HURGHADA (HGD) GIBAL 2437.2N 03634.7E	UL315	CAIRO(CVO) HURGHADA (HGD) GIBAL 2437.2N 03634.7E
L321	KATAB 292501N 0290506E ***KUN*** ***KI*** ***29072*** ***6N*** ***02919*** ***49E*** KUNAK 2527.7N 03041.2E LUGAV 224205N 0313722E SML 222118N 0313719E	UL321	KATAB 292501N 0290506E ***KUNKI*** ***290726*** ***N*** ***029194*** ***9E*** KUNAK 2527.7N 03041.2E LUGAV 224205N 0313722E SML 222118N 0313719E
		UL322	MUMBAI (BBB) * Note 7&1 SUGID 1933.1N 06921.0E BOLIS 2033.5N 065 00.0E REXOD 2112.5N 06138.5E
		UL333	DASIS TABRIZ (TBZ) RASHT (RST) GIBAB 3537.0N 05430.9E ALRAS 3511.3N 05541.6E TASLU 342632N 0574234E SOKAM 331316N 0603752E
L417	VUSEB 361637N 0434800E UMESA 351741N 0434307E MUTAG 343003N 0433834 E LAGLO 3515.6 04414.0E ELOSI 330800N 0441800E LOVEK 3222.1N 04440.0E ELIBA 320915N 0444645E NADOX 310505N 0451851E	UL417	VUSEB 361637N 0434800E UMESA 351741N 0434307E MUTAG 343003N 0433834 E LAGLO 3515.6 04414.0E ELOSI 330800N 0441800E LOVEK 3222.1N 04440.0E ELIBA 320915N 0444645E NADOX 310505N 0451851E
		UL425	KING ABDULAZIZ (JDW) TONBO 205502N 0394911E AL BAHA (BHA) BISHA (BSH) WADI AL DAWASIR (WDR) EGREN 202236N 0464422E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			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)
L430	VAXIM 231900N 0611100E MESPO 244936N 0593411E MELMI 264625N 0572300E TAVNO 281112N 0563252E ASMET 284827N 0560806E SRJ 2933.4N 05539.6E	UL430	VAXIM 231900N 0611100E MESPO 244936N 0593411E MELMI 264625N 0572300E TAVNO 281112N 0563252E ASMET 284827N 0560806E SRJ 2933.4N 05539.6E
L440	KANIP 2410.7N 05520.7E *Note 7 RETAS 235754N 0553423E	UL440	KANIP 2410.7N 05520.7E *Note 7 RETAS 235754N 0553423E
L444	KIPOL 230410N 0612903E *Note 7 (OO) VUSIN 225940N 0605510E MIBSA 225400N 0601338E KAXEM 225103N 0595243E IMDEK 224647N 0592217E TOLDA 224008N 0583624E	UL444	KIPOL 230410N 0612903E *Note 7 (OO) VUSIN 225940N 0605510E MIBSA 225400N 0601338E KAXEM 225103N 0595243E IMDEK 224647N 0592217E TOLDA 224008N 0583624E
L513	MURAK 3459.4N 03642.1E LEBOR 3415.9N 03635.0E DAMASCUS (DAM) * Note 3 (OS) BUSRA 3220.0 N 03637.0 E QUEEN ALIA (QAA) QATRANEH (QTR) MAZAR 3048.0N 03610.0E	UL513	MURAK 3459.4N 03642.1E LEBOR 3415.9N 03635.0E DAMASCUS (DAM) * Note 3 (OS) BUSRA 3220.0 N 03637.0 E QUEEN ALIA (QAA) QATRANEH (QTR) MAZAR 3048.0N 03610.0E
		UL516	KITAL 2003.0N 06018.0E ELKEL 0149.0N 06911.0E DIEGO GARCIA (NDG
L519	ABU DHABI (ADV) *Note 7 (OM) NAMSI 2437.5N 05456.8E EMERU 244829N 0550303 LUDER 2457.5N 05505.2E	UL519	ABU DHABI (ADV) *Note 7 (OM) NAMSI 2437.5N 05456.8E EMERU 244829N 0550303 LUDER 2457.5N 05505.2E
		UL550	WAFRA (KFR) NIDAP 283850N 0473656E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			BOSID ***2842.4N*** ***04652.6*** ***E*** VATIM 2851.6N 04444.7E RASMO 2857.2N 04331.3E ORSAL2902.8N 04210.8E NIMAR 2906.6N 03954.4E KITOT 2902.1N 03450.8E NUWEIBAA (NWB) TABA (TBA) EL ARISH (ARH) PASOS (KAROL 3252.0N 03229.0E)
L551	ANTAR 334800N 0281600E EL DABA (DBA) 310041N 0282801E	UL551	ANTAR 334800N 0281600E EL DABA (DBA) 310041N 0282801E
L555	TOTOX 215030N 0622230E TUMET 222307N 0595702E TOLDA 224008N 0583624E	UL555	TOTOX 215030N 0622230E TUMET 222307N 0595702E TOLDA 224008N 0583624E
		UL556	EGREN 202236N 0464422E NONGA 205048N 0492014E PURDA 210805N 0510329E Note:- 7 (OO, OB) IMDAM 202416N 0550801E OTISA 201000N 0554556E HAIMA (HAI) 195813N 0561651E GIVNO 195011N 0563059E KUTVI 184306N 0582642E
		UL560	ARDABIL (ARB) 3819.9N 04824.9E * Note 3&4 (OI) SEVAN (SVN) 4032.0N 04456.9E
L564	DOHA (DOH) *Note 8 (DOH-PURDA) NAJMA 250346N 0513908E BATHA (BAT) 241257N 0512707E MIGMA 225035N 0512749E PURDA 210805N 0510329N ASTIN 200410N 0495320E SHARURAH (SHA) ATBOT 171418N 0464706E RAGNI 163454N 0454815E LOPAD 161651N 0453738E ITOLI 152825N 0450927E OBNAM 144541N 0444448E	UL564	DOHA (DOH) *Note 8 (DOH-PURDA) NAJMA 250346N 0513908E MIGMA 225035N 0512749E PURDA 210805N 0510329N ASTIN 200410N 0495320E SHARURAH (SHA) ATBOT 171418N 0464706E RAGNI 163454N 0454815E LOPAD 161651N 0453738E ITOLI 152825N 0450927E OBNAM 144541N 0444448E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	GEVEL 141229N 0442547E NOPVO 135436N 0441536E TAZ 134149.53N 0440818.98E PARIM 123142N 0432712E		GEVEL 141229N 0442547E NOPVO 135436N 0441536E TAZ 134149.53N 0440818.98E PARIM 123142N 0432712E
		UL566	ASMAK 162327N 0524634E UKNEN 160542N 0522012E PURUG 151204N 0510142E KUSOL 144009N 0501534E NOTBO 142609N 0495530E EMABI 141627N 0494139E SOKEM 134235N 0485329E DATEG 123549N 0471627E
		UL572	KAMISHLY (KML) LESRI 3704.3N 04113.8E HASSAKEH (HAS) 3629N 04045.3E DIER ZZOR (DRZ) TANF (TAN)
		UL573	DAFINAH (DFN) 231658N 0414310E PMA WEJH (WEJ) 261045N 0362917E
		UL601	BAGLUM (BAG) 04004.2 03248.6) * Note 7 ADANA 3656.4N 03512.6E (ADA) TUNLA 3553.0N 0360200E) KARIATAIN 3412.8N 03715.9E
		UL602	BAHRAIN (BAH) *Note 7 PEBOS 262722N0503043E RULEX 264529N 0501745E RAMSI 270249N 0500714E IVONI 275911N 0492131E DAVUS 282346N 0490622 DARVA 284814N 0484734E ALVIX 2919.3N04824.2E FALKA 292611N 0481819E TASMI 300120N 0475505E LOVEK322206N 0444000E DELMI331911N 0431731E ELEXI 344237N 0411054E DRZ 351724N 0401124E KUKSI 364508N 0374910E GAZ 365701N 0372824E
L604	PLH 3513.7N 02340.9E SALUN 340000N 0242700E *	UL604	PLH 3513.7N 02340.9E SALUN 340000N 0242700E *

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	BRN 3134.5N 02600.3E KHG 2526.9N 03035.4E LUXOR (LXR) 254458 N 0324607E IMRAD 260500N 0354400E WEJH 2610.8N 03629.3E HLF 262600N 03916.1E GASSIM (GAS) 2617.9N 04346.8E *Note 7 (GAS-KFA) PUSLA 261758N 0461706E *Note 8 to TOSNA MGA 2617.3N 04712.4E ALMAL 2615.9N 04821.1E KING FAHD (KFA) 2621.9N 04949.2E BAHRAIN (BAH) ASNIX 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E		BRN 3134.5N 02600.3E KHG 2526.9N 03035.4E LUXOR (LXR) 254458 N 0324607E IMRAD 260500N 0354400E WEJH 2610.8N 03629.3E HLF 262600N 03916.1E GASSIM (GAS) 2617.9N 04346.8E *Note 7 (GAS-KFA) PUSLA 261758N 0461706E *Note 8 to TOSNA MGA 2617.3N 04712.4E ALMAL 2615.9N 04821.1E KING FAHD (KFA) 2621.9N 04949.2E BAHRAIN (BAH) ASNIX 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E KAPAX 254218N 0515118E ORSIS 252801N 0521636E ENANO 252348N 0522559E TOSNA 251612N 0524116E
		UL607	SITIA (SIT) * Note 7 PAXIS 3357.1N02720.0E OTIKO 3134.4N 02936.6E ALEXANDRIA (NOZ)
L612	KUMBI 334250N 0284500E LABNA 321956N 0301612E BALTIM (BLT) 313144N 0310721E	UL612	KUMBI 334250N 0284500E LABNA 321956N 0301612E BALTIM (BLT) 313144N 0310721E
		UL613	EL – DABA (DBA) * Note 7 SOKAL 3236.0N 02720.0E TANSA 3400.0N 02649.0E
L617	ALEXANDRIA NOZ IMRUT 313259N 0293346E ASNIR 323849N 0282144E TANSA 340000N 0264900E	UL617	ALEXANDRIA NOZ IMRUT 313259N 0293346E ASNIR 323849N 0282144E TANSA 340000N 0264900E
L620	BALMA 342856N 0350302E KAD 334827N 0352910E	UL620	BALMA 342856N 0350302E KAD 334827N 0352910E
L631	TOTOX 215030N0622230E IVOMA 223408N 0605430E * Note 7 (OO) MIBSA 225400N 0601338E	UL631	TOTOX 215030N0622230E IVOMA 223408N 0605430E * Note 7 (OO) MIBSA 225400N 0601338E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	AMBOS 230324N 0595405E ELIGO 232458N 0590848E KARAR 233042N 0585438E MCT 233528.01N 0581536.47		AMBOS 230324N 0595405E ELIGO 232458N 0590848E KARAR 233042N 0585438E MCT 233528.01N 0581536.47
L677	(CAIRO) 3005.5N 03123.3E MENLI 2947.0N 03152.1E KAPIT 2917.0N 03236.1E SHARM EL SHEIKH PASAM 2730.8N 03455.7E *Note 7(OE) WEJH 2610.8N 03629.3E MUVAT 2537.9N 03654.8E YEN 2409.0N 03802.3E JDW 2140.7N 03910.0E QUN 1922.2N 04104.5E TALIB 1838.9N 04131.2E GIZ 1654.5N 04234.7E NABAN 1631.4N 04301.8E IMSIL 1557.6N 04313.2E SAA 1530.0N 04413.2E	UL677	(CAIRO) 3005.5N 03123.3E MENLI 2947.0N 03152.1E KAPIT 2917.0N 03236.1E SHARM EL SHEIKH PASAM 2730.8N 03455.7E *Note 7(OE) WEJH 2610.8N 03629.3E MUVAT 2537.9N 03654.8E YEN 2409.0N 03802.3E JDW 2140.7N 03910.0E QUN 1922.2N 04104.5E TALIB 1838.9N 04131.2E GIZ 1654.5N 04234.7E NABAN 1631.4N 04301.8E IMSIL 1557.6N 04313.2E SAA 1530.0N 04413.2E
L681	EGNOV 270301N 0474713E * Note 5 & 7 & 8 to SALWA GEPAK 2633.0N 04843.5E RADMA 2623.0N 04857.5E DELMU 2618.9N 04903.4E ROSEM 2607.7N 04919.0E SALWA 251538N 0503048E	UL681	EGNOV 270301N 0474713E * Note 5 & 7 & 8 to SALWA GEPAK 2633.0N 04843.5E RADMA 2623.0N 04857.5E DELMU 2618.9N 04903.4E ROSEM 2607.7N 04919.0E SALWA 251538N 0503048E
L695	PAROK 231030N 0590245E *Note 7 (OO) ITURA 232351N 0580720E	UL695	PAROK 231030N 0590245E *Note 7 (OO) ITURA 232351N 0580720E
L764	MUSCAT (MCT) ALMOG 233524N 0574940E IVETO 233520N 0570704E PAXIM 240245N 0561631E	UL764	MUSCAT (MCT) ALMOG 233524N 0574940E IVETO 233520N 0570704E PAXIM 240245N 0561631E
L768	ALPOB 254218N 0530055E * Note 7 to FIRAS * Note 8 (ALPOB-COPPI) ROTAG 255353N 0523621E SOLEG 260159N 0521756E RAMKI 261138N 0515625E RABLA 261506N 0514834E SOLOB 262241N 0513132E MEDMA 263421N 0505454E TOTLA 263806N 0504301E COPPI 2750.6N 04744.0E	UL768	ALPOB 254218N 0530055E * Note 7 to FIRAS * Note 8 (ALPOB-COPPI) ROTAG 255353N 0523621E SOLEG 260159N 0521756E RAMKI 261138N 0515625E RABLA 261506N 0514834E SOLOB 262241N 0513132E MEDMA 263421N 0505454E TOTLA 263806N 0504301E COPPI 2750.6N 04744.0E HFR

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
			VATIM 2851.6N 04444.7E RAFHA (RAF) ARAR (AAR) OVANO3148.0N 03909.9E OTILA 3201.5N 03901.9E MODAD 3235.7N 03841.6E SOKAN 3308.1N 03822.1E RAFIF 3312.8N 03819.3E SULAF 3327.3N 03810.4E FIRAS 3352.3N 03755.2E
		UL883	REXOD 211230N 0613830E GADMA 211439N 0600938E TAVKO 211519N 0593147E UMILA 211555N 0584738E MEVLI 211632N 0565606E KUROV 211627N 0561853E ALNUN 211625N 0561041E SITOL 211604N 0552514E PURDA 210805N 0510329E ALRIK 220631N 0482535E UMRAN 2315.1N 04520.4E TUKVU 2346.4N 04353.3E BIR DARB (BDB) PMA N243251N 0394219E
		UL894	KITAL 2003.0N 06018.0E (MALE (MLE) (SUNAN 0028.7N 07800.0E) (DADAR 0200.0S 07927.1E) (PERTH (PH)
M203	PUSTO 3321.0N 04245.0E LOVEK 3222.1N 04440.0E ILMAP 312133N 0465702E	UM203	PUSTO 3321.0N 04245.0E LOVEK 3222.1N 04440.0E ILMAP 312133N 0465702E
M300	LOTAV 2037N 0605700E EMURU 221535N 0584950E	UM300	(CALICUT) CLC LOTAV 2037N 0605700E EMURU 221535N 0584950E
M301	PURAD 145500N 0415354E SANA'A (SAA) ITOLI 152825N 0450927E ASMAK162327N 0524634E	M301	PURAD 145500N 0415354E SANA'A (SAA) ITOLI 152825N 0450927E ASMAK162327N 0524634E
M303	MCT 233528.01N 0581536.47E *Note 7 (OO) SEVLA 233321N 0591122E KIPOL230410N 0612903E	UM303	MCT 233528.01N 0581536.47E *Note 7 (OO) SEVLA 233321N 0591122E KIPOL230410N 0612903E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
M305	BRN 3134.5N 02600.3E ATMUL 200000N 2905.4E *Note 3	UM305	BRN 3134.5N 02600.3E ATMUL 200000N 2905.4E *Note 3
		UM309	KIND KHALED (KIA) RAGHBA (RGB) RABTO 221608N 0400326E
M312	DBA 3100.7N 02828.0E AMIBO 3456.7N 2136.4E *Note 3 (HE)	UM312	DBA 3100.7N 02828.0E AMIBO 3456.7N 2136.4E *Note 3 (HE)
M316	KANAS 251552N 0574700E GOKSO 265542N 0604012E	UM316	KANAS 251552N 0574700E GOKSO 265542N 0604012E
M318	DARAX 260942N 0555300E *Note 8 (DARAX-MUXIT) SERSA 251945N 0553118E MIADA 245112N 0545736E ABU DHABI (ADV) 242508N 0544023E ATUDO 241708N 0543532E MUSEN 241429N 0543336E GOLGU 231151N 0523109E MUXIT 230230N 0523024E KITAP 224928N 0522923E PURDA 210805N 0510329E SHARURAH (SHA)	UM318	DARAX 260942N 0555300E *Note 8 (DARAX-MUXIT) SERSA 251945N 0553118E MIADA 245112N 0545736E ABU DHABI (ADV) 242508N 0544023E ATUDO 241708N 0543532E MUSEN 241429N 0543336E GOLGU 231151N 0523109E MUXIT 230230N 0523024E KITAP 224928N 0522923E PURDA 210805N 0510329E SHARURAH (SHA)
M320	KING FAHD (KFA) KODAG 2703.3N 04920.4E RAS ASVIR 283220N 0482220E KUWAIT (KUA)	UM320	KING FAHD (KFA) KODAG 2703.3N 04920.4E RAS ASVIR 283220N 0482220E KUWAIT (KUA)
M321	HALAIFA 262602N 0391609E (HLF) ROSUL 2539.7N 04215.3E OVEKU 2509.9 04457.0E KING KHALED (KIA) RESAL 240649N 0470427E AMBAG 230529N 0474611E ALRIK 220631N 0482525E NONGA 205048N 0492014E ASTIN 200410N 0495320E SILPA 184953N 0510158E IMPOS 183136N 0511848E LOTEL 180926N 0514103E PUTRA 165432N 0525631E	UM321	HALAIFA 262602N 0391609E (HLF) ROSUL 2539.7N 04215.3E OVEKU 2509.9 04457.0E KING KHALED (KIA) RESAL 240649N 0470427E AMBAG 230529N 0474611E ALRIK 220631N 0482525E NONGA 205048N 0492014E ASTIN 200410N 0495320E SILPA 184953N 0510158E IMPOS 183136N 0511848E LOTEL 180926N 0514103E PUTRA 165432N 0525631E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
M425	SILKO 3347.9N 03435.0E CAK	UM425	SILKO 3347.9N 03435.0E CAK
M428	RIKET 251859N 0560200E *Note 7/8 (OO/OM) 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	*Note 5 (KIA-DOH) KING KHALID (KIA) KOBOX 250716N 0475046E KIREN 251447.0N 0490724.0E *Note 8 (KIREN-TOSNA) HAS 2516.7N 04929.0E LAGNO 251613N 0511518E DOHA (DOH) *Note 7 (DOH-KISAG) TOSNA 251612N 0524116E KISAG 251834N 0541408E	UM430	*Note 5 (KIA-DOH) KING KHALID (KIA) KOBOX 250716N 0475046E KIREN 251447.0N 0490724.0E *Note 8 (KIREN-TOSNA) HAS 2516.7N 04929.0E LAGNO 251613N 0511518E DOHA (DOH) *Note 7 (DOH-KISAG) TOSNA 251612N 0524116E KISAG 251834N 0541408E
M434	UMESA 351741N 0434307E OTALO 351700N 0441900E IVANO 351724N 0451235E BOXIX 351724N 0460921E ALSAX 351607N 0463118E SANANDAJ (SNJ) HAMDAN(HAM) SAVEH(SAV)	UM434	UMESA 351741N 0434307E OTALO 351700N 0441900E IVANO 351724N 0451235E BOXIX 351724N 0460921E ALSAX 351607N 0463118E SANANDAJ (SNJ) HAMDAN(HAM) SAVEH(SAV)
		UM440	KING KHALED (KIA) OTAMA 235148N 0494707E KUTNA 231341N 0512730E KITAP 224928N 0522923E TOKRA 220925N 0553350E
M449	BUSRA 322000N 0363700E MAZAR 3048.0N 03610.0E GIBET 2926.3N 03625.0E TABUK (TBK) WEJH (WEJ)	UM449	BUSRA 322000N 0363700E MAZAR 3048.0N 03610.0E GIBET 2926.3N 03625.0E TABUK (TBK) WEJH (WEJ)
M551	KIVEL 165306N 0553633E DAXAM 171612N 0544715E	UM551	DONSA1435.3N06344.0E ANGAL1614.1N 06000.1E OTOTO 164004N 0570435E KIVEL 165306N 0553633E DAXAM 171612N 0544715E
M557	ATBOR 251007N 0551947E	UM557	ATBOR 251007N 0551947E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	*Note7 & 8 to MIDSI NADIL 252252N 0544717E NABOP 252607N 0540405E EMAGO 253456N 0535751E VUVOK 254408N 0533024E TUMAK 255031N 0531108E ALTOM 262230N 0515639E TOXEL 263020N 0515553E MIDSI 264142N 0515442E		*Note7 & 8 to MIDSI NADIL 252252N 0544717E NABOP 252607N 0540405E EMAGO 253456N 0535751E VUVOK 254408N 0533024E TUMAK 255031N 0531108E ALTOM 262230N 0515639E TOXEL 263020N 0515553E MIDSI 264142N 0515442E
M559	LABNI 165620N 0410921E NISMI 162415N 0421838E ITOLI 152825N 0450927E MUKALLA (RIN) VEDET 120134N 0512410E	UM559	LABNI 165620N 0410921E NISMI 162415N 0421838E ITOLI 152825N 0450927E MUKALLA (RIN) VEDET 120134N 0512410E
M561	KISH (KIS) MOBET 2645.3N 05609.8E ASVIB 265724N 0631812E PANJGUR (PG)	UM561	KISH (KIS) MOBET 2645.3N 05609.8E ASVIB 265724N 0631812E PANJGUR (PG)
		UM573	TEHERAN (TRN) TABRIZ (TBZ) 3808.3N 04613.9E
		UM574	MALE) (MLE) (POPET) 0713.7N06813.6E NABIL 1222.0E0600.0E RIGAM 143932N 0530414E NOBSU 171554N 0431318E
M600	RANBI 251908N 0544500E KISAG 251834N 0541408E SINGU 253706N 052570E NOBLA 255111N 0522740E TOBLI 262134N 0512301E RULEX 264529N 0501745E	UM600	RANBI 251908N 0544500E KISAG 251834N 0541408E SINGU 253706N 052570E NOBLA 255111N 0522740E TOBLI 262134N 0512301E RULEX 264529N 0501745E
M628	LUDID 230227N 0551800E LABSA 230153N 0555505E EGVAN 230127N 0561907E TULBU 230005N 0571827E IZK 225318.60N 0574542.73E TOLDA 224008N 0583624E LOXOP 223722N 0594548E LADAP 223513N 0603238E IVOMA 223408N 0605430E PARAR 222630N 0630700E	UM628	DAFINAH (DFN) 231700N 0414312E KIPOM 225316N 0501518E MIGMA 225035N 0512749E KITAP 224928N 0522923E ALPEK 224648N 0535942E LUDID 230227N 0551800E LABSA 230153N 0555505E EGVAN 230127N 0561907E TULBU 230005N 0571827E IZK 225318.60N 0574542.73E TOLDA 224008N 0583624E LOXOP 223722N 0594548E LOSIM 223513N 0603238E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			IVOMA 223408N 0605430E PARAR 222630N 0630700E
M634	ANGAL 161406N 0600006E VEDET 120134N 0512410E DAROT 0911.4N 04721.2E	UM634	ANGAL 161406N 0600006E VEDET 120134N 0512410E DAROT 0911.4N 04721.2E
M651	ATBOT 171418N 0464706E ADEN (KRA) (HARGEISA) HARGA	UM651	ATBOT 171418N 0464706E ADEN (KRA) (HARGEISA) HARGA
M677	SESRA 2908.0N 04854.9E RABAP 283625N 0492722E GEVAL 282101N 0494300E UMAMA 265831N 0504648E	UM677	SESRA 2908.0N 04854.9E RABAP 283625N 0492722E GEVAL 282101N 0494300E UMAMA 265831N 0504648E
M681	TARBO 244351N 0574637E *Note 7/8 (OO) DAMUM 243236N 0591307E	UM681	TARBO 244351N 0574637E *Note 7/8 (OO) DAMUM 243236N 0591307E
M686	LUXOR (LXR) MEMPO 252518N 0335457E GIBAL 243712N 0363442E KING ABDULAZIZ (JDW)	UM686	LUXOR (LXR) MEMPO 252518N 0335457E GIBAL 243712N 0363442E KING ABDULAZIZ (JDW)
		UM688	CRM GULRA ERN EVSAS BAYIR 383541N 0412414 E ULTED OTKEP NINVA 372100N 0431300E ROXOP 364917N 0433100E VUSEB 3616 37N E0434800E OTALO 351700N 0441900E RIDIP 343012N 0444027E UKMUG 334300N 0450329E VAXEN 3318 00N 0451500E PAPUS 325334N 0452706E KATUT 323737N 0453439E DENKI 322228.46N 0455121.58E ILMAP 31 21 33N 0465702E PEBAD 305023.09N 0472958.49E SIDAD 295231N 0482944E
		UM690	ZELAF 325656N 0371121E ORNAL 324755N0375153E DESLI 314921N 0365909E ELOXI 313359N 0364536E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			KULDI 311847 0363214E MAZAR 3048N 3610E ROVAR 292438N0345711E
M691	DEDAS 2630.2N 05014.4E KING FAHAD KUSAR 264741N 0490218E KEDAT 2721.8N 04759.0E ITIXI 275031N 0470435E	UM691	DEDAS 2630.2N 05014.4E KING FAHAD KUSAR 264741N 0490218E KEDAT 2721.8N 04759.0E ITIXI 275031N 0470435E
M762	REXOD 211230N 0613830E SUR 223159N 0592829E ITURA 232351N 0580720E ALMOG 233524N0574940E TAPRA 242607N 0563803E VAXAS 244308N 0561807E * Note 7 (OM, OO) BUBIN 245742N 0560642E		
M860	KUGOS 4246.8N 03405.3E SINOP (SIN) CARSAMBA (CRM) SRT 3754.6N 04152.9E KABAN N371456N 0423859E EMIDO 364411.33N 042 56 00E SEVKU 360548.02N 0431715.84E UMESA 351741.49N 0434306.89E TAGRU 342958.95N 0440816.67E PUTSI 333200N E044 3700E ITOVA 331950.91N 0444 28.97E SEPTU 331300N 0444400E LONOR 323838.63N 0450458.48E ULIMA 321500N 0451600E ITBIT 314735.20N 045 2916.57E RUGIR 303219.06N 046 0618.20E MOBIS 295108.84N 047 0457.39E	UM860	KUGOS 4246.8N 03405.3E SINOP (SIN) CARSAMBA (CRM) SRT 3754.6N 04152.9E KABAN N371456N 0423859E EMIDO 364411.33N 042 56 00E SEVKU 360548.02N 0431715.84E UMESA 351741.49N 0434306.89E TAGRU 342958.95N 0440816.67E PUTSI 333200N E044 3700E ITOVA 331950.91N 0444 28.97E SEPTU 331300N 0444400E LONOR 323838.63N 0450458.48E ULIMA 321500N 0451600E ITBIT 314735.20N 045 2916.57E RUGIR 303219.06N 046 0618.20E MOBIS 295108.84N 047 0457.39E
		UM861	***ELEXI*** ***3441.5N*** ***04109.0*** ***E*** DIER-ZZOR (DRZ) ALEPPO (ALE) ***NISAP*** ***364724*** ***N*** ***036383*** ***0E***
M863	KING ABDUL AZIZ (JDW	UM863	KING ABDUL AZIZ (JDW

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	214237N 0390948E GIBAP 212218N 0380931E TOMRU 204411N 0361950E ASKOL 1548.9N 02400.1E KITOB 1521.7N 02258.8E IPONO 150621 N 0222436 E N'DJAMENA (FL) 1208.5N 01502.3E		214237N 0390948E GIBAP 212218N 0380931E TOMRU 204411N 0361950E ASKOL 1548.9N 02400.1E KITOB 1521.7N 02258.8E IPONO 150621 N 0222436 E N'DJAMENA (FL) 1208.5N 01502.3E
M872	PLH 3513.7N 02340.9E *Note 7 (PLH-DBA) METRU 340000N 0250900E KANAR 322727N 0265330E EL DABA (DBA) 310041N 0282801E FYM 2923.8N 03023.6E *Note 7 (FYM-SEMRU) SEMRU 280200N 0320306E HURGHADA (HGD) SILKA 263400N 0352900E WEJH (WEJ) 261046N 0362917E KODIN 2517.9N 03836.2E MADINAH (PMA) *Note 7 (PMA-MIDSI) BIR DARB (BDB) AL DAWADMI (DAW) KING KHALID (KIA) AKRAM 255036N 0475133E *Note 8 to MIDSI ALMAL 261553N 0482108E DAVRI 264936N 0505732E MIDSI 264142N0515442E	UM872	PLH 3513.7N 02340.9E *Note 7 (PLH-DBA) METRU 340000N 0250900E KANAR 322727N 0265330E EL DABA (DBA) 310041N 0282801E FYM 2923.8N 03023.6E *Note 7 (FYM-SEMRU) SEMRU 280200N 0320306E HURGHADA (HGD) SILKA 263400N 0352900E WEJH (WEJ) 261046N 0362917E KODIN 2517.9N 03836.2E MADINAH (PMA) *Note 7 (PMA-MIDSI) BIR DARB (BDB) AL DAWADMI (DAW) KING KHALID (KIA) AKRAM 255036N 0475133E *Note 8 to MIDSI ALMAL 261553N 0482108E DAVRI 264936N 0505732E MIDSI 264142N0515442E
		UM877	VUSET 235540N 0590812E ITILA 234015N 0584817E KUSRA 232426N 0582611E
M999	GS DITAR 265903N 0250000E KHG KUNAK (LUXOR) LXR DEDLI 2242 32N 03737 19E IMLER 221706N 0381653E KING ABDULAZIZ (JDW) TOKTO 194421N 00395945E DANAK 1608.0N 04129.0E (ASSAB) SB	UM999	GS DITAR 265903N 0250000E KHG KUNAK (LUXOR) LXR DEDLI 2242 32N 03737 19E IMLER 221706N 0381653E KING ABDULAZIZ (JDW) TOKTO 194421N 00395945E DANAK 1608.0N 04129.0E (ASSAB) SB
N300	DOH 2514.0N 05134.6E *Note 7 & 8 to TONVO NAMLA 2505.5N 05233.3E	UN300	DOH 2514.0N 05134.6E *Note 7 & 8 to TONVO NAMLA 2505.5N 05233.3E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	BOXAK 244536N 0540032E MIADA 245112N 0545736E TONVO 250500N 0563200E		BOXAK 244536N 0540032E MIADA 245112N 0545736E TONVO 250500N 0563200E
N302	SIDAD 295231N 0482944E ALVIX 291915N 0482944E	UN302	SIDAD 295231N 0482944E ALVIX 291915N 0482944E
N303	(HARGEISA) HARGA PARIM 1231.7N 04327.2E RIBOK1547N 04152.5E LABNI 1656.3N 04109.4E	UN303	(HARGEISA) HARGA PARIM 1231.7N 04327.2E RIBOK1547N 04152.5E LABNI 1656.3N 04109.4E
N307	MELDO 320201N 0310406E LAKTO 323800N 0320500E	UN307	MELDO 320201N 0310406E LAKTO 323800N 0320500E
N310	BALMA 342856N 0350302E CAK 341802N 0354200E LATEB 3401.9N 03624.1E BASEM 3333.6N 03739.1E	UN310	BALMA 342856N 0350302E CAK 341802N 0354200E LATEB 3401.9N 03624.1E BASEM 3333.6N 03739.1E
		UN315	ASPUX 174406N 0600006E KUTVI 184306N 0582642E Note:- 7 (OO/OB) SITOL 211604N 0552514E LOTOS 220000N 0503912E RAPMA 232256N 0482028E RESAL 240649N 0470427E KING KHALED (KIA)
		UN316	HALAIFA (HLF) 262603N 0391609E PASAM 273045N 0345542E
N318	QAA 314423N 0360926E ALNOR 313955N 0362507E KINUR 313626N 0363714E ELOXI 313359N 0364536E GENEX 3129.6N 3700.9E GURIAT (GRY) ORKAS 3047.4N 03846.3 E NEVOL 3024.7N 03938.6E VELAL2946.0N 04038.4E TAMRO 2838.6N 04240.8E * Note7 (OE, OB, OM, OO) MOGON 2738.8N 04445.9E TAGSO 272744N 0454510E *Note 8 (OB, OO) EGNOV 270301N 0474713E KUSAR 264741N 0490218E ASPAN 263255N 0494903E DEDAS 263011N 0501427E	UN318	QAA 314423N 0360926E ALNOR 313955N 0362507E KINUR 313626N 0363714E ELOXI 313359N 0364536E GENEX 3129.6N 3700.9E GURIAT (GRY) ORKAS 3047.4N 03846.3 E NEVOL 3024.7N 03938.6E VELAL2946.0N 04038.4E TAMRO 2838.6N 04240.8E * Note7 (OE, OB, OM, OO) MOGON 2738.8N 04445.9E TAGSO 272744N 0454510E *Note 8 (OB, OO) EGNOV 270301N 0474713E KUSAR 264741N 0490218E ASPAN 263255N 0494903E DEDAS 263011N 0501427E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	ASTAD 261812N 0505646E VUTAN 255016N 0515218E RESAR 253707N 0522328E UMABA 252703N 0524322E OVONA 252443N 0524739E (segment LOXAT - REXOD KATIK 2517.1N 05315.2E KANIP 2410.7N 05520.7E LABRI 240344N 0553842E EGROK 235253N 0560126E LAKLU 232235N 0570401E GEVED 230105N 0575111E TOLDA 223720N 0583503E REXOD211230N 0613830E		ASTAD 261812N 0505646E VUTAN 255016N 0515218E RESAR 253707N 0522328E UMABA 252703N 0524322E OVONA 252443N 0524739E (segment LOXAT-REXOD) KATIK 2517.1N 05315.2E KANIP 2410.7N 05520.7E LABRI 240344N 0553842E EGROK 235253N 0560126E LAKLU 232235N 0570401E GEVED 230105N 0575111E TOLDA 223720N 0583503E REXOD211230N 0613830E
		UN319	ZAHEDAN (ZDN) TABAS (TBS) DASHT-E-NAZ (DNZ) ULDUS- 3800.0N 05101.0E LUSAL 4035.0N 04757.0E ADEKI 4117.8N 04645.0E TBILIS (TBS) MUKHARANI (DF) ALI (BT) LOBIN 4210.9N 04306.4E IBERI 4209.6N 04143.3E
N324	PURDA 210805N 0510329E GOBRO 193622N 0534741E ASTUN 180832N 0551040E	UN324	PURDA 210805N 0510329E GOBRO 193622N 0534741E ASTUN 180832N 0551040E
N430	TARBO 244351N 0574637E *Note 7/8 (OO) ITLOB 244325N 0590701E	UN430	TARBO 244351N 0574637E *Note 7/8 (OO) ITLOB 244325N 0590701E
N438	LITAN 333456N 0343758E KAD 334827N 0352910E CAK 341802N 0354200E RA 343510N 0360010E	UN438	LITAN 333456N 0343758E KAD 334827N 0352910E CAK 341802N 0354200E RA 343510N 0360010E
N440	MOBON 274414N 0552513E DARAX 260916N 0555307E	UN440	MOBON 274414N 0552513E DARAX 260916N 0555307E
		UN555	BELGAUM (BBM) BISET 1823.4N 06918.1E KATBI 1931.6N 06500.0E LOTAV 2037.0N 06057.0E
N563	REXOD 211230N 0613830E *Note 8 (OB, OM)	UN563	(BANGALORE) BBG *Note 8 (OB, OM)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	*Note 7 (OB, OO, OM)		REXOD 211230N 0613830E
	EMURU 221357N 0585338E		*Note 7 (OB, OO,OM)
	TULBU 230005N 0571827E		EMURU 221357N 0585338E
	MEKNA 223309N 0560815E		TULBU 230005N 0571827E
	SODEX 234954N 0553202E		MEKNA 223309N 0560815E
	NOBTO 235525N 0551840E		SODEX 234954N 0553202E
	ADV		NOBTO 235525N 0551840E
	MEMBI 243705N 0542631E		MEMBI 243705N 0542631E
	ATBEX 250739N 0535019E		ATBEX 250739N 0535019E
	ITROK 253557N 0532751E		ITROK 253557N 0532751E
	ALPOB 254218N 0530055E		ALPOB 254218N 0530055E
	ROTAG 255353N 0523621E		ROTAG 255353N 0523621E
	SOLEG 260159N 0521756E		SOLEG 260159N 0521756E
	SOLOB 262241N 0513132E		SOLOB 262241N 0513132E
	MEDMA 263412N 0505454E		MEDMA 263412N 0505454E
	TOTLA 263806N 0504301E		TOTLA 263806N 0504301E
	RULEX 264529N 0501745E		RULEX 264529N 0501745E
	SILNO 264026N 0475745E		SILNO 264026N 0475745E
	GIBUS 255724N 0472829E		GIBUS 255724N 0472829E
		UN569	BONUM 221252N 0393805E
			RABTO 221608N 0400326E
			LOTOS
			*Note:- 7 (LOTOS-GOLNI)
			TOKRA 220925N 0553350E
			TOPSO 215653N 0562043E
			MOGOK 215057N 0564236E
			KEBAS 214330N 0570948E
			GISKA 213503N 0574014E
			UMILA 211555N 0584738E
			GOLNI 210014N 0594130E
			LOTAV 203700N 0605700E
N571	PARAR 2226.5 N 06307E	UN571	(GUNIP 0429.9N 09931.8E)
	*Note 7 & 8 (OB, OM, OO)		(VAMPI 0610.9N 09735.1E)
	KIPOL 230410N 0612903E		(MEKAR 0630.2N 06929.5E)
	RAGMA 230600N 0610539E		(SUGID- 1933.1 N 06921.0E)
	SODEB 234747N 0593023E		PARAR 2226.5 N 06307E
	VUSET 235540N 0590812E		*Note 7 & 8 (OB, OM, OO)
	KIROP 243000N 0574700E		KIPOL 230410N 0612903E
	MENSA 245750N 0563249E		RAGMA 230600N 0610539E
	AVAMI 250554N 0555647E		SODEB 234747N 0593023E
	ATBOR 251007N 0551947E		VUSET 235540N 0590812E
	MUVLA 251716N 0544500E		KIROP 243000N 0574700E
	SENTO 251908N 0544500E		MENSA 245750N 0563249E
	ELUKU 252910N 0535610E		AVAMI 250554N 0555647E
	ITROK 253557N 0532751E		ATBOR 251007N 0551947E
	ALPOB 254218N 0530055E		MUVLA 251716N 0544500E
	SOLOB 262241N 0513132E		SENTO 251908N 0544500E
	MEDMA 263412N 0505454E		ELUKU 252910N 0535610E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E KUTEM 264359N 0473521E BOPAN (BPN) 270314N 0452642E		ITROK 253557N 0532751E ALPOB 254218N 0530055E SOLOB 262241N 0513132E MEDMA 263412N 0505454E TOTLA 263806N 0504301E RULEX 264529N 0501745E SILNO 264026N 0475745E KUTEM 264359N 0473521E BOPAN (BPN) 270314N 0452642E
N629	TARDI 243418N 0560915E *Note 7 (OO) NOSMI 241757N 0563002E MUSUK 234320N 0572148E GEPOT 231446N 0580053E GIDAN 230104N 0582232E TOTOX 215030N 0622230E	UN629	TARDI 243418N 0560915E *Note 7 (OO) NOSMI 241757N 0563002E MUSUK 234320N 0572148E GEPOT 231446N 0580053E GIDAN 230104N 0582232E TOTOX 215030N 0622230E
N638	KING KHALED (KIA) OVEKU 250955N 0445701E MADINAH (PMA)	UN638	KING KHALED (KIA) OVEKU 250955N 0445701E MADINAH (PMA)
N685	TAGSO 272744N 0454510E *Note 7 (TAGSO-KUSAR) *Note 8 (TAGSO-TOSNA) DEBOL 272116N 0461843E TORTA 271906N 0462911E ALSAT 270611N 0473118E EGNOV 270301N 0474713E KUSAR 264741N 0490218E KING FAHAD (KFA) BAHRAIN (BAH) 261551N 0503856E ASNIX 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E *Note 7 to LAKLU KAPAX 254218N 0515118E ORSIS 252801N 0521636E TOSNA 251612N 0524116E TOPSI 250910N 0531200E BOXAK 244536N 0540032E ADV 242508N 0544024 RETAS 235754N 0553423E *Note 8 (OO) PUTSO 232037N 0565322E LAKLU 232235N 0570401E	UN685	TAGSO 272744N 0454510E *Note 7 (TAGSO-KUSAR) *Note 8 (TAGSO-TOSNA) DEBOL 272116N 0461843E TORTA 271906N 0462911E ALSAT 270611N 0473118E EGNOV 270301N 0474713E KUSAR 264741N 0490218E KING FAHAD (KFA) BAHRAIN (BAH) 261551N 0503856E ASNIX 260452N 0510509E PATOM 255821N 0511836E EMISA 254658N 0514207E *Note 7 to LAKLU KAPAX 254218N 0515118E ORSIS 252801N 0521636E TOSNA 251612N 0524116E TOPSI 250910N 0531200E BOXAK 244536N 0540032E ADV 242508N 0544024 RETAS 235754N 0553423E *Note 8 (OO) PUTSO 232037N 0565322E LAKLU 232235N 0570401E
N687	KING KHALID (KIA)	UN687	KING KHALID (KIA)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	KINIB 254108N 0482317E *Note 5 & 7 & 8 KING FAHAD (KFA) MUTAR 263611N 0500627E MEMKO 264611N 0504427E DAVRI 264936N 0505732E TORBO 265223N 0511024E		KINIB 254108N 0482317E *Note 5 & 7 & 8 KING FAHAD (KFA) MUTAR 263611N 0500627E MEMKO 264611N 0504427E DAVRI 264936N 0505732E TORBO 265223N 0511024E
N694	KING KHALD (KIA) TORKI 261400N 0463103E SIBLI 265459N 0462334E AKODI 275012N 0461320E HAFR AL BATIN 281949N 0460746E (HFR)	UN694	KING KHALD (KIA) TORKI 261400N 0463103E SIBLI 265459N 0462334E AKODI 275012N 0461320E HAFR AL BATIN 281949N 0460746E (HFR)
N697	MENLI 2947.0N 03152.1E SISIK 2936.0N 03241.E NUWEIBAA * Note 7 (NWB-KITOT below FL350) KITOT 2902.1N 03450.8E SOBAS 2756.0N 03904.9E HAIL (HIL) *Note 7 (HIL–KFA) BPN 2703.2N 04526.7E *Note 8 (BPN-TORBO) KING FAHD (KFA) BAHRAIN (BAH) *Note 7 TORBO 265223N 0511024E	UN687	MENLI 2947.0N 03152.1E SISIK 2936.0N 03241.E NUWEIBAA * Note 7 (NWB-KITOT below FL350) KITOT 2902.1N 03450.8E SOBAS 2756.0N 03904.9E HAIL (HIL) *Note 7 (HIL–KFA) BPN 2703.2N 04526.7E *Note 8 (BPN-TORBO) KING FAHD (KFA) BAHRAIN (BAH) *Note 7 TORBO 265223N 0511024E
N764	NOBSU 171554N 0431318E MUKALLAH (RIN) 144015N 0492329E SOCOTRA (SOC) 123749N 0535429E SUHIL 120000N 0550000E NABAM 101112N 0581424E	UN764	NOBSU 171554N 0431318E MUKALLAH (RIN) 144015N 0492329E SOCOTRA (SOC) 123749N 0535429E SUHIL 120000N 0550000E NABAM 101112N 0581424E
N767	PARAR 222630N 0630700E VUSIN 225940N 0605510E * Note 7 (OO) ATBED 230352N 0603752E ELIGO 232458N 0590848	UN767	PARAR 222630N 0630700E VUSIN 225940N 0605510E * Note 7 (OO) ATBED 230352N 0603752E ELIGO 232458N 0590848
		UN881	RASKI 230330N 0635200E SETSI 230412N 0614410E KIPOL 230410N 0612903E ATBED 230352N 0603752E AMBOS 230324N 0595405 MUSRU 230256N 0592223E *Note 7 (OO)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			OBTIN 230216N 0585920E GIDAN 230104N 0582232E GEVED 230105N 0575111E TULBU 230005N 0571827E
N929	DASLO 254537N 0523029E *Note 7 & 8 to GIBUS NAGOG 255214N 0521615E BONAN 260201N 0515505E VEDED 260558N 0514628E SOGAT 262029N 0511443E TOSTA 262746N 0504913E DANAG 264438N 0494856E NADNA 264245N 0485309E SILNO 264026N 0475745E ASKOK 262623N 0474809E MUSRI 261647.0N 0474137.0E GIBUS 255724.0N 0472829.0E	UN929	DASLO 254537N 0523029E *Note 7 & 8 to GIBUS NAGOG 255214N 0521615E BONAN 260201N 0515505E VEDED 260558N 0514628E SOGAT 262029N 0511443E TOSTA 262746N 0504913E DANAG 264438N 0494856E NADNA 264245N 0485309E SILNO 264026N 0475745E ASKOK 262623N 0474809E MUSRI 261647.0N 0474137.0E GIBUS 255724.0N 0472829.0E
		UP146	RASHT (RST) AGINA 3919.4N 04405.2E (AGRI) (ARI) (YAVUZ 4002.7N 04226.0E) (TRABZON (TBN)
P300	KAD 334827N 0352910E LATEB 3401.9N 03624.1E	UP300	KAD 334827N 0352910E LATEB 3401.9N 03624.1E
P304	EGROK 235253N 0560126E *Note 7 (OO) MEKNA 233309N 0560815E EGVAN 230127N 0561907E DEMKI 224941N 0562308E NAMVA 223309N 0562223E TOPSO 215653N 0562043E 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	(SHJ) 251944.9N 0553118.1E Note 7 (OM,OO) TONVO 250500N 0563200E PURNI 243804N 0574354E *Note 8 (OO) KUNUS 241927N 0583226E ALSAS 240054N 0591955E DERTO 235033N 0594746E VAXIM 231900N 0611100E SETSI 230412N 0614410E PARAR 222630N 0630700E	UP307	(SHJ) 251944.9N 0553118.1E Note 7 (OM,OO) TONVO 250500N 0563200E PURNI 243804N 0574354E *Note 8 (OO) KUNUS 241927N 0583226E ALSAS 240054N 0591955E DERTO 235033N 0594746E VAXIM 231900N 0611100E SETSI 230412N 0614410E PARAR 222630N 0630700E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
P312	MUKALLA (RIN) PAKER 1155.0N0463500E (HARGEISA) HARGA	UP312	MUKALLA (RIN) PAKER 1155.0N0463500E (HARGEISA) HARGA
P316	SALALLAH (SLL) * Note 7 (OO) DAXAM 171612N 0544715E GAGLA 180505N 0552410E GIVNO 195011N 0563059E MOBAB 201032N 0564415E GISKA 213503N 0574014E RADAX 220809N 0580230E MUSCAT (MCT)	UP316	SALALLAH (SLL) * Note 7 (OO) DAXAM 171612N 0544715E GAGLA 180505N 0552410E GIVNO 195011N 0563059E MOBAB 201032N 0564415E GISKA 213503N 0574014E RADAX 220809N 0580230E MUSCAT (MCT)
		UP323	DONSA 1435.3N06511.6E GIDAS 142004N0600000E NODMA 1526.0N05334.0E THAMD 1717.0N 04955.0E WDR
P425	DAHRAN (DHA) *Note 8 to ALSER BAHRAIN (BAH) ALSER 271100N 0504900E	UP425	DAHRAN (DHA) *Note 8 to ALSER BAHRAIN (BAH) ALSER 271100N 0504900E
P430	DOHA (DOH) *Note 8 to MIDSI BAYAN 252926N 0514849E *Note 7 to MIDSI KAPAX 254218N 0515118E VUTAN 255016N 0515218E BONAN 260201N 0515505E RAMKI 261138N 0515625E ALTOM 262230N 0515639E TOXEL 263020N 0515553E MIDSI 264142N 05155442E	UP430	DOHA (DOH) *Note 8 to MIDSI BAYAN 252926N 0514849E *Note 7 to MIDSI KAPAX 254218N 0515118E VUTAN 255016N 0515218E BONAN 260201N 0515505E RAMKI 261138N 0515625E ALTOM 262230N 0515639E TOXEL 263020N 0515553E MIDSI 264142N 05155442E
P513	BUBAS 245938N 0570003E GERAR 240600N 0573616E MIXAM 234139N 0575523E * Note 7 (OO) MUSCAT (MCT)		
		UP517	WAFRA (KFR) GOVAL KMC
		UP552	DATEG 123549N 0471627E ULAXI 141524N 0482317E GINBO 160349N 0494017E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			IMPOS 183137N 0511848E
P557	NUBAR 220000N 0313806E *See Note 6&7 MISUK 290507N 0290621E KATAB 292501N0290506E	UP557	NUBAR 220000N 0313806E *See Note 6&7 MISUK 290507N 0290621E KATAB 292501N0290506E
P559	TURAIF (TRF) *Note 7 to DESDI KAVID 3035.9N 04011.8E TOKLU 2942.1N 04202.4E RASMO 2857.2N 04331.3E KMC ULOVO 274830N 0455420E *Note 8 (ULOVO-NAPLO) MUSKO 2726.7N 04737.1E KEDAT 2721.8N 04759.0E JUBAIL (JBL) GASSI 2702.9N 05022.5E SODAK 264634N 0510530E ASPAK 262115N 0522257E TOMSO 260611N 0530214E NALPO 255602N 0532945E RAPSA 253700N 0541700E DESDI 253603N 0544230E	UP559	TURAIF (TRF) *Note 7 to DESDI KAVID 3035.9N 04011.8E TOKLU 2942.1N 04202.4E RASMO 2857.2N 04331.3E KMC ULOVO 274830N 0455420E *Note 8 (ULOVO-NAPLO) MUSKO 2726.7N 04737.1E KEDAT 2721.8N 04759.0E JUBAIL (JBL) GASSI 2702.9N 05022.5E SODAK 264634N 0510530E ASPAK 262115N 0522257E TOMSO 260611N 0530214E NALPO 255602N 0532945E RAPSA 253700N 0541700E DESDI 253603N 0544230E
		UP567	BIRJAND (BJD) ODKAT 3540.6N 05457.2E DASHT-E-NAZ (DNZ) 3638.7N 05311.4E (ULDUS -3800.0N 05101.0E) NETON 3945.7N 04811.7E BARUS 4154.2N 04250.5E
P570	KITAL 2003N 06018E MIXAM 234139N 0575523E	UP570	TRIVENDRUM (TVM) POMAN 1156.1N 07200.0E LATEB 1717.1N 06422.0E KITAL 2003N 06018E MIXAM 234139N 0575523E
		UP574	(BELGAUM) BBM (BISET- 1823.4N 06918.1E) TOTOX 215030N 0622230E * Note 7 (OM, OO) KUSRA 231726N 0585102E MIXAM 234138N 0575525E SOLUD 243223N 0564421E GISMO 244743N 0562236E BUBIN 245742N 0560642E TUKLA 2519.6N 05540.2E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			KUMUN 254000N 0551512E PAPAR 264000N 0542700E SHIRAZ SAVEH (SAV) ULDUS
		UP634	LALDO 251806N 0563600E *Note 7 ATBOR 251007N 0551947E
		UP693	AL AHSA (HSA) 251644N 0492902E *Note 8 to BUNDU BATHA (BAT) 241257N 0512707E BUNDU 250024N 0522924E
P699	ATBOR 251007N 0551947E *Note 7 (ATBOR-BAH) SITAT 251105N 0544500E KISAG 251834N 0541408E ITMUS 252322N 0535429E ALSOK 252607N 0533904E RUBAL 252957N 0531723E ORMID 253354N 0525434E *Note 8 (ORMID-KFA) SOGAT 262029N 0511443E ASTAD 261812N 0505646E BAHRAIN (BAH) 261551N 0503856E KING FHAD (KFA) 262153N 0494910E	UP699	ATBOR 251007N 0551947E *Note 7 (ATBOR-BAH) SITAT 251105N 0544500E KISAG 251834N 0541408E ITMUS 252322N 0535429E ALSOK 252607N 0533904E RUBAL 252957N 0531723E ORMID 253354N 0525434E *Note 8 (ORMID-KFA) SOGAT 262029N 0511443E ASTAD 261812N 0505646E BAHRAIN (BAH) 261551N 0503856E KING FHAD (KFA) 262153N 0494910E
P751	AMIBO 3456.7N 2136.4E BRN 3134.5N 02600.3E KATAB 2925.0N 2905.1E AST 2701.9N 03101.9E LUXOR (LXR) ALEBA 2200.0N 03527.0E PORT SUDAN [ASMARA] * Note 1 TOKAR 1304.0N 04238.8E PARIM 1231.7N 04327.2E ADEN (KRA) ANGAL 1614.0N 06000.0E MUMBAI (BBB)	UP751	AMIBO 3456.7N 2136.4E BRN 3134.5N 02600.3E KATAB 2925.0N 2905.1E AST 2701.9N 03101.9E LUXOR (LXR) ALEBA 2200.0N 03527.0E PORT SUDAN [ASMARA] * Note 1 TOKAR 1304.0N 04238.8E PARIM 1231.7N 04327.2E ADEN (KRA) ANGAL 1614.0N 06000.0E MUMBAI (BBB)
P891	MAGALA (MGA) *Note 7 to KUA KUTEM 264359N 0473521E EGNOV EMILU	UP891	MAGALA (MGA) *Note 7 to KUA KUTEM 264359N 0473521E EGNOV EMILU

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
	KUNRU 283220N 0481050E KUWAIT (KUA)		KUNRU 283220N 0481050E KUWAIT (KUA)
P899	MIXAM 234139N 0575523E *Note 7 to KUPSA PAXIM 240245N 05617631E ITRAX 241248N 0554749E AL AIN (ALN) ABU DHABI DASLA N2437.8 E05332.8 VEBAT N2448.5 E05251.0 MEKMA N245430 E0522506 *Note 8 (OB) KUPSA N250445 E0521151	UP899	MIXAM 234139N 0575523E *Note 7 to KUPSA PAXIM 240245N 05617631E ITRAX 241248N 0554749E AL AIN (ALN) ABU DHABI DASLA N2437.8 E05332.8 VEBAT N2448.5 E05251.0 MEKMA N245430 E0522506 *Note 8 (OB) KUPSA N250445 E0521151
P975	NOLDO 324932N 0452129E *Note7 KATUT 323737N 0453439E DENKI 322228N 0455122E ILMAP 312133N 0465702E PEBAD 305023N 0472958E SIDAD 295231N 0482944E LOVAR 2924.4N 04846.1E SESRA 2908000N 004854.9E DANAL 2851.5N 04904.8E IMDOX 2834.9N 04914.6E LONOS 283027N 0491713E DETKO 280550N 0493130E TOLMO 2655.1N 05029.4E TORNA 2633.6N 05042.2E MEMBO 262425N 0504737E	UP975	(ELAZIG) EZS *Note7 (DYB) 384225N 0391328E LESRI 370420N 0411348E SIDNA 3634.0N 04141.0E TUBEN 351724N 0425434E MUTAG 343003N 0433834E SOGUM 341212N 0435454E SINKA 332137N 0444753E NOLDO 324932N 0452129E KATUT 323737N 0453439E DENKI 322228N 0455122E ILMAP 312133N 0465702E PEBAD 305023N 0472958E SIDAD 295231N 0482944E LOVAR 2924.4N 04846.1E SESRA 2908000N 004854.9E DANAL 2851.5N 04904.8E IMDOX 2834.9N 04914.6E LONOS 283027N 0491713E DETKO 280550N 0493130E TOLMO 2655.1N 05029.4E TORNA 2633.6N 05042.2E MEMBO 262425N 0504737E
R2	ATMUL 220000N 0290527E TULOP 252209N 0262226E DITAR 265903N 0250000E	UR2	ATMUL 220000N 0290527E TULOP 252209N 0262226E DITAR 265903N 0250000E
R205	ANARAK (ANK) BIRJAND (BJD)	UR205	ANARAK (ANK) BIRJAND (BJD)
R219	KUKLA 3414.6N 03444.8E KALDE (KAD)	UR219	KUKLA 3414.6N 03444.8E KALDE (KAD)

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
R401	AMPEX 08 10.0N 055 00.0E SUHIL 1200.0N 05500.0E DAPAP 151115N 0552354E KIVEL 165306N 0553633E ERDAX 175903N 0554458E HAIMA (HAI) DEMKI 224941N 0562308E MUSAP 241754N 0555245E GIDIS 243600N 0555600E RAS AL KHAIMAH (RAK) DARAX GHESHM (KHM)	UR401	AMPEX 08 10.0N 055 00.0E SUHIL 1200.0N 05500.0E DAPAP 151115N 0552354E KIVEL 165306N 0553633E ERDAX 175903N 0554458E HAIMA (HAI) DEMKI 224941N 0562308E MUSAP 241754N 0555245E GIDIS 243600N 0555600E RAS AL KHAIMAH (RAK) DARAX GHESHM (KHM)
R402	LAKLU 232235N 0570401E *Note 7 (OO) HAIMA (HAI)	UR402	LAKLU 232235N 0570401E *Note 7 (OO) HAIMA (HAI)
R462	(JIWANI) JI DENDA 2442.5N 06054.8E VUSET 235540N 0590812E *Note 7 (OO) MIXAM 234139N 0575523E	UR462	(JIWANI) JI DENDA 2442.5N 06054.8E VUSET 235540N 0590812E *Note 7 (OO) MIXAM 234139N 0575523E
R650	ASRAB 2547.4N 03306.3E HURGHADA (HGD) SHARM EL SHEIKH (SHM) NUWEIBAA (NWB) NALSO 2932.0N 03453.0E	UR650	ASRAB 2547.4N 03306.3E HURGHADA (HGD) SHARM EL SHEIKH (SHM) NUWEIBAA (NWB) NALSO 2932.0N 03453.0E
R652	ROVAR 292438N0345711E QATRANEH (QTR) GURIAT (GRY) *Note 7(OE) TURAIF (TRF) OVANO 3148.0N 03909.8E DAXAN 320512N 0393719E GIBUX 330500N 0411100E RAPLU 332300N 0414530E GEPAP 334906N 0422851E MUTAG 343003N 0433834E IVANO 351724N 0451235E	UR652	ROVAR 292438N0345711E QATRANEH (QTR) GURIAT (GRY) *Note 7(OE) TURAIF (TRF) OVANO 3148.0N 03909.8E
R654	ZANJAN (ZAJ) SAVEH (SAV) ESFAHAN (ISN) YAZD (YZD) KERMAN (KER) NABOD 2816.1N 05825.3E CHAH BAHAR (CBH)	UR654	MAGRI 385408N 0462300E ZANJAN (ZAJ) SAVEH (SAV) ESFAHAN (ISN) YAZD (YZD) KERMAN (KER) NABOD 2816.1N 05825.3E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator	**Significant Points**	**Designator**	**Significant Points**
1	**2**	**1**	**2**
	EGPIC 2508.6N 06029.5E		CHAH BAHAR (CBH) EGPIC 2508.6N 06029.5E
R655	(LARNACA) LCA CHEKA (CAK) KARIATAIN (KTN)	UR655	(LARNACA) CHEKA (CAK) KARIATAIN (KTN)
R659	TEHRAN(TRN) *Note 7 (ISN-TRN) BOXAM 343749N 0515147E DAPOG 333744N 0522331E *Note 3 (DAPOG-SYZ) SHIRAZ (SYZ) MIDSI 264142N 0515442E *Note 8 (MIDSI-DOH) *Note 7 (MIDSI-VELAM) SOGAN 263915N 0515408E ROSAN 263129N 0515220E DASOS 262430N 0515043E RABLA 261506N 0514834E VEDED 260558N 0514628E VELAM 255426N 0514347E EMISA 254626N 0514207E DOHA (DOH)	UR659	TEHRAN(TRN) *Note 7 (ISN-TRN) BOXAM 343749N 0515147E DAPOG 333744N 0522331E *Note 3 (DAPOG-SYZ) SHIRAZ (SYZ) MIDSI 264142N 0515442E *Note 8 (MIDSI-DOH) *Note 7 (MIDSI-VELAM) SOGAN 263915N 0515408E ROSAN 263129N 0515220E DASOS 262430N 0515043E RABLA 261506N 0514834E VEDED 260558N 0514628E VELAM 255426N 0514347E EMISA 254626N 0514207E DOHA (DOH)
R660	(ERZURUM) (ERZ) DASIS 38 54.5N 044 12.5E TABRIZ (TBZ) RASHT (RST) TEHRAN (TRN)	UR660	(ERZURUM) (ERZ) RASHT (RST) TEHRAN (TRN)
R661	DULAV 3857.0N 04537.9E TABRIZ (TBZ) ZANJAN (ZAJ) RUDESHUR (RUS) VARAMIN (VR) DEHNAMAK (DHN)	UR661	DULAV 3857.0N 04537.9E TABRIZ (TBZ) ZANJAN (ZAJ) RUDESHUR (RUS) VARAMIN (VR) DEHNAMAK (DHN)
		UR674	SABEL 185158N 0520339E LOTEL 180926N 0514103E PASUL 180341N 0513803E GOGRI 170752N 0510857E OBTAS 164633N 0505756E RARBA 161021N 0503920E UKORA 152407N 0501547E NAKAD 150056N 0500402E DANAN 144010N 0495334E XABIL 142924N 0494809E

LOWER AIRSPACE		UPPER AIRSPACE	
Designator **1**	**Significant Points** **2**	**Designator** **1**	**Significant Points** **2**
			EMABI 141627N 0494139E PAXED 135027N 0492759E DEMGO 120258N 0483040E
R777	DANAK 1608.0N 04129.0E SANA'A TAIZ ARABO 1238.8N 04404.0E TORBA 1210.6N 04402.1E	UR777	DANAK 1608.0N 04129.0E SANA'A TAIZ ARABO 1238.8N 04404.0E TORBA 1210.6N 04402.1E
R784	SHARJAH (SHJ) ORSAR 2604.5N 05357.5E *Note 8 (OM) DURSI 2712.3N 05201.7 E IMDAT 2740.0N 05113.0E ALNIN 2840.9N 05001.6E NANPI 290457N 0493157E SIDAD 295231N 0482944E	UR784	SHARJAH (SHJ) ORSAR 2604.5N 05357.5E *Note 8 (OM) DURSI 2712.3N 05201.7 E IMDAT 2740.0N 05113.0E ALNIN 2840.9N 05001.6E NANPI 290457N 0493157E SIDAD 295231N 0482944E
R785	TURAIF (TRF) ZELAF 3257.0N 03800.0E KARIATAIN (KTN) BANIAS (BAN) NIKAS 3511.6N 03543.0E	UR785	TURAIF (TRF) ZELAF 3257.0N 03800.0E KARIATAIN (KTN) BANIAS (BAN) NIKAS 3511.6N 03543.0E
R794	ULDUS 3810.0N 05020.0E NOSHAHR (NSR) DEHNAMAK (DHN) TABAS (TBS) BIRJAND (BJD) * Note 5 (OI)	UR794	ULDUS 3810.0N 05020.0E NOSHAHR (NSR) DEHNAMAK (DHN) TABAS (TBS) BIRJAND (BJD) * Note 5 (OI)
R799	IMPOS 183136N 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

Allocation and Assignment of Secondary Surveillance Radar (SSR) Codes in the MID Region

Objectives of the new code allotment plan (CAP)

3.2. The new code allotment plan (CAP) shall provide States in the MID Region with a means to co-ordinate the use of 4096 secondary surveillance radar (SSR) codes in Mode A/3 in the most efficient and economical manner. *The SSR Codes Allocation Plan of the MID Region is at* **Table ATM II-MID-2.**

3.3. The plan shall foster the early implementation of a method which will ultimately allow an assigned four-digit code to be maintained for the longest possible time during a flight in the MID Region.

General principles to meet the objective

3.4. The detailed principles governing the use of SSR codes in the MID Region are based on the following general principles which are complementary to the world-wide provisions (PANS-RAC, Doc 4444, Part X). These principles provide for a smooth transition from the present use of SSR to that mentioned in paragraph.

3.5. Mode A/3 codes shall be used for ATS purposes only.

3.6. Codes will be allocated to ATS units on the basis of duly justified operational requirements and their number will be established based on the number of aircraft to be handled simultaneously within a specified area and for a determined period of protection during traffic peaks.

3.7. Code requirements will be expressed in terms of complete code series (sixty-four four-digit codes in each series) or specified parts thereof. In special cases such requirements may even cover designated four-digit codes only.

3.8. Codes intended to be used as international transit codes will be allocated to specific ACCs for use within participating areas (PA) consisting of the areas of ATS responsibility of several States.

3.9. Codes intended to be used for domestic purposes will be allotted to States for use by ATS units which require limited geographical protection for such codes only.

Operational and technical factors involved

3.10. The following operating conditions are likely to persist for the lifetime of the new CAP concept:

a) both auto-active and passive SSR decoding equipment will be used for ATS purposes in the MID Region;

b) because of this, comparatively simple code assignment methods like the assignment by reference to ATC sectors will coexist with, and vertically or laterally adjoin, more sophisticated, computer-assisted code assignment methods; and

c) as 4096 code capability in Mode A/3 is a prerequisite for a full application of sophisticated code assignment methods, it appears essential to make this capability a mandatory requirement for aircraft operating international transit flights. For this reason, an environment of sixty-four code capability is not taken into account in this context.

Distribution of codes

3.11. Certain codes are reserved for special purposes on a world-wide scale. The remaining codes series for use in the Region are, in this CAP, divided into two distinct categories: transit codes for international use and domestic codes for national use.

3.12. The number of codes used for international transit purposes has to be relatively high, due to the extended geographical protection required in order to reduce to a minimum the chances of confusion between the identities of two different aircraft assigned the same four-digit code. Sufficient protection must be allowed to prevent interference with affected PAs in neighbouring regions.

3.13. The number of codes used for domestic purposes can be kept relatively small, as these may be repeated in different States, or as the case may be, even within the same State.

3.14. Where required, the allocation possibilities can be increased significantly by dividing specific code series into eight blocks four-digit codes.

Special purpose codes

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

Series 00 – Code 0000:
Available as a general purpose code for domestic use by any State.[Codes 0001 – 0077 are available for domestic purposes (cf. paragraph 4.2.2)]

Series 20 – Code 2000:
To be used by flights required to set a code without specific ATC instructions when entering an area where SSR coverage is available. [Codes 2001 to 2077 are available for international transit purposes.]

Series 75 – Code 7500:
Reserved for use in the event of unlawful interference. [Codes 7501 to 7577 are available for domestic use subject to specific conditions. (cf. paragraph 4.2.3.)]

Series 76 – Code 7600:
Reserved for use in the event of radio-telephony communication failure. [Codes 7601 to 7677 are available for domestic use subject to specific conditions (cf. paragraph 4.2.3]

Series 77 – Code 7700:
Reserved for use in the event of emergencies. [Codes 7701 to 7777 are temporarily unavailable.]

3.16. Code blocks in the series 00 (with the exception of code 0000) are allotted to States for domestic purposes so that every State in the region is allotted two octal blocks of four-digit codes in such a manner that a code duplication is avoided at the State borders.

3.17. States may use discrete codes 7501 to 7577 and 7601 to 7677 for domestic purposes provided that they have ascertained that in the area concerned and in affected adjacent areas:

a) no sixty-four code ground equipment is in operation; and
b) 4096-code ground decoding equipment has the capability of permitting the use of such codes without generating the aural or visual alarms associated with the special purpose codes 7500 and 7600 (cf. Annex 10, Volume I, Part I, 2.5.4).

Transit codes

3.18. Transit codes area allocated to specific area control centres (ACCs) or approach control offices (APPs) for assignment to international transit flights. Aircraft will retain the assigned code beyond national boundaries but not normally beyond MID Region PA (paragraph 4.3.4 c) refers).

3.19. Initially the allotment of transit codes in the MID Region is based on one participating area which includes the following flight information centres/area control centres (FICs/ACCs):

AMMAN	JEDDAH
BAGHDAD	KHARTOUM*
BAHRAIN	KUWAIT
BEIRUT	MUSCAT
CAIRO*	SANA'A
DAMASCUS	TEHRAN
EMIRATES	TRIPOLI

**Note.— FICs/ACCs in the AFI Region which must be included in all SSR code allocation plans for the MID Region because of their geographical location.*

3.20. Transit codes shall be assigned in accordance with the following principles governing the originating region code assignment method (ORCAM):

a) when an aircraft enters the MID Region (either on departure or in flight), it will be assigned a specific four-digit code by the first ATS unit concerned in the Region. This code will be selected from a given stock of code series allocated in such a manner that duplication of codes assigned by different centres is prevented within the Region;

b) each flight will keep the original code assigned on entering the Region for the whole flight time within that Region. Appropriate code protection criteria have to be applied in order to avoid duplication by too early reassignment of the same code. Efforts should be made to reduce the "protection period" referred to in paragraph 4.3.4 d) while retaining adequate protection; and

c) normally a code change will be required at the time a flight crosses the MID Region boundary. However, in specific cases and by specific arrangements agreed between the ATS units affected during the continuation of the flight, the assigned code may be retained beyond the MID Region boundary.

3.21. In establishing the number of transit code series, account has been taken of the following factors:

a) the lifetime of the air navigation plan of which SSR is but one element. At present this does not exceed a maximum of seven years;

b) the air traffic forecasts for the MID Region in order to determine the likely growth of air traffic classified as international in the region;

c) the requirement for code series for a given ATC unit is derived from the total number of aircraft requiring assignment of a specific code during the busiest period of activity of that ATC unit;

d) in calculating the required code series in accordance with c) above, a "protection period" of approximately three hours is used, i.e. any specific code assigned to an aircraft by an ATC unit is normally available for re-use after a period of three hours following the initial assignment of the code; and

e) the assignment of a specific code to an aircraft is made once the aircraft in question is ready for departure on a flight, or when the aircraft in flight is expected to come under imminent control. Permanent code assignments based on the flight number or any other systematic distinguishing features cannot as a general rule be accepted because of the wasteful effects on the economy in the use of codes required.

3.22. Common criteria applying to traffic figures will have to be established to assess the number of transit codes required by each ACC or APP in the region. The distribution of transit codes should be done by reference to the portion of peak international flights originating from the ACC or APP and that will be

assigned an SSR code. A fix time evaluation of each facility could be used to determine the SSR code requirements.

3.23. All code series allocated to the MID Region must be protected from affected PAs in neighbouring regions.

Domestic codes

3.24. Domestic codes are allocated for use by flights which, throughout their flight, remain within the boundaries for the agreed area of use of such codes (normally within one State). The relevant code series are: 01, 04, 12, 13, 14, 15, 16, 20, 24, 32, 34, 36, 40, 42, 43, 44, 45, 46, 47, 52, 53, 54, 63, 65, 73 and 74. In addition codes 0001 to 0077, 7501 to 7577 and 7601 to 7677 may be available in accordance with the conditions specified in paragraphs 4.2.2 and 4.2.3 respectively.

3.25. Domestic codes should be used so that utmost economy in the number of codes required is achieved. As national requirements vary considerably, no definite rules can at present be established; however, in order to assist States, and in order to facilitate required international co-ordination of use of domestic codes in border areas, the following guidelines are provided.

3.26. As a general rule, codes employed primarily for transit purposes may be used for domestic purposes in those States where a buffer of one FIR exists between the area where the code is used for transit and that where it is used for domestic purposes. Based on appropriate agreements between the ATC units affected, exceptions to this rule may be made, provided that it is ensured that this will not lead to difficulties.

3.27. With regard to domestic codes used primarily for terminal control purposes (terminal control area (TMA)/APP and ground controlled approach system (GCA)), it is assumed that, unless specified otherwise, the area of operational use of the code concerned corresponds to the area of use of the associated air/ground communication channel.

3.28. Domestic codes used for terminal purposes (TMA/APP and GCA) or used within specified portions of the airspace (sectors) will be ensured protection in these functions. Adjacent States may use such codes for their domestic purposes provided a buffer equal to one sector or a distance of 60 NM between the closest edges of the two areas of use exists.

Monitoring of the plan

3.29. Whilst full implementation of the CAP must inevitably be achieved gradually, it is expected that progressive development of improved ground facilities will allow in future an increasing number of States to adhere to the provisions foreseen in the plan.

3.30. Provisions regarding the progressive implementation of the SSR CAP and its monitoring should be agreed by the MID Region. States expecting to introduce SSR facilities are requested to advise the ICAO regional office as to their intended use of codes at least six months in advance, in order to permit timely accomplishment of any necessary co-ordination.

ABBREVIATIONS AND GLOSSARY OF TERMS

PA = Participating area	An area of specified dimensions comprising the areas of ATS responsibility of several States wherein a four-digit code assigned to a specific aircraft engaged in an international flight is normally retained by this aircraft while operating in that area.
CAP = ICAO SSR Code Allotment Plan	
Region = "MID Region" of ICAO	

ORCAM = Originating region code assignment method	(See paragraph 4.3.3)
Basic code	An SSR identity code containing combinations of A and B pulses only (also replies from a 4 096 code transponder where no C or D pulses are present): (Z1,Z2, (0, 0) with Zi = 0, 1, 2, 7).
Discrete code	An SSR identity code containing all those combinations of A, B, C and D pulses which do not constitute a basic code (cannot be generated by a sixty-four code transponder): (Z1, Z2, Z3, Z4) with Zi = 0, 1, 2, 7) and Z3 + Z4 ? 0.
Four-digit code	An SSR identity code containing combinations of A, B, C and D pulses (any reply generated by a 4 096 code transponder): (Z1, Z2, Z3, Z4) with Zi = 0, 1, 2 ..... 7).
Code series	A group of the sixty-four four-digit codes having the same first two digits.
Code block	A continuous sequence of four-digit codes within a code series. Specific "octal" blocks of eight sequential codes having common first three digits may be identified by reference to the third digit of the full four-digit code (e.g. 0-block = codes XX00 to XX07. Codes 0010 to 0017 may be designated as codes 00 (1), codes 0020 to 0027 as codes 00 (2), etc.).
Code assignment	Distribution of SSR codes to aircraft (cf. *Procedures for Air Navigation Services — Rules of the Air and Air Traffic Services* (PANS-RAC, Doc 4444).
Code allocation	Distribution of SSR codes to services (cf. PANS-RAC).
Code allotment	Distribution of SSR codes to areas or countries (cf. PANS-RAC).
Transit code	A code allocated to a specific ATC unit for assignment to an aircraft engaged in an international flight and which will be retained by this aircraft at least while operating within the related PA.
Domestic code	A code allotted to a specific State for use by a designated ATC unit within that State in relation to flights which remain throughout their operation within the agreed area of use of the code concerned.

Table ATM II-MID-2 - SSR Code Allocation Plan

Code	AMMAN	BAGHDAD	BAHRAIN	BEIRUT	CAIRO	DAMASCUS	EMIRATES	JEDDAH	KHARTOUM	KUWAIT	MUSCAT	SANA'A	TEHRAN	TRIPOLI
0000														
0001-0077									-					-
0100-0177								D	T					-
0200-0277								–	-		*	*		-
0300-0377								*	-		*	*		-
0400-0477	D		*	*	*	*	D	*			*	*	*	*
0500-0577	–	–	–	–	–	–	T	–	*	–	–	–	–	
0600-0677	–	–	–	–	D	–	–	–	*	D	–	–	–	
0700-0777	T	–	–	–	–	–	–	–	*	–	–	–	–	
1000-1077	–	T	–	–	–	–	–	–		–	–	–	–	
1101-1177	D	–	–	–	–	–	–	–	-	–	–	–	D	-
1200-1277		*	D		*			*	D	*	*	*	*	*
1300-1377		D	*		*			*			*		*	D
1400-1477	*	*	*		D			*	-	T			*	-
1500-1577	–	*	*	*		*	*	*	-	*	*		D	-
1600-1677	*	*			T		*	*	-	*	*	*	*	-
1700-1777							T		-					-
2001-2077		*	*				*			*	*			
2100-2177	–	–	D	–	–	–	–	–		–	–	–	–	
2200-2277	–	–	T	–	–	–	–	–		–	–	–	–	
2300-2377	–	–	–	–	–	–	–	–	-	–	–	–	–	-
2400-2477	D		*		*			*	-		*		*	-
2500-2577	–	–	–	D	–	–	–	–		–	–	–	–	
2600-2677	–	–	T	–	–	–	–	–	-	–	–	–	–	-
2700-2777	–	–	D	–	D	–	–	–	-	–	–	–	–	-
3000-3077	–	–	–	–	–	D	–	D	*	–	–	–	–	
3100-3177	–	–	–	–	–	–	–	T	*	–	–	–	–	
3200-3277	*	*	T	*	*	*	*	*	-	*	*			-
3300-3377	*				T			*	-		*	*		-
3400-3477	*		*		*	*	T	*	-	*	*		*	-
3500-3577	–	–	–	–	–	–	–	D		–	–	–	–	
3600-3677		*	*				*		-	*	*		T	-
3700-3777	–	–	–	–	–	–		–	-	–	–	–		-
4000-4077	–	–	–	–	–	–	–	–	-	–	T	–	–	T
4100-4177	–	–	–	–	–	–	–	–	-	–	–	–	D	-
4200-4277	*	*	*	*	*	*	*	–	-	*	*			-
4300-4377	*	*	*	T	*	*	*		-	*	*	*		-
4400-4477	*	*	T		–		*	*	-	*	*	*	*	-
4500-4577	*	*	*		*		*	T			*	*		
4600-4677	*	*	*	*	*	–	*			*	D	*		-

Code	AMMAN	BAGHDAD	BAHRAIN	BEIRUT	CAIRO	DAMASCUS	EMIRATES	JEDDAH	KHARTOUM	KUWAIT	MUSCAT	SANA'A	TEHRAN	TRIPOLI
4700-4777	*		*		–		*	*	-		T	*	*	-
5000-5077								–	-					-
5100-5177	–	–	–	–	–	–	–	–	-	–	–	–	–	-
5200-5277	*	*	*		*		*	T	D		*	*		*
5300-5377		*					*	*	D	*	*	*	*	*
5400-5477		*					*	*		*	*	*	T	
5500-5577														
5600-5677													D	
5700-5777	–	–	–	–	–	T	–	–		–	–	–	–	
6000-6077							D							
6100-6177	–	–	–	–	–	–	–		-	–	–	–	–	-
6200-6277							T		-					-
6300-6377		*	*				*			*	*		D	
6400-6477	–	–	–	–	–	–	–	–		–	–	–	–	
6500-6577			*				*	*			D	*	*	
6600-6677	–	–	–	–	–	–	–	–		–	D	–	–	
6700-6777	–	–	–	–	–	–	–	–		–	–	–		
7001-7077	–	–	–	–	–	–	–	–		–	–	T	–	
7100-7177	–	–	–	–	–	–	–	–		–	–	–	–	-
7200-7277		T									*		*	
7300-7377			*		T		*	*				*	*	
7400-7477	*	D	*			*		*	-	*	*		*	-
7500														
7600 XX														
7700														

T Whole series for transit use
– Transit code retained
* Not available for domestic use
D Domestic use
XX 7601–7612 Red Cross/humanitarian

MID ANP, VOLUME II

PART V – METEOROLOGY (MET)

1. INTRODUCTION

1.1 This part of the MID ANP, Volume II, complements the provisions in the ICAO SARPs and PANS related to aeronautical meteorology (MET). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of MET facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to the MET facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the States concerned to implement the requirements specified.

2. GENERAL REGIONAL REQUIREMENTS

Meteorological offices

2.1 In the MID Region~~(s)~~, meteorological watch offices (MWO) have been designated to maintain continuous watch on meteorological conditions affecting flight operations within their area(s) of responsibility, as indicated at **Table MET II-1**.

Meteorological observations and reports

2.2 In the MID Region~~(s)~~, routine observations, issued as a METAR, should be made throughout the 24 hours of each day at intervals of one hour or, for RS and AS designated aerodromes[1], at intervals of one half-hour at aerodromes as indicated in **Table MET II-2**. For aerodromes included on the VHF VOLMET broadcast as indicated in **Table MET II-3**, routine observations, issued as METAR, should be made throughout the 24 hours of each day. ~~***(at intervals of one half-hour) [if applicable]***~~.

2.3 At aerodromes that are not operational throughout 24 hours, METAR should be issued at least 3 hours prior to the aerodrome resuming operations in the MID Region~~(s)~~.

Forecasts

2.4 In the MID Region~~(s)~~, an aerodrome forecast, issued as a TAF, should be for the aerodromes indicated in **Table MET II-2**.

2.5 In the MID Region~~(s)~~, the period of validity of a routine TAF should be of 9-, 24-, or 30-hours to meet the requirements indicated in **Table MET II-2**.

2.6 In the MID Region~~(s)~~, the forecast maximum and minimum temperatures expected to occur during the period of validity, together with their corresponding day and time of occurrence, should be included in TAF at aerodromes indicated in **Table MET II-2**.

2.7 In the MID Region~~(s)~~, landing forecasts (prepared in the form of a trend forecast) should be provided at aerodromes indicated in **Table MET II-2**.

[1] Refer to Table AOP II-1

Requirements for and use of communications

2.8 Operational meteorological information prepared as METAR, SPECI and TAF for aerodromes indicated in **Table MET II-2**, and SIGMET ~~***and AIRMET [if applicable]***~~ messages prepared for flight information regions or control areas indicated in **Table MET II-1**, should be disseminated to the international OPMET databanks designated for the MID Region~~(s)~~ (namely Jeddah and Bahrain (backup) Regional OPMET Centres) and to the centre designated for the operation of the aeronautical fixed service satellite distribution system (SADIS) and the Internet-based service (Secure SADIS FTP) and/or WIFS in the MID Region~~(s)~~.

2.9 SIGMET messages should be disseminated to other meteorological offices in the MID Region~~(s)~~. ~~***(in accordance with the regional OPMET bulletin exchange scheme) [if applicable]***~~

2.10 Special air-reports that do not warrant the issuance of a SIGMET should be disseminated to other meteorological offices in the ***(NAME)*** Region(s). ***(in accordance with the regional OPMET bulletin exchange scheme) [if applicable]***

2.11 In the MID Region~~(s)~~, meteorological information for use by aircraft in flight should be supplied through VOLMET broadcasts.

2.12 In the MID Region~~(s)~~, the aerodromes for which METAR and SPECI are to be included in VOLMET broadcasts, the sequence in which they are to be transmitted and the broadcast time, is indicated in **Table MET II-3**.

3. SPECIFIC REGIONAL REQUIREMENTS

3.1 In the MID Region, operational meteorological information during the Pilgrimage Season should be issued as indicated in **Table II-MID-1**.

~~*EXAMPLES*~~

~~*Meteorological observations and reports*~~

~~*3.1 For the EUR Region, routine observations, issued as METAR, should be made throughout the 24 hours of each day at intervals of one half-hour.*~~

~~*3.2 In the **(NAME)** Region, aeronautical meteorological stations have been established on offshore structures or at other points of significance in support of helicopter operations to offshore structures, as indicated at Table MET II X (Former MET 1C Offshore structures). [if applicable]*~~

~~*3.4 In the **(NAME)** Region, information on the sea-surface temperature and the state of the sea or the significant wave height from aeronautical meteorological stations established on offshore structures in support of helicopter operations should be included as supplementary information in METAR and SPECI as indicated in Table MET II X (MET 1C Offshore structures). [if applicable]*~~

~~*3.5 In the **(NAME)** Region, information on the state of the runway should be included as supplementary information in METAR and SPECI as indicated in Table MET II 2 (Former MET 1A Aerodrome meteorological offices). [if applicable]*~~

~~*3.6 In the **(NAME)** Region, GAMET area forecasts and/or area forecasts for low-level flights in chart form prepared in support of the issuance of AIRMET information, and AIRMET information for low-level flights relevant to the whole route, should be supplied to operators and flight crew members and kept up-to-date. Section II of the GAMET area forecast should include information, in addition to the provisions in Annex 3, as contained at Appendix MET LLF to Part V (MET). [if applicable]*~~

~~*AIRMET information*~~

~~*3.7 In the **(NAME)** Region, AIRMET information should be issued by a MWO for its areas of responsibility as indicated in Table MET II-1 (Former MET 1B Meteorological watch offices). [if applicable]*~~

~~*OPMET information*~~

~~*3.8 In the EUR Region, The details of the exchange scheme to be used the OPMET information is given in the EUR Region – EUR OPMET Data Management Handbook (EUR Doc 018). [if applicable]*~~

~~*Service for operators and flight crew members*~~

~~*3.9 In the **(NAME)** Region, meteorological information for pre-flight planning by operators of helicopters flying to offshore structures as indicated in Table MET II X (Former MET 1C Offshore structures) should include data covering the layers from sea level to FL 100. Particular mention should be made of [the expected surface visibility, the amount, type (where available), base and tops of cloud below FL 100, the sea state and sea-surface temperature, the mean sea-level pressure and the occurrence or expected occurrence of turbulence and icing]. [if applicable]*~~

~~*3.10 In the APAC Region, scheduled VOLMET broadcasts should contain TAF and SIGMET.*~~

~~*3.11 In the APAC Region, METAR, SPECI and TAF should be available for uplink to aircraft in flight via D-VOLMET.*~~

TABLE MET II-1 - METEOROLOGICAL WATCH OFFICES

EXPLANATION OF THE TABLE

Column

1 Name of the State where meteorological service is required

2 Name of the flight information region (FIR) or control area (CTA) where meteorological service is required

Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.

3 ICAO location indicator of the FIR or CTA

4 Name of the meteorological watch office (MWO) responsible for the provision of meteorological service for the FIR or CTA

Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.

5 ICAO location indicator of the responsible MWO

6 Requirement for SIGMET information (excluding for volcanic ash and for tropical cyclones) to be provided by the MWO for the FIR or CTA concerned, where:

Y – Yes, required
N – No, not required

7 Requirement for SIGMET information for volcanic ash to be provided by the MWO for the FIR or CTA concerned, where:

Y – Yes, required
N – No, not required

8 Requirement for SIGMET information for tropical cyclone to be provided by the MWO for the FIR or CTA concerned, where:

Y – Yes, required
N – No, not required

9 Requirement for AIRMET information to be provided by the MWO for the FIR or CTA concerned, where

Y – Yes, required
N – No, not required

State	FIR or CTA Where Meteorological Service is Required		Responsible Meteorological Watch Office		Meteorological Service To Be Provided			
	Name	ICAO Location Indicator	Name	ICAO Location Indicator	SIGMET (WS)	SIGMET (WV)	SIGMET (WC)	AIRMET (WA)
1	2	3	4	5	6	7	8	9
BAHRAIN	BAHRAIN FIR	OBBB	BAHRAIN INTL	OBBI	Y	Y	Y	
EGYPT	CAIRO ACC	HECC	CAIRO INTL	HECA	Y	Y		
IRAN (ISLAMIC REPUBLIC OF)	TEHRAN (ACC/FIC/FIR)	OIIX	TEHRAN/MEHRABAD INTL	OIII	Y	Y	Y	
IRAQ	BAGHDAD FIR and SRR	~~ORBS~~ ORBB	BAGHDAD INTL AIRPORT	ORBI	Y	Y		
JORDAN	AMMAN (ACC/FIC)	OJAC	AMMAN/QUEEN ALIA	OJAI	Y	Y		
KUWAIT	ACC/AERODROME CONTROL TOWER	OKAC	KUWAIT INTL AIRPORT	OKBK	Y	Y	Y	
LEBANON	BEIRUT/BEIRUT INTL	OLBA	BEIRUT/BEIRUT INTL	OLBA	Y	Y		
LIBYA	TRIPOLI FIR/SRR	HLLL*	TRIPOLI (Tripoli Intl.)	HLLT	Y	Y		
OMAN	MUSCAT FIR	OOMM	MUSCAT/MUSCAT INTL	OOMS	Y	Y	Y	
SAUDI ARABIA	JEDDAH FIR	OEJD	JEDDAH/KING ABDULAZIZ INTL	OEJN	Y	Y	Y	
SUDAN	KHARTOUM FIR/SRR	HSSS	KHARTOUM	HSSS	Y	Y		
SYRAIN ARAB REPUBLIC	DAMASCUS/INTL	OSDI	DAMASCUS INTL	OSDI	Y	Y		
UNITED ARAB EMIRATES	EMIRATES FIR	OMAE	ABU DHABI INTL	OMAA	Y	Y	Y	
YEMEN	SANAA/INTL	OYSN	SANAA INTL	OYSN	Y	Y	Y	

TABLE MET II-2 - AERODROME METEOROLOGICAL OFFICES

EXPLANATION OF THE TABLE

Column

1 Name of the State where meteorological service is required

2 Name of the AOP aerodrome where meteorological service is required

Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.

3 ICAO location indicator of the AOP aerodrome

4 Designation of AOP aerodrome:

RG - international general aviation, regular use
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

5 Name of the aerodrome meteorological office responsible for the provision of meteorological service

Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.

6 ICAO location indicator of the responsible aerodrome meteorological office

7 Requirement for METAR/SPECI from the aerodrome concerned, where:

Y – Yes, required
N – No, not required

8 Requirement for information on the state of the runway provided by the appropriate airport authority to be included as supplementary information in METAR/SPECI from the aerodrome concerned, where:

Y – Yes, required
N – No, not required

9 Requirement for trend forecast to be appended to METAR/SPECI from the aerodrome concerned, where

Y – Yes, required
N – No, not required

10 Requirement for TAF from the aerodrome concerned, where

C - Requirement for 9-hour validity aerodrome forecasts in TAF code (9H)
T - Requirement for 18/24-hour validity aerodrome forecasts in TAF code (18/24H)
X - Requirement for 30-hour validity aerodrome forecasts in TAF code (30H)
N – No, not required

11 Requirement for maximum and minimum temperature (expected to occur during the period of validity of the TAF) to be included in TAF from the aerodrome concerned, where:

Y – Yes, required
N – No, not required

12 Availability of METAR/SPECI and TAF from the aerodrome concerned, where:

F – Full availability : OPMET information as listed issued for the aerodrome all through the 24-hour period
P – Partial availability: OPMET information as listed not issued for the aerodrome for the entire 24-hour period

State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
BAHRAIN	BAHRAIN INTERNATIONAL	OBBI	RS	BAHRAIN INT'L	OBBI	Y		Y	X		F
EGYPT	AL ALAMAIN/INTL	HEAL	AS	CAIRO/INTL	HECA				*		P
	ALEXANDRIA / INTL	HEAX	RS	CAIRO/INTL	HECA	Y		Y	X		F
	ASWAN / INTL	HESN	RS	CAIRO/INTL	HECA	Y		Y	X		F
	ASYUT/INTL	HEAT	AS	CAIRO/INTL	HECA	Y			X		F
	CAIRO/INTL	HECA	RS	CAIRO/INTL	HECA	Y		Y	X		F
	HURGHADA / INTL	HEGN	RS	CAIRO/INTL	HECA	Y		Y	X		F
	LUXOR / INTL	HELX	RS	CAIRO/INTL	HECA	Y		Y	X		F
	MARSA ALAM/INTL	HEMA	RS	CAIRO/INTL	HECA	Y			X		F
	SHARK EL OWEINAT	HEOW	AS	CAIRO/INTL	HECA	Y			X		F
	SHARM EL SHEIKH / INTL	HESH	RS	CAIRO/INTL	HECA	Y			X		F
	SOHAG INTERNATIONAL AIRPORT	HESG	AS	CAIRO/INTL	HECA				*		P
	ST.CATHERINE / INTL	HESC	AS	CAIRO/INTL	HECA	Y			X		F
	TABA / INTL	HETB	RS	CAIRO/INTL	HECA	Y			X		F
IRAN (ISLAMIC REPUBLIC OF)	BANDAR ABBASS/INTL	OIKB	RS	TEHRAN/ MEHRABAD INTL	OIII	Y			T		F
	ESFAHAN / SHAHID BEHESHTI INTL	OIFM	RS	TEHRAN/ MEHRABAD INTL	OIII	Y			X		F
	MASHHAD/SHAHID HASHEMI NEJAD INTL	OIMM	RS	TEHRAN/ MEHRABAD INTL	OIII	Y			T		F
	SHIRAZ/SHAHID DASTGHAIB INTL	OISS	RS	SHIRAZ/SHAHID DASTGHAIB INTL	OISS	Y		Y	X		F

	TABRIZ/INTL	OITT	RNS	TABRIZ/INTL	OITT	Y		X	F
	TEHRAN/IMAM KHOMAINI INTL	OIIE	RS	TEHRAN/MEHRABAD INTL	OIII	Y	Y	X	F
	TEHRAN/MEHRABAD INTL	OIII	RS	TEHRAN/MEHRABAD INTL	OIII	Y	Y	T	F
	ZAHEDAN/INTL	OIZH	RS	TEHRAN/MEHRABAD INTL	OIII	Y		T	F
IRAQ	AL NAJAF	ORNI	RNS			Y		T	F
	BAGHDAD INTERNATIONAL AIRPORT	ORBI	RS	BAGHDAD INTERNATIONAL AIRPORT	ORBI	Y	Y	T	F
	BASRAH INTL AIRPORT	ORMM	RS	BAGHDAD INTERNATIONAL AIRPORT	ORBI	Y	Y	T	F
	ERBIL INTL AIRPORT	ORER	RS			Y		T	F
	MOSUL INTERNATIONAL AIRPORT	ORBM	RS	BAGHDAD INTERNATIONAL AIRPORT	ORBI		Y	T	F
	SULAYMANIYAH INTERNATIONAL AIRPORT	ORSU	RS			Y		T	F
JORDAN	AMMAN/MARKA	OJAM	AS	AMMAN/MARKA	OJAM	Y	Y	T	F
	AMMAN/QUEEN ALIA	OJAI	RS	AMMAN/MARKA	OJAM	Y	Y	X	F
	AQABA/KING HUSSEIN	OJAQ	RNS	AMMAN/MARKA	OJAM	Y			F
	JERUSALEM/JERUSALEM	OJJR	RS	AMMAN/MARKA	OJAM				N
KUWAIT	KUWAIT/INTL AIRPORT	OKBK	RS	KUWAIT/INTL AIRPORT	OKBK	Y	Y	X	F
LEBANON	BEIRUT/BEIRUT INTL	OLBA	RS	BEIRUT/BEIRUT INTL	OLBA	Y	Y	X	F
LIBYA	BENGHAZI (Benina Intl)	HLLB	RS	BENGHAZI (Benina Intl)	HLLB	Y	Y	T	F
	SEBHA (Sebha Intl)	HLLS	R	BENGHA	HLL	Y			F

			S	ZI (Benina Intl)	B				
	TRIPOLI (Tripoli Intl)	HLLT	RS	TRIPOLI (Tripoli Intl)	HLLT	Y	Y	T	F
OMAN	MUSCAT/MUSCAT INTL.	OOMS	RS	MUSCAT/ MUSCAT INTL.	OOMS	Y	Y	X	F
	SALALAH	OOSA	AS	SALALAH	OOSA	Y		X	F
QATAR	DOHA INTERNATIONAL	OTBD	RS	DOHA INTERNATIONAL	OTBD	Y	Y	T	F
	HAMAD INTERNATIONAL	OTHH	RS	DOHA INTERNATIONAL	OTBD		Y	X	F
SAUDI ARABIA	DAMMAM/KING FAHD INTERNATIONAL	OEDF	RS			Y		X	F
	JEDDAH/KING ABDULAZIZ INTL	OEJN	RS	JEDDAH/ KING ABDULAZIZ INTERNATIONAL	OEJN	Y	Y	X	F
	MADINAH/PRINCE MOHAMMAD BIN ABDULAZIZ INTERNATIONAL	OEMA	RS	JEDDAH/ KING ABDULAZIZ INTERNATIONAL	OEJN	Y	Y	T	F
	RIYADH/KING KHALED INTERNATIONAL	OERK	RS	JEDDAH/ KING ABDULAZIZ INTERNATIONAL	OEJN	Y	Y	X	F
SOUTH SUDAN	JUBA	HSSJ	RS	KHARTOUM	HSSS	Y			~~N~~ F
SUDAN	KASSALA	HSKA	AS	KHARTOUM	HSSS	Y			F
	KHARTOUM	HSSS	RS	KHARTOUM	HSSS	Y	Y	X	F
	PORT SUDAN	HSPN	RS	WADI HALFA	HSSW	Y		X	F
SYRIAN ARAB REPUBLIC	ALEPPO/INTL	OSAP	RS	DAMASCUS/INTL	OSDI	Y		T	F
	BASSEL AL-ASSAD/INTL. LATTAKIA	OSLK	RS	DAMASCUS/INTL	OSDI	Y		T	F
	DAMASCUS/INTL	OSDI	RS	DAMASCUS/INTL	OSDI	Y	Y	X	F
UNITED ARAB	ABU DHABI INTERNATIONAL	OMAA	RS	ABU DHABI	OMAA	Y	Y	X	F

EMIRATES				INTERNATIONAL					
	AL AIN INTERNATIONAL	OMAL	RS	ABU DHABI INTERNATIONAL	OMAA	Y	Y	X	F
	ABU DHABI/ AL BATEEN EXECUTIVE AIRPORT	OMAD	RS	ABU DHABI INTERNATIONAL	OMAA	Y	Y	X	F
	DUBAI INTERNATIONAL	OMDB	RS	DUBAI INTERNATIONAL	OMDB	Y	Y	X	F
	DUBAI/AL MAKTOUM INTERNATIONAL	OMDW	RS	DUBAI INTERNATIONAL	OMDB	Y	Y	X	F
	FUJAIRAH INTERNATIONAL	OMFJ	RS	DUBAI INTERNATIONAL	OMDB	Y		X	F
	RAS AL KHAIMAH INTERNATIONAL	OMRK	RS	DUBAI INTERNATIONAL	OMDB	Y		X	F
	SHARJAH INTERNATIONAL	OMSJ	RS	DUBAI INTERNATIONAL	OMDB	Y		X	F
YEMEN	ADEN/INTL	OYAA	RS	SANAA/INTL	OYSN	Y	Y	X	F
	HODEIDAH/INTL	OYHD	RS	SANAA/INTL	OYSN	Y		T	F
	MUKALLA/INTL	OYRN	RS	SANAA/INTL	OYSN	Y		T	F
	SANAA/INTL	OYSN	RS	SANAA/INTL	OYSN	Y		T	F
	TAIZ/INTL	OYTZ	RS	SANAA/INTL	OYSN	Y		T	F

TABLE MET II-3 – VOLMET BROADCASTS [FORMER ATS 2]

EXPLANATION OF THE TABLE

The transmitting station appears at the top of each block.

Names in lower case letters indicate aerodromes for which reports (routine or selected special) are required.

Names in upper-case letters indicate aerodromes for which forecasts are required.

Istanbul 25B30 55B60	Shiraz 20B25 50B55	Tehran 15B20 45B50
Istanbul Ankara Athinai Thessaloniki Roma Tehran ISTANBUL	Tehran Shiraz Isfahan Kuwait Bandar Abbass Bahrain Muscat Dubai SHIRAZ	Tehran Shiraz Mashhad Karachi Ashgabat Baku Yerevan Tashkent TEHRAN

TABLE MET II-MID-1 - EXCHANGE OF OPERATIONAL METEOROLOGICAL INFORMATION DURING THE PILGRIMAGE SEASON

EXPLANATION OF THE TABLE

Column

1 Name of the State in which the operational meteorological information should be available.
2 Location from which, or related to which, the operational meteorological information refers.
3 TF – Aerodrome forecasts X: Seasonal requirement
4 RF – Route forecasts

To be available in	From or related to	Information required	
		TF	RF
1	2	3	4
LIBYA	DHAHRAN	X	
	MADINAH	X	
	RIYADH	X	
	ALGER (route/ruta Casablanca-Tripoli)		X
	CAIRO (route/ruta Tripoli-Jeddah)		X
SAUDI ARABIA	ABIDJAN	X	
	ACCRA	X	
	AKTYUBINSK	X	
	ALGER (ROUTE/RUTA		X
	CASABLANCA-TRIPOLI)	X	
	ALMATY	X	
	ASKHABAT	X	
	BAMAKO	X	
	BANGUI		X
	BRAZZAVILLE		
	CAIRO (ROUTE/RUTA	X	
	TRIPOLI-JEDDAH)	X	
	CONAKRY	X	
	COTONOU	X	
	DAKAR		X
	DOUALA		
	DUSHANBE		
	KHARTOUM (ROUTE/RUTA	X	
	KHARTOUM-GENEINA)	X	
	KYIV	X	
	NOUADHIBOU	X	
	OUAGADOUGOU		
	SAL ISLAND		
	SAMARKAND		
	TASHKENT		

To be available in	From or related to	Information required	
		TF	RF
1	2	3	4
SUDAN	BAMAKO	X	
	CONAKRY	X	
	DAKAR	X	
	NOUADHIBOU	X	
	OUAGADOUGOU	X	
	SAL ISLAND	X	
	JEDDAH (route/ruta Jeddah-Khartoum)		X

MID ANP, VOLUME II

PART VI - SEARCH AND RESCUE (SAR)

4. INTRODUCTION

1.1 This part of the MID ANP, Volume II, complements the provisions in ICAO SARPs and PANS related to search and rescue (SAR). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of SAR facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to the SAR facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified.

5. GENERAL REGIONAL REQUIREMENTS

2.1 The Rescue Coordination Centres (RCCs) and Rescue Sub-Centres (RSCs) for the MID Region are listed in **Table SAR II-1** and depicted in **Chart SAR I-1**.

2.2 In cases where the minimum SAR facilities are temporarily unavailable, alternative suitable means should be made available.

2.3 In cases where a SAR alert is proximate to a Search and Rescue Region (SRR) boundary (e.g. 50 NM or less), or it is unclear if the alert corresponds to a position entirely contained within an SRR, the adjacent RCC or RSC should be notified of the alert immediately.

3. SPECIFIC REGIONAL REQUIREMENTS

3.1. The contact details for the SAR Point of Contact (SPOC) – COSPAS-SARSAT in the MID Region are at **Table SAR II-MID-1**

TABLE SAR II-1 - SEARCH AND RESCUE COORDINAION CENTRES AND RESCUE SUB CENTRES IN THE MID REGION

EXPLANATION OF THE TABLE

Column

1 State
2 Name of the Rescue Coordination Centre (RCC) and Rescue Sub-centre (RSC).
3 SAR points of contact (SPOC). Name of the SPOC.
4 Remarks. Supplementary information such as the type of RCC (e.g. maritime or aviation or joint).

RCC and Rescue Units		**SPOC**	**Remarks**
1	2	3	4
BAHRAIN			
	BAHRAIN RCC	RCC ATC Bahrain	
	RSC		
	Doha	RCC ATC	
EGYPT			
	CAIRO RCC	SAR Centre	
	RSCs		
	Alexandria		
	Luxor		
	Hurghada		
	M. Matruh		
	EL-Minya		
	El Tor		
	Habata		
	New Valley		
	Ras-Banas		
	Siwa		
IRAN			
	TEHRAN RCC	RCC Tehran	
	RSC		
	Bandar Abbass		
	Busherhr		
	Esfahan		
	Kerman		
	Kermanshah		
	Mashhad		
	Tabriz		
	Zahedan		
IRAQ			
	BAGHDAD RCC	CENTAF-AUAB CAOC JSRC	
	RSC		
	Kirkuk		
	Shaibah		
	Basrah		

JORDAN			
	AMMAN RCC	RCC ATC Amman	
KUWAIT			
	KUWAIT RCC	RCC ATC Kuwait	
LEBANON			
	BEIRUT RCC	RCC Beirut	
	RSC		
	Tripoli		
LIBYA			
	TRIPOLI RCC	CAA	
	RSC		
	Marsa Brega		
	Sirte		
	Tobruk		
OMAN			
	MUSCAT RCC	RCC Muscat Air Force	
	RSC		
	Salalah		
SAUDI ARABIA			
	JEDDAH RCC	SAMCC	
	RSC		
	Dammam		
SUDAN			
	KHARTOUM RCC	ACC Khartoum	
	RSC		
	El Obeid		
	Juba		
	Port Sudan		
SYRIA			
	DAMASCUS RCC	RCC ATC	
	Damascus		
	Latakia		
UAE			
	ABU DHABI RCC	AEMCC	
	Abu Dhabi		
	Dubai		
	Fujairah		
YEMEN			
	SANA'A RCC	RCC Sanaa	
	RSC		
	Aden		
	Hodeidah		
	Riyan		

TABLE SAR II-MID-1 MID REGION SAR POINT OF CONTACT (SPOC) – COSPAS-SARSAT

STATE	SPOC NAME	ADDRESS	EMAIL	TEL	FAX	AFTN	ASS. MCC/ STATE[2]	LAST REVISION	REMARK
Bahrain	RCC ATC Bahrain	Bahrain CAA, Air Navigation Directorate P.O. Box 586 Kingdom of Bahrain	Bahatc@caa.gov.bh	(973) 17321081 17321080	(973) 17321905	OBBISARX	SAMCC Saudi Arabia	16-April-2013	
Egypt	SAR Centre	SAR Centre Almaza Air Base Heliopolis, Cairo, Egypt	jrcc136@afmic.gov.eg mmc@saregypt.net nahedh@tra.gov.eg	(202) 24184537 24184531	(202) 24184537 24184531	HECCYCYX	ALMCC Algeria	22-OCT-2013	TELEX: (91) 21095 RCCC RUN
Iran	RCC Tehran	Civil Aviation Organization SAR Coordination Centre Mehrabad Airport Tehran, Iran	SAR@cao.ir IRAN-SAR@airport.ir rcc.IRAN@airport.ir	(9821) 44544107 44544116 44544060	(9821) 44544117 44544106	OIIIZRZX	TRMCC Turkey	14-Jan-2013	
Iraq	CENTAF-AUAB CAOC JSRC			(974) 4503452 4364193	(974) 4327382		TRMCC Turkey	29-Sep-2009	
Jordan	RCC ATC Amman	RCC Civil Aviation Authority Amman Airport, Jordan		(9626) 4451672	(9626) 4451667	OJACZQZX	SAMCC Saudi Arabia	16-Apr-2013	
Kuwait	RCC ATC Kuwait	RCC DGCA Kuwait International Airport, P.O.Box 17, Kuwait		(965) 24760463 24762994	(965) 24346515 24346221	OKBKZQZX OKBKNSAR	SAMCC Saudi Arabia	16-Apr-2013	
Lebanon	RCC Beirut	RCC, DGCA Lebanon, Hariri Int'l Airport- Beirut, Lebanon		(961) 1628161	(961) 1628186 1629035	OLBIZQZX	SAMCC Saudi Arabia	16-Apr-2013	
Libya	CAA	CAA, Tripoli Int'l Airport, Libya	info@sar.caa.ly	(218.21) 5632332 4446799 3606868	(218.21) 563 0257 360 6868	HLLTYCYX	ALMCC Algeria	16-May-2013	TELEX (218.21) 5632332
Oman	RCC Muscat Air Force	RCC, HQ RAFO P.O.Box 730 Central Post Office Muscat Int'l Airport, Oman		(968) 24519209 24519332	(968) 24334776 24338692	OOMSYAYX	SAMCC Saudi Arabia	16-Apr-2013	

[2] Associated COSPAS-SARSAT Mission Control Center / State where it is located

STATE	SPOC NAME	ADDRESS	EMAIL	TEL	FAX	AFTN	ASS. MCC/ STATE[2]	LAST REVISION	REMARK
Qatar	RCC ATC			(974) 44616332 44651001 44616429	(974) 44622078 44678512	OTBDZTZX	SAMCC Saudi Arabia	16-Apr-2013	
Saudi Arabia*	SAMCC	KSA.GACA / Air Navigation services P.O.Box 929 Jeddah 21421 Saudi Arabia	samcc@gaca.gov.sa	(96602) 6150170 6855812 (96650) 4601445	(96602) 6150171 6402855	OEJNJSAR	SAMCC Saudi Arabia	28-Jun-2013	TEL 3 & FAX 2 for Head of SAMCC
Sudan	ACC Khartoum	Khartoum Airport, Sudan		(249.183) 788192 784925	(249.183) 528323	HSSSYCYX	ITMCC Italy	16-Apr-2013	Thuraya +8821655524 296
Syria	RCC ATC	General Civil Aviation Authority		(963.11) 5400540	(963.11) 5400312	OSDIZQZX	SAMCC Saudi Arabia	16-Apr-2013	
UAE*	AEMCC	SAR Coordination Center P.O.Box 906 GHQ Armed Forces UAE	aemcc@uae-jrcc.ae	(971.2) 4056144 4496866	(971.2) 4496844	OMADYCYX	AEMCC UAE	23-Sep-2011	
Yemen	RCC Sanaa	RCC Department of Civil Aviation Sanaa, Yemen		(967) 1344673	(967) 1345916	OYSNYCYX	SAMCC Saudi Arabia	16-April-2013	

[1] Associated COSPAS-SARSAT Mission Control Center / State where it is located

MID ANP, VOLUME II

PART VII - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

1. INTRODUCTION

1.1 This part of the MID ANP, Volume II, complements the provisions in ICAO SARPs and PANS related to AIS/AIM and aeronautical charts (MAP). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of AIS/AIM facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to the AIS/AIM facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified.

2. GENERAL REGIONAL REQUIREMENTS

2.1 The responsibility for the provision of AIS/AIM facilities and services in the MID Region~~(s)~~, is reflected in the **Table AIM II-1,** which shows the list of designated international NOTAM Office (NOF), designated State for AIP production, designated State for aeronautical charts (MAP) production, designated State for the provision of the authoritative Integrated Aeronautical Information Database (IAID) and designated State for the provision of the pre-flight information services.

2.2 States should designate and implement an authoritative Integrated Aeronautical Information Database (IAID) where data sets are integrated and used to produce current and future AIS/AIM products and services, which is a fundamental step in the transition to AIM. The designation of authoritative databases should be clearly stated in the Aeronautical Information Package AIP.

2.3 The national plans for the transition from AIS to AIM identifying clearly the timelines for the implementation of the different elements of the ICAO Roadmap for the transition from AIS to AIM should be submitted by States to the ICAO MID Regional Office~~(s)~~. States should also inform the ICAO MID Regional Office~~(s)~~ of any update.

2.4 States should take necessary measures to ensure that aeronautical information and data they provide meet the regulatory Aeronautical Data quality requirements.

2.5 The Quality Management System (QMS) in AIS/AIM should define procedures to meet the safety and security objectives associated with the management of aeronautical data and information.

2.6 Recognizing the need to maintain or enhance existing safety levels of operations, States should ensure that any change to the existing systems or the introduction of new systems used for processing aeronautical data and/or information are preceded by a safety assessment.

2.7 Technical services responsible for origination of the raw aeronautical information should be acquainted with the requirements for promulgation and advance notification of changes that are operationally significant as established in Annexes 11 and 14 and other relevant ICAO documentation. They should take due account of the time needed by AIS/AIM for the preparation, production and issue of the relevant material, including the compliance with the AIRAC procedures.

2.8 AIS/AIM personnel should be involved in the air navigation planning processes. This should ensure the timely preparation of appropriate AIS documentation and that the effective dates for changes to the air navigation system and procedures are satisfied.

2.9 States should produce relevant aeronautical charts required for civil air operations employing

visual air navigation independently or in support of other forms of air navigation. The production responsibility for sheets of the World Aeronautical Chart (WAC) — ICAO 1: 1 000 000 or Aeronautical Chart — ICAO 1: 500 000 (*as an alternative to the World Aeronautical Chart — ICAO 1:1 000 000)* is set out in **Table AIM II-2**.

3. SPECIFIC REGIONAL REQUIREMENTS

None.

~~***3.1 TBD (e.g. EAD for Europe, AIS/AIM Certification for EUR and MID, etc.)***~~

———————

TABLE AIM II-1 - RESPONSIBILITY FOR THE PROVISION OF AIS/AIM FACILITIES AND SERVICES

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory

2 Designated international NOTAM Office (NOF)

3 Designated State for AIP production

4 Designated State for aeronautical charts (MAP) production

5 Designated State for the provision of the authoritative Integrated Aeronautical Information Database (IAID)

6 Designated State for the provision of pre-flight information services

7 Remarks — additional information, as appropriate.

State	NOF	AIP	MAP	IAID	Pre-flight briefing	Remarks
1	2	3	4	5	6	7
BAHARAIN	BAHRAIN	BAHRAIN	BAHRAIN	BAHRAIN	BAHRAIN	
EGYPT	CAIRO	EGYPT	EGYPT	EGYPT	EGYPT	
IRAN, ISLAMIC REPUBLIC OF	TEHRAN	IRAN	IRAN	IRAN	IRAN	
IRAQ	BAGHDAD	IRAQ	IRAQ	IRAQ	IRAQ	
JORDAN	AMMAN	JORDAN	JORDAN	JORDAN	JORDAN	
KUWAIT	KUWAIT	KUWAIT	KUWAIT	KUWAIT	KUWAIT	
LEBANON	BEIRUT	LEBANON	LEBANON	LEBANON	LEBANON	
LIBYA	TRIPOLI	LIBYA	LIBYA	LIBYA	LIBYA	
OMAN	MUSCAT	OMAN	OMAN	OMAN	OMAN	
QATAR	BAHRAIN	QATAR	QATAR	QATAR	QATAR	
SAUDI ARABIA	JEDDAH	SAUDI ARABIA	SAUDI ARABIA	SAUDI ARABIA	SAUDI ARABIA	
SUDAN	KHARTOUM	SUDAN	SUDAN	SUDAN	SUDAN	
SYRIAN ARAB REPUBLIC	DAMASCUS	SYRIAN ARAB REPUBLIC	SYRIAN ARAB REPUBLIC	SYRIAN ARAB REPUBLIC	SYRIAN ARAB REPUBLIC	
UNITED ARAB EMIRATES	ABU DHABI	UNITED ARAB EMIRATES	UNITED ARAB EMIRATES	UNITED ARAB EMIRATES	UNITED ARAB EMIRATES	
YEMEN	SANA'A	YEMEN	YEMEN	YEMEN	YEMEN	

TABLE AIM II-2 - PRODUCTION RESPONSIBILITY FOR SHEETS OF THE WORLD AERONAUTICAL CHART - ICAO 1:1 000 000 OR AERONAUTICAL CHART — ICAO 1: 500 000

EXPLANATION OF THE TABLE

Column:

1 Name of the State accepting production responsibility.

2 World Aeronautical Chart — ICAO 1:1 000 000/Aeronautical Chart — 1: 500 000 sheet number(s) for which production responsibility is accepted.

3 Remarks.

Note — In those instances where the production responsibility for certain sheets has been accepted by more than one State, these States by mutual agreement should define limits of responsibility for those sheets. This should be reflected in the Remarks column

State	Sheet number(s)	Remarks
1	2	3
BAHARAIN	2547	
EGYPT	2447, 2448, 2543, 2544	
IRAN, ISLAMIC REPUBLIC OF	2338, 2339, 2428, 2429, 2443, 2444, 2548	
IRAQ	2427, 2445	
JORDAN	2426, 2446, 2447	*Note: Jordan to cover its own territory within Amman FIR*
KUWAIT	2445	*Note: Kuwait to cover its own territory within Kuwait FIR*
LEBANON	2426	*Note: Lebanon to cover its own territory within Beirut FIR*
LIBYA	2449, 2450, 2541, 2542, 2569, 2424	
OMAN	2563, 2670	
QATAR		
SAUDI ARABIA	2446, 2545, 2546, 2564, 2565, 2566, 2668, 2669	
SUDAN	2567, 2568, 2665, 2666, 2667, 2689, 2690, 2787, 2811	
SYRIAN ARAB REPUBLIC	2426	*Note: Syria to cover its own territory within Damascus FIR*
UNITED ARAB EMIRATES		
YEMEN	2686, 2687	

APPENDIX C

MID AIR NAVIGATION PLAN

VOLUME III

MID AIR NAVIGATION PLAN

VOLUME III

TABLE OF CONTENTS

MID ANP, VOLUME III

PART 0 – INTRODUCTION

1. INTRODUCTION

1.1 The background to the publication of ANPs in three volumes is explained in the Introduction in Volume I. The procedure for amendment of Volume III is also described in Volume I. Volume III contains dynamic/flexible plan elements related to the implementation of the air navigation system and its modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) and associated technology roadmaps described in the Global Air Navigation Plan (GANP).

1.2 The information contained in Volume III is related mainly to:

- Planning: objectives set, priorities and targets planned at regional or sub-regional levels;
- Implementation monitoring and reporting: monitoring of the progress of implementation towards targets planned. This information should be used as the basis for reporting purposes (i.e.: global and regional air navigation reports and performance dashboards); and/or
- Guidance: providing regional guidance material for the implementation of specific system/procedures in a harmonized manner.

1.3 The management of Volume III is the responsibility of the MIDANPIRG.

1.4 Volume III should be used as a tool for monitoring and reporting the status of implementation of the elements planned here above, through the use of tables/databases and/or references to online monitoring tools, as endorsed by MIDANPIRG. The status of implementation is updated on a regular basis as endorsed by MIDANPIRG.

2. AVIATION SYSTEM BLOCK UPGRADES (ASBUs), MODULES AND ROADMAPS

2.1. The ASBU Modules and Roadmaps form a key component to the GANP, noting that they will continue to evolve as more work is done on refining and updating their content and in subsequent development of related provisions, support material and training.

2.2. Although the GANP has a worldwide perspective, it is not intended that all Block Upgrade Modules are required to be applied in every State, sub-region and/or region. Many of the Block Upgrade Modules contained in the GANP are specialized packages that should be applied only where the specific operational requirement exists or corresponding benefits can be realistically projected. Accordingly, the Block Upgrade methodology establishes an important flexibility in the implementation of its various Modules depending on a region, sub-region and/or State's specific operational requirements. Guided by the GANP, ICAO MID regional, sub-regional and State planning should identify Modules which best provide the needed operational improvements.

MID ANP, VOLUME III

PART I - GENERAL PLANNING ASPECTS (GEN)

1. PLANNING METHODOLOGY

1.1 Guided by the GANP, the regional planning process starts by identifying the homogeneous ATM areas, major traffic flows and international aerodromes. An analysis of this data leads to the identification of opportunities for performance improvement. Modules from the Aviation System Block Upgrades (ASBUs) are evaluated to identify which of those modules best provide the needed operational improvements. Depending on the complexity of the module, additional planning steps may need to be undertaken including financing and training needs. Finally, regional plans would be developed for the deployment of modules by drawing on supporting technology requirements. This is an iterative planning process which may require repeating several steps until a final plan with specific regional targets is in place. This planning methodology requires full involvement of States, service providers, airspace users and other stakeholders, thus ensuring commitment by all for implementation.

1.2 Block 0 features Modules characterized by technologies and capabilities which have already been developed and implemented in many parts of the world today. It therefore features a near-term availability milestone, or Initial Operating Capability (IOC), of 2013 for high density based on regional, sub-regional and State operational need. Blocks 1 through 3 are characterized by both existing and projected performance area solutions, with availability milestones beginning in 2018, 2023 and 2028 respectively.

2. REVIEW AND EVALUATION OF AIR NAVIGATION PLANNING

2.1. The progress and effectiveness against the priorities set out in the regional air navigation plans should be annually reported, using a consistent reporting format, to ICAO.

2.2. Performance monitoring requires a measurement strategy. Data collection, processing, storage and reporting activities supporting the identified global/regional performance metrics are fundamental to the success of performance-based approaches.

2.3. The air navigation planning and implementation performance framework prescribes reporting, monitoring, analysis and review activities being conducted on a cyclical, annual basis. An Air Navigation Reporting Form (ANRF) reflecting selected key performance areas as defined in the Manual on Global Performance of the Air Navigation System (ICAO Doc 9883) has been developed for each ASBU Module. The ANRF is a customized tool which is recommended for the application of setting planning targets, monitoring implementation, and identifying challenges, measuring implementation/performance and reporting. If necessary, other reporting formats that provide more details may be used but should contain as a minimum the elements described in the ANRF template. A sample of the ANRF is provided in **Appendix A**. A sample Template of a planning table which may be used to show the elements planned in an ICAO region is provided in **Appendix B**.

3. REPORTING AND MONITORING RESULTS

3.1 Reporting and monitoring results will be analyzed by the PIRGs, States and ICAO Secretariat to steer the air navigation improvements, take corrective actions and review the allocated objectives, priorities and targets if needed. The results will also be used by ICAO and aviation partner stakeholders to develop the annual Global Air Navigation Report. The report results will provide an opportunity for the international civil aviation community to compare progress across different ICAO regions in the establishment of air navigation infrastructure and performance-based procedures.

3.2 The reports will also provide the ICAO Council with detailed annual results on the basis of which tactical adjustments will be made to the performance framework work programme, as well as triennial policy adjustments to the GANP and the Block Upgrade Modules.

3.3 **Table GEN III-1** contains a minimum set of Implementation Indicator(s) for each of the eighteen ASBU Block 0 Modules necessary for the monitoring of these Modules (if identified as a priority for implementation at regional or sub-regional level). These indicators are intended to enable comparison between ICAO Regions with respect to ASBU Block 0 Modules and will apply only to commonly selected ASBU Modules. All regions/PIRGs reserve the right to select the ASBU Modules relevant to their needs and to endorse additional indicators, as deemed necessary. No reporting is required for ASBU Block 0 Modules that have not been selected.

Note: The priority for implementation as well as the applicability area of each selected ASBU Block 0 Module is to be defined by the MIDANPIRG. This should be reflected in Part II – Air Navigation System Implementation.

TABLE GEN III-1 – IMPLEMENTATION INDICATOR(S) FOR EACH ASBU BLOCK 0 MODULE

Explanation of the Table

1 Block 0 Module Code
2 Block 0 Module Title
3 High level Implementation Indicator
4 Remarks ~~*Additional information as deemed necessary.*~~

Module Code	Module Title	Implementation Indicator	Remarks
1	2	3	4
B0-APTA	Optimization of Approach Procedures including vertical guidance	% of international aerodromes having at least one runway end provided with APV Baro-VNAV or LPV procedures	
B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation	% of applicable international aerodromes having implemented increased runway throughput through optimized wake turbulence separation	1. Not to be considered for the first reporting cycles due to lack of maturity. 2. List of ADs to be established through regional air navigation agreement.
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	% of applicable international aerodromes having implemented AMAN / DMAN	1. Not to be considered for the first reporting cycles due to lack of maturity. 2. List of ADs to be established through regional air navigation agreement.
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	% of applicable international aerodromes having implemented A-SMGCS Level 2	List of ADs to be established through regional air navigation agreement.
B0-ACDM	Improved Airport Operations through Airport-CDM	% of applicable international aerodromes having implemented improved airport operations through airport-CDM	List of ADs to be established through regional air navigation agreement.
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighbouring ACCs	
B0-DATM	Service Improvement through Digital Aeronautical Information Management	- % of States having implemented an AIXM based AIS database - % of States having implemented QMS	
B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	- % of States having implemented SADIS / WIFS - % of States having implemented QMS	

Module Code	Module Title	Implementation Indicator	Remarks
1	2	3	4
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	% of FIRs in which FUA is implemented	
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	% of FIRs within which all ACCs utilize ATFM systems	
B0-ASUR	Initial capability for ground surveillance	% of FIRs where ADS-B OUT and/or MLAT are implemented for the provision of surveillance services in identified areas.	1. Not to be considered for the first reporting cycles due to lack of maturity.
B0-ASEP	Air Traffic Situational Awareness (ATSA)	% of States having implemented air traffic situational awareness	1. Not to be considered for the first reporting cycles due to lack of maturity.
B0-OPFL	Improved access to optimum flight levels through climb/descent procedures using ADS-B	% of FIRs having implemented in-trail procedures	1. Not to be considered for the first reporting cycles due to lack of maturity.
B0-ACAS	ACAS Improvements	% of States requiring carriage of ACAS (with TCAS 7.1 evolution)	
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	% of States having implemented ground-based safety-nets (STCA, APW, MSAW, etc.)	
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	- % of international aerodromes / TMAs with PBN STAR implemented - % of international aerodromes/TMA where CDO is implemented	
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	% of FIRs utilising data link en-route in applicable airspace	
B0-CCO	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)	- % of international aerodromes / TMAs with PBN SID implemented - % of international aerodromes/TMA where CCO is implemented	

Appendix A

SAMPLE TEMPLATE

1. AIR NAVIGATION REPORT FORM (ANRF)

(This template demonstrates how ANRF to be used.
The data inserted here refers to ASBU B0-05/CDO as an example only)

Regional and National planning for ASBU Modules

2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-05/CDO: Improved Flexibility and Efficiency in Descent Profiles

Performance Improvement Area 4: Efficient Flight Path – Through Trajectory-based Operations

3. ASBU B0-05/CDO: Impact on Main Key Performance Areas (KPA)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	N	Y	Y	Y

4. ASBU B0-05/CDO: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
1. CDO	
2. PBN STARs	

7. ASBU B0-05/CDO: Implementation Challenges

Elements	Implementation Area			
	Ground system Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. CDO				
2. PBN STARs				

8. Performance Monitoring and Measurement
8A. ASBU B0-05/CDO: Implementation Monitoring

Elements	Performance Indicators/Supporting Metrics
1. CDO	Indicator: Percentage of international aerodromes/TMAs with CDO implemented Supporting metric: Number of international aerodromes/TMAs with CDO implemented
2. PBN STARs	Indicator: Percentage of international aerodromes/TMAs with PBN STARs implemented Supporting metric: Number of international aerodromes/TMAs with PBN STARs implemented

8. Performance Monitoring and Measurement **8 B. ASBU B0-05/CDO: Performance Monitoring**	
Key Performance Areas (Out of eleven KPAs, for the present until experienced gained, only five have been selected for reporting through ANRF)	**Where applicable, indicate qualitative Benefits,**
Access & Equity	Not applicable
Capacity	Not applicable
Efficiency	Cost savings through reduced fuel burn. Reduction in the number of required radio transmissions.
Environment	Reduced emissions as a result of reduced fuel burn
Safety	More consistent flight paths and stabilized approach paths. Reduction in the incidence of controlled flight into terrain (CFIT).
9. Identification of performance metrics: It is not necessary that every module contributes to all of the five KPAs. Consequently, a limited number of metrics per type of KPA, serving as an example to measure the module(s)' implementation benefits, without trying to apportion these benefits between module, have been identified on page 5. For the family of ASBU modules selected for air navigation implementation, States/Region to choose the applicable performance (benefit) metrics from the list available on page 5. This approach would facilitate States in collecting data for the chosen performance metrics. States/Region, however, could add new metrics for different KPAs based on maturity of the system and ability to collect relevant data.	

AIR NAVIGATION REPORT FORM
HOW TO USE - EXPLANATORY NOTES

1. **Air Navigation Report Form (ANRF):** This form is nothing but the revised version of Performance Framework Form that was being used by Planning and Implementation Regional Groups (PIRGs)/States until now. The ANRF is a customized tool for Aviation System Block Upgrades (ASBU) Modules which is recommended for application for setting planning targets, monitoring implementation, identifying challenges, measuring implementation/performance and reporting. Also, the PIRGs and States could use this report format for any other air navigation improvement programmes such as Search and Rescue. If necessary, other reporting formats that provide more details may be used but should contain as a minimum the elements described in this ANRF template. The results will be analysed by ICAO and aviation partners and utilized in the Regional Performance Dashboards and the Annual Air Navigation Report. The conclusions from the Air Navigation Report will serve as the basis for future policy adjustments, aiding safety practicality, affordability and global harmonization, amongst other concerns.

2. **Regional/National Performance objective:** In the ASBU methodology, the performance objective will be the title of the ASBU module itself. Furthermore, indicate alongside corresponding Performance Improvement area (PIA).

3. **Impact on Main Key Performance Areas:** Key to the achievement of a globally interoperable ATM system is a clear statement of the expectations/benefits to the ATM community. The expectations/benefits are referred to eleven Key Performance Areas (KPAs) and are interrelated and cannot be considered in isolation since all are necessary for the achievement of the objectives established for the system as a whole. It should be noted that while safety is the highest priority, the eleven KPAs shown below are in alphabetical order as they would appear in English. They are access/equity; capacity; cost effectiveness; efficiency; environment; flexibility; global interoperability; participation of ATM community; predictability; safety; and security. However, out of these eleven KPAs, for the present, only five have been selected for reporting through ANRF, which are Access & Equity, Capacity, Efficiency, Environment and Safety. The KPAs applicable to respective ASBU module are to be identified by marking Y (Yes) or N (No). The impact assessment could be extended to more than five KPAs mentioned above if maturity of the national system allows and the process is available within the State to collect the data.

4. **Planning Targets and Implementation Progress:** This section indicates planning targets and status of progress in the implementation of different elements of the ASBU Module for both air and ground segments.

5. **Elements related to ASBU module:** Under this section list elements that are needed to implement the respective ASBU Module. Furthermore, should there be elements that are not reflected in the ASBU Module (example: In ASBU B0-80/ACDM, Aerodrome certification and data link applications D-VOLMET, D-ATIS, D-FIS are not included; Similarly in ASBU B0-30/DAIM, note that WGS-84 and eTOD are not included) but at the same time if they are closely linked to the module, ANRF should specify those elements. As a part of guidance to PIRGs/States, every Regional ANP will have the complete list of all 18 Modules of ASBU Block 0 along with corresponding elements, equipage required on the ground and in the air as well as metrics specific to both implementation and performance (benefits).

6. **Targets and implementation progress (Ground and Air):** Planned implementation date (month/year) and the current status/responsibility for each element are to be reported in this section. Please provide as much details as possible and should cover both avionics and ground systems. This ANRF being high level document, develop necessary detailed action plan separately for each element/equipage.

7. **Implementation challenges**: Any challenges/problems that are foreseen for the implementation of elements of the Module are to be reported in this section. The purpose of the section is to identify in advance any issues that will delay the implementation and if so, corrective action is to be initiated by the concerned person/entity. The four areas, under which implementation issues, if any, for the ASBU Module to be identified, are as follows:

- Ground System Implementation:
- Avionics Implementation:
- Procedures Availability:
- Operational Approvals:

Should be there no challenges to be resolved for the implementation of ASBU Module, indicate as "NIL".

8. **Performance Monitoring and Measurement:** Performance monitoring and measurement is done through the collection of data for the supporting metrics. In other words, metrics are quantitative measure of system performance – how well the system is functioning. The metrics fulfil three functions. They form a basis for assessing and monitoring the provision of ATM services, they define what ATM services user value and they can provide common criteria for cost benefit analysis for air navigation systems development. The Metrics are of two types:

A. **Implementation Monitoring**: Under this section, the indicator supported by the data collected for the metric reflects the status of implementation of elements of the Module. For example- Percentage of international aerodromes with CDO implemented. This indicator requires data for the metric "number of international aerodromes with CDO".

B. **Performance Monitoring**: The metric in this section allows to asses benefits accrued as a result of implementation of the module. The benefits or expectations, also known as Key Performance Areas (KPAs), are interrelated and cannot be considered in isolation since all are necessary for the achievement of the objectives established for the system as a whole. It should be noted that while safety is the highest priority, the eleven KPAs shown below are in alphabetical order as they would appear in English. They are access/equity; capacity; cost effectiveness; efficiency; environment; flexibility; global interoperability; participation of ATM community; predictability; safety; and security. However, out of these eleven KPAs, for the present until experienced gained, only five have been selected for reporting through ANRF, which are Access & Equity, Capacity, Efficiency, Environment and Safety. Where applicable, mention qualitative benefits under this section.

9. **Identification of performance metrics:** It is not necessary that every module contributes to all of the five KPAs. Consequently, a limited number of metrics per type of KPA, serving as an example to measure the module(s)' implementation benefits, without trying to apportion these benefits between module, have been identified on page 6. For the family of ASBU modules selected for air navigation implementation, States/Region to choose the applicable performance (benefit) metrics from the list available on page 6. This approach would facilitate States in collecting data for the chosen performance metrics. States/Region, however, could add new metrics for different KPAs based on maturity of the system and ability to collect relevant data.

———————————

Appendix B - Main Planning Table Template

	Objectives					Priorities and targets			Reference
Block	**ASBU modules and elements Enablers**	**Performance Improvement Area**	**Applicable or not in [Region] (Yes/No)**	**Regional planning elements**	**Enablers**	**Priority allocated in [Region]**	**Target(s) in [Region]**	**Indicator(s) / Metric(s)**	**Supporting Planning Document (ANRF, other)**

MID ANP, VOLUME III

PART II – AIR NAVIGATION SYSTEM IMPLEMENTATION

1. INTRODUCTION

1.1 The planning and implementation of the ICAO Aviation System Block Upgrades (ASBUs) should be undertaken within the framework of the MIDANPIRG with the participation and support of all stakeholders, including regulatory personnel.

1.2 The ASBU Blocks and Modules adopted by the MID Region should be followed in accordance with the specific ASBU requirements to ensure global interoperability and harmonization of air traffic management. The MIDANPIRG should determine the ASBU Block Upgrade Modules, which best provide the needed operational improvements in the ICAO MID Region.

2. ICAO MID REGION AIR NAVIGATION OBJECTIVES, PRIORITIES AND TARGETS

2.1 In accordance with Recommendation 6/1 of the Twelfth Air Navigation Conference (AN-Conf/12), PIRGs are requested to establish priorities and targets for air navigation, in line with the ASBU methodology.

2.2 The achievement of the intended benefits along each routing or within each area of affinity is entirely dependent on the coordinated implementation of the required elements by all provider and user stakeholders concerned.

2.3 Considering that some of the block upgrade modules contained in the GANP are specialized packages that may be applied where specific operational requirements or corresponding benefits exist, States and PIRGs should clarify how each Block Upgrade module would fit into the national and regional plans.

2.4 As Block 0 modules in many cases provide the foundation for future development, all Block 0 modules should be assessed, as appropriate, for early implementation by States in accordance with their operational needs.

2.5 In establishing and updating the MID air navigation plan, the MIDANPIRG and States should give due consideration to the safety priorities set out in the Global Aviation Safety Plan (GASP) and MID Region safety strategy.

2.6 States in the MID Region through the MIDANPIRG should establish their own air navigation objectives, priorities and targets to meet their individual needs and circumstances in line with the global and regional air navigation objectives, priorities and targets.

3. MONITORING OF ASBU MODULES IMPLEMENTATION

3.1 The monitoring of air navigation performance and its enhancement should be carried out through identification of relevant air navigation Metrics and Indicators as well as the adoption and attainment of air navigation system Targets.

3.2 The monitoring of the regional implementation progress and performance metrics/indicators should be done for all elements planned by MIDANPIRG. The monitoring should allow global correlation of status and expectations, appreciation of benefits achieved for the airspace users, as well as corrective actions to be taken by the PIRG on implementation plans.

3.3 The MIDANPIRG should determine appropriate mechanisms and tools for the monitoring and the collection of necessary data at national and regional levels.

MID Region ASBU Block 0 Modules Prioritization and Monitoring

On the basis of operational requirements and taking into consideration the associated benefits, MID Region has prioritized the implementation of the Block "0" Modules**,** also agreed on the subsidiary bodies that will be monitoring and supporting the implementation of the modules as in Table below:.

MID REGION ASBU BLOCK 0 MODULES PRIORITIZATION AND MONITORING

Module Code	Module Title	Priority	Monitoring		Remarks
			Main	Supporting	
***Performance Improvement Areas (PIA) 1*: Airport Operations**					
B0-APTA	Optimization of Approach Procedures including vertical guidance	1	PBN SG	ATM SG, AIM SG, CNS SG	
B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation	2			
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	2			
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	1	ANSIG	CNS SG	Coordination with RGS WG
B0-ACDM	Improved Airport Operations through Airport-CDM	1	ANSIG	CNS SG, AIM SG, ATM SG	Coordination with RGS WG
***Performance Improvement Areas (PIA) 2* Globally Interoperable Systems and Data Through Globally Interoperable System Wide Information Management**					
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	1	CNS SG	ATM SG	
B0-DATM	Service Improvement through Digital Aeronautical Information Management	1	AIM SG	-	

B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	1	MET SG	-	
Performance Improvement Areas (PIA) 3 **Optimum Capacity and Flexible Flights – Through Global Collaborative ATM**					
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	1	ATM SG		
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	2			
B0-ASUR	Initial capability for ground surveillance	2			
B0-ASEP	Air Traffic Situational Awareness (ATSA)	2			
B0-OPFL	Improved access to optimum flight levels through climb/descent procedures using ADS-B	2			
B0-ACAS	ACAS Improvements	1	CNS SG		
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	2			
Performance Improvement Areas (PIA) 4 **Efficient Flight Path – Through Trajectory-based Operations**					
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	1	PBN SG		
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	1	ATM SG	CNS SG	
B0-CCO	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)	1	PBN SG		

Priority 1: Modules that have the highest contribution to the improvement of air navigation safety and/or efficiency in the MID Region. These modules should be implemented where applicable and will be used for the purpose of regional air navigation monitoring and reporting for the period 2013-2014.

Priority 2: Modules recommended for implementation based on identified operational needs and benefits.

APPENDIX – ASBU BLOCK 0 MODULES APPLICABLE IN THE MID REGION~~(S)~~

B0 – APTA, CCO and CDO

(Monitoring Results as July 2014)

BO-APTA: Optimization of Approach Procedures including vertical guidance
B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)
B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
BAHRAIN												
OBBI	12L	ILS	I	VORDME		Y						SIDs and STARs withdrawn
	30R	ILS	I	VORDME		Y						SIDs and STARs withdrawn
Total	**2**	**2**		**2**	**Y**	**2**	**0**	**0**	**0**	**0**	**0**	
%		**100**		**100**		**100**	**0**	**0**	**0**	**0**	**0**	
EGYPT												
HEAX	4			VORDME		Y						
	18											
	22			VORDME		Y						
	36			VORDME								
HEBA	14											
	32	ILS	I			Y		Y				
HESN	17			VORDME		Y		Y		Y		
	35	ILS	I	VORDME		Y		Y		Y		
HEAT	13					Y		Y		Y		
	31	ILS	I	VORDME		Y		Y		Y		
HECA	05L	ILS	I	VORDME		Y						

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
	05C	ILS	II	VORDME		Y						
	05R	ILS	I									
	23L	ILS	I	VORDME								
	23C	ILS	II	VORDME		Y						
	23R	ILS	I	VORDME		Y						
HEAR	16											
	34			VORDME								
HEGN	16			VORDME		Y		Y		Y		
	34	ILS	I	VORDME		Y		Y		Y		
HELX	2	ILS	I	VORDME		Y		Y		Y		
	20	ILS	I	VORDME		Y		Y		Y		
HEMA	15			VORDME								
	33			VORDME								
HEPS	10			VORDME								
	28											
HEOW	1			NDB								
	19											
HESH	04L	ILS	I	VORDME		Y		Y		Y		
	04R			VORDME		Y		Y		Y		
	22L			VORDME		Y		Y		Y		
	22R			VORDME		Y		Y		Y		
HESC	17			NDB								
	35			NDB								

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
HETB	4	ILS	I	VORDME		Y		Y		Y		
	22			VORDME		Y		Y		Y		
HEAL	13			VORDME		Y						
	31			VORDME		Y						
HESG	15			VORDME								
	33			VORDME								
Total	**40**	**14**		**32**	**Y**	**23**	**0**	**15**	**0**	**14**	**0**	
%		**35**		**80**		**58**	**0**	**38**	**0**	**35**	**0**	
I.R. IRAN												
OIKB	03L											
	03R			VORDME / NDB								
	21L	ILS	I	VORDME / NDB								
	21R											
OIFM	08L			VORDME / NDB								
	08R			VORDME / NDB								
	26L			VORDME / NDB								
	26R	ILS	I	VORDME / NDB								
OIMM	13L			VORDME								
	13R			VORDME								
	31L			VORDME / NDB								

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
	31R	ILS	I	VORDME / NDB								
OISS	11L											
	11R											
	29L	ILS	I	VORDME / NDB								
	29R			VORDME / NDB								
OITT	12L											
	12R											
	30L	ILS	I	VORDME								
	30R	ILS	I	VORDME								
OIIE	11L	ILS	I	VORDME / NDB								
	11R			VORDME / NDB								
	29L			VORDME								
	29R	ILS	II	VORDME / NDB								
OIII	11L			VORDME								
	11R			VORDME								
	29L	ILS	I	VORDME								
	29R											
OIZH	17											
	35	ILS	I	VORDME								
Total	**30**	**10**		**22**	**N**	**0**	**0**	**0**	**0**	**0**	**0**	
%		**33**		**73**		**0**	**0**	**0**	**0**	**0**	**0**	

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
IRAQ												
ORBI	15L	ILS	I	VORDME								
	15R					Y						
	33L					Y						
	33R	ILS	I	VORDME								
ORMM	14			VORDME								
	32	ILS	I	VORDME								
ORER	18	ILS	II			Y				Y		
	36	ILS	I			Y				Y		
ORSU	13	ILS	I	VOR								
	31	ILS	I	VOR								
ORNI	10											
	28	ILS		VOR								
ORBM												NO DATA
Total	**12**	**8**		**7**	**N**	**4**	**0**	**0**	**0**	**2**	**0**	
%		**67**		**58**		**33**	**0**	**0**	**0**	**17**	**0**	
JORDAN												
OJAM	6					Y	Y	Y		Y		
	24	ILS	I	VORDME / NDB		Y	Y	Y		Y		
OJAI	08L	ILS	I	NDB DME		Y	Y	Y		Y		
	08R			NDB DME		Y	Y	Y		Y		
	26L	ILS	II	VOR / NDB		Y	Y	Y		Y		

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
	26R	ILS	I	VORDME / NDB		Y	Y	Y		Y		
OJAQ	1	ILS	I	VORDME		Y	Y	Y		Y		
	19	N/A	N/A			Y	N/A	Y		Y		LNAV/VNAV not feasible
Total	**8**	**6**		**6**	**Y**	**8**	**8**	**8**	**0**	**8**	**0**	
%		**75**		**75**		**100**	**100**	**100**	**0**	**100**	**0**	
KUWAIT												
OKBK	15L	ILS	II			Y	Y	Y		Y		
	15R	ILS	II	VORDME		Y	Y	Y		Y		
	33L	ILS	II	VORDME		Y	Y	Y		Y		
	33R	ILS	II			Y	Y	Y		Y		
Total	**4**	**4**		**2**	**Y**	**4**	**4**	**4**	**0**	**4**	**0**	
%		**100**		**50**		**100**	**100**	**100**	**0**	**100**	**0**	
LEBANON												
OLBA	3	ILS	I	VORDME		Y				Y		
	16	ILS	I	VORDME		Y				Y		
	17	ILS	I	VORDME / NDB		Y				Y		
	21					Y				Y		
	34	N/A		N/A		N/A				N/A		Not used for landing
	35	N/A		N/A		N/A				N/A		Not used for landing
Total	**6**	**5**		**5**	**N**	**6**	**0**	**0**	**0**	**6**	**0**	
%		**83**		**83**		**100**	**0**	**0**	**0**	**100**	**0**	

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
LIBYA												
HLLB	15R			VORDME								VOR not flight checked
	15L			VORDME								VOR not flight checked
	33R			VORDME								VOR not flight checked
	33L	ILS	I	VORDME								ILS not flight checked
HLLS	13	ILS	I	VORDME								ILS not flight checked
	31			VORDME								VOR not flight checked
HLLT	9			VORDME								VOR not flight checked
	27	ILS	I	VORDME								ILS not flight checked
Total	**8**	**3**		**8**	**N**	**0**	**0**	**0**	**0**	**0**	**0**	
%		**38**		**100**		**0**	**0**	**0**	**0**	**0**	**0**	
OMAN												
OOMS	08R	ILS	I	VORDME								
	26L	ILS	I	VORDME								
OOSA	7			VORDME								
	25	ILS	I	VORDME								
Total	**4**	**3**		**4**	**Y**	**0**	**0**	**0**	**0**	**0**	**0**	
%		**75**		**100**		**0**	**0**	**0**	**0**	**0**	**0**	
QATAR												
OTBD	15	ILS	I	VORDME		Y	N/A	Y		Y		LNAV/VNAV not feasabile
	33	ILS	II/III	VORDME/NDB		Y	Y	Y		Y		
OTHH	16L	ILS	I/II/III	VORDME		Y	Y	Y		Y		

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
	16R	ILS	I/II/III	VORDME		Y	Y	Y		Y		
	34L	ILS	I/II/III	VORDME		Y	Y	Y		Y		
	34R	ILS	I/II/III	VORDME		Y	Y	Y		Y		
Total	**6**	**6**		**6**	**Y**	**6**	**6**	**6**	**0**	**6**	**0**	
%		**100**		**100**		**100**	**100**	**100**	**0**	**100**	**0**	
SAUDI ARABIA												
OEDF	16L	ILS	II	VORDME								
	16R	ILS	II	VORDME								
	34L	ILS	II	VORDME								
	34R	ILS	II	VORDME								
OEJN	16L	ILS	I	VORDME		Y				Y		
	16C	ILS	II			Y				Y		
	16R	ILS	II			Y				Y		
	34L	ILS	II			Y				Y		
	34C	ILS	II	VORDME		Y				Y		
	34R	ILS	I	VORDME		Y				Y		
OEMA	17	ILS	I	VORDME		Y		Y		Y		
	18			VORDME		Y		Y		Y		
	35	ILS	I	VORDME		Y		Y		Y		
	36	ILS	I	VORDME		Y		Y		Y		
OERK	15L	ILS	I	VORDME								
	15R	ILS	I									
	33L	ILS	I									

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
	33R	ILS	I	VORDME								
Total	**18**	**17**		**13**	**Y**	**10**	**0**	**4**	**0**	**10**	**0**	
%		**94**		**72**		**56**	**0**	**22**	**0**	**56**	**0**	
SUDAN												
HSKA	2											Charts are Not Published
	20											
HSSS	18	ILS	I	VORDME		Y	Y					
	36	ILS	I	VORDME		Y	Y					
HSPN	17			VORDME / NDB		Y	Y					
	35	ILS	I	VORDME / NDB		Y	Y					
Total	**6**	**3**		**4**	**Y**	**4**	**4**	**0**	**0**	**0**	**0**	
%		**50**		**67**		**67**	**67**	**0**	**0**	**0**	**0**	
SYRIA												
OSAP	9			VORDME								
	27	ILS	II	VORDME / NDB								
OSLK	17	ILS	I	VORDME / NDB								
	35											
OSDI	05L			VOR								
	05R	ILS	II	VORDME / NDB								
	23L			VORDME / NDB DME								

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
	23R	ILS	II	VORDME		Y	Y					
Total	**8**	**4**		**7**	**Y**	**1**	**1**	**0**	**0**	**0**	**0**	
%		**50**		**88**		**13**	**13**	**0**	**0**	**0**	**0**	
UNITED ARAB EMIRATES												
OMAA	13L	ILS	II					Y		Y		
	13R	ILS	I	VOR				Y		Y		
	31L	ILS	II/III	VOR				Y		Y		
	31R	ILS	II					Y		Y		
OMAD	13			VORDME		Y				Y		
	31	ILS	I	VORDME		Y				Y		
OMAL	1	ILS	I	VOR								
	19			VOR								
OMDB	12L	ILS	I/II/III	VOR		Y	Y	Y		Y		
	12R	ILS	I/II/III	VOR		Y	Y	Y		Y		
	30L	ILS	I/II/III			Y	Y	Y		Y		
	30R	ILS	I/II/III	VOR		Y	Y	Y		Y		
OMDW	12	ILS	II/III			Y	Y	Y		Y		
	30	ILS	II/III			Y	Y	Y		Y		
OMFJ	11							Y				
	29	ILS	I	VOR				Y				
OMRK	16			VOR								
	34	ILS	I	VOR								
OMSJ	12	ILS	I			Y	Y	Y		Y		

Int'l Aerodrome (Ref. MID ANP)	RWY	Conventional Approaches			APTA			CCO		CDO		Remarks
		Precision		VOR or NDB	PBN PLAN	LNAV	LNAV / VNAV	RNAV SID	CCO	RNAV STAR	CDO	
		xLS	CAT		Update date							
	30	ILS	II			Y	Y	Y		Y		
Total	**20**	**16**		**12**	**Y**	**10**	**8**	**14**	**0**	**14**	**0**	
%		**80**		**60**		**50**	**40**	**70**	**0**	**70**	**0**	
YEMEN												
OYAA	8	ILS	I	VORDME								
	26			VORDME								
OYHD	3			VOR								
	21			VOR / NDB		Y				Y		
OYRN	6											
	24			VORDME								
OYSN	18	ILS	I	VORDME/NDB		Y	Y	Y		Y		
	36			VOR		Y	Y	Y		Y		
OYTZ												NO DATA
Total	**8**	**2**		**7**	**Y**	**3**	**2**	**2**	**0**	**3**	**0**	
%		**25**		**88**		**38**	**25**	**25**	**0**	**38**	**0**	

Results

Total	**180**	**103**		**137**	**11**	**81**	**33**	**53**	**0**	**67**	**0**	**4 PBN APV + 103 ILS (107/180)**
Percentage (%)		**57**		**76**	**73**	**45**	**18**	**29**	**0**	**37**	**0**	**59% RWY Ends with Vertical Guidance**

B0 – SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)

Aerodrome	City	State	Level 1	Level 2	Remarks
1	*2*	*3*	*4*	*5*	*6*
OBBI	Bahrain	Bahrain-			
HECA	Cairo	Egypt-			
OIII	Tehran Mehrabad	Iran			
OKBK	Kuwait	Kuwait			
OOMS	Muscat	Oman			
OTBD	Doha Intr	Qatar			
OTHH	Doha Hamad Intr.	Qatar			
OEJN	Jeddah	Saudi Arabia			
OERK	Riyadh	Saudi Arabia			
OMAA	Abu Dhabi	UAE			
OMDB	Dubai	UAE			
OMDW	Dubai WTC	UAE			
Percentage of implementation			**……%**	**……..%**	

B0 – ACDM: Improved Airport Operations through Airport-CDM

Aerodrome	City	State	Apron Management	ATM-Aerodrome Coordination	Declared terminal & runway capacity	Remarks
1	2	3	4	5	6	7
OBBI	Bahrain	Bahrain-				
HECA	Cairo	Egypt-				
OIII	Tehran Mehrabad	Iran				
OKBK	Kuwait	Kuwait				
OOMS	Muscat	Oman				
OTBD	Doha Intr	Qatar				
OTHH	Doha Hamad Intr.	Qatar				
OEJN	Jeddah	Saudi Arabia				
OERK	Riyadh	Saudi Arabia				
OMAA	Abu Dhabi	UAE				
OMDB	Dubai	UAE				
OMDW	Dubai WTC	UAE				
Percentage of implementation			**……%**	**……..%**	**……..%**	

B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

	AMHS Capability	AMHS Interconnection	AIDC/OLDI Capability	AIDC/OLDI Implementation	Remarks
1	2	3	4	5	6
Bahrain-					
Egypt-					
Iran					
Iraq					
Jordan					
Kuwait					
Lebanon					
Libya					
Oman					
Qatar					
Saudi Arabia					
Sudan					
Syria					
UAE					
Yemen					

Monitoring the AMHS supports B0-FICE

	Bahrain-OB	Egypt-HE	Iran-OI	Iraq-OR	Jordan-OJ	Kuwait-OK	Lebanon-OL	Libya-HL	Oman-OO	Qatar-OT	Saudi Arabia-	Sudan-HS	Syria-OS	UAE-OM	Yemen-OY
AMHS Capability	A	AI	CS	CS	AI	CS	A	A	AI	AI	AI	A	NI	AI	NI
Interconnection	NO	O	NO	NO	O	NO	NO	NO	O	O	O	NO	NI	O	NI
Legend:															
A Available	**I** Implemented		**CS** Contract Signed		**NI** No Information		**NO** Not Operational			**O** Operational					

B0 – DATM: Service Improvement through Digital Aeronautical Information Management

Description and purpose

The initial introduction of digital processing and management of information, through aeronautical information service (AIS)/aeronautical information management (AIM) implementation, use of aeronautical information exchange model (AIXM), migration to electronic aeronautical information publication (AIP) and better quality and availability of data.

Applicability

Applicable at State level, to all States

Scope

The Global Air Traffic Management Operational Concept presented in ICAO Doc 9854 depends upon a System Wide Information Management (SWIM). The management, utilization and transmission of data and information are vital to the proper functioning of the ATM system and are at the core of air navigation services.

As part of SWIM, AIM is required to support evolving requirements for, inter alia, collaborative decision making (CDM), performance-based navigation (PBN), ATM system interoperability, network-centred information exchange, and to take advantage of improved aircraft capabilities.

In the short- to medium-term, the focus is on the continuing transition of the services provided by aeronautical information services (AIS) from a product-centred, paper-based and manually transacted focus to a digitally-enabled, network-centred and service-oriented aeronautical information management (AIM) focus. AIM envisages a migration to a data centric environment where aeronautical data will be provided in a digital form and in a managed way. This can be regarded as the first step of SWIM implementation, which is based on common data models and data exchange formats. The next (long-term) SWIM step implies the re-thinking of the data services in terms of a "network" perspective.
The transition to AIM requires that all aeronautical information, including that currently held in AIP be stored as individual digital standardized data sets to be accessed by user applications. The distribution of these data sets will both enhance the quality of output and ultimately provide a platform for new applications. This will constitute the future integrated aeronautical information package that will contain the minimum regulatory requirement to ensure the flow of information necessary for the safety, regularity and efficiency of international air navigation.

The transition from AIS to AIM will have to, inter-alia:

a) support or facilitate the generation and distribution of aeronautical information which serves to improve the safe and cost-effective accessibility of air traffic services in the world;
b) provide a foundation for measuring performance and outcomes linked to the distribution of quality assured aeronautical information and a better understanding of the determinants of ATM, safety and effectiveness not related to the distribution of the information; and
c) ensure, to the greatest extent possible, that solutions are internationally harmonized and integrated and do not unnecessarily impose multiple equipment carriage requirements for aircraft or multiple systems on the ground.

AIM requires all aeronautical information to be stored as datasets that can be accessed by user applications. The establishment and maintenance of an Integrated Aeronautical Information Database where datasets are integrated and used to produce current and future AIS/AIM products and services is a fundamental step in the transition to AIM.

Expected performance benefits

Access/Equity : N/A

Capacity : N/A

Efficiency : Reduced costs in terms of data inputs and checks, paper and post, especially when considering the overall data chain, from originators, through AIS to the end users

Environment : Reducing the time necessary to promulgate information concerning airspace status will allow for more effective airspace utilization and allow improvements in trajectory management

Safety: Reduction in the number of possible inconsistencies. Module allows reducing the number of manual entries and ensures consistency among data through automatic data checking based on commonly agreed business rules.

B0-DATM Implementation Roadblocks/Issues/Challenges

- Lack of electronic Database.
- Lack of electronic access based on Internet protocol services.
- Lack of procedures to allow airlines provide digital AIS data to on-board devices, in particular electronic flight bags (EFBs).
- Lack of training for AIS/AIM personnel

(List from ASBU Document, to be reviewed/customized by the Regions)

B0-DATM Elements/KPIs/Metrics

B0 – DATM: Service Improvement through Digital Aeronautical Information Management		
Element	**Key Performance Indicators**	**Supporting Metrics**
1-AIXM	% of States that have implemented an AIXM-based Integrated Aeronautical Information Database (IAID)	Number of States that have implemented an AIXM-based Integrated Aeronautical Information Database (IAID)
2-eAIP	% of States that have implemented an IAID driven AIP Production (eAIP)	Number of States that have implemented an IAID driven AIP Production (eAIP)
3-QMS	% of States that have implemented QMS for AIS/AIM	Number of States that have implemented QMS for AIS/AIM
4-WGS-84	% of States that have implemented WGS-84 as horizontal reference system	Number of States that have implemented WGS-84 as horizontal reference system

	% of States that have published the WGS-84 Geoid Undulation, in accordance with Annex 4 and Annex 15 provisions	Number of States that have published the WGS-84 Geoid Undulation, in accordance with Annex 4 and Annex 15 provisions
5-eTOD	% of States that have implemented required Terrain datasets	Number of States that have implemented required Terrain datasets
	% of States that have implemented required Obstacle datasets	Number of States that have implemented required Obstacle datasets
6-Digital NOTAM*	Plan for the implementation of Digital NOTAM	

B0-DATM Enablers/Tables

In order to assist States in the planning for the transition from AIS to AIM in an expeditious manner, the following Tables, which provide more details than the standard ANRF, should be used:

1- **Table B0-DATM 3-1** sets out the requirements for the Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID). It reflects the transition from the current product centric AIS to data centric AIM. For the future digital environment it is important that the authoritative databases are clearly designated and such designation must be published for the users. This is achieved with the concept of the Integrated Aeronautical Information Database (IAID), a single access point for one or more authoritative databases (AIS, Terrain, Obstacles, AMDB, etc) for which the State is responsible. This Table will be used for the monitoring of the Key Performance Indicators (KPIs) related to elements Nr. 1 and 2 of the Module B0-DATM.

2- **Table B0-DATM 3-2** sets out the requirements for aeronautical data quality. It will be used for the monitoring of the Key Performance Indicators (KPIs) related to the element Nr. 3 of the Module B0-DATM.

3- **Table B0-DATM 3-3** sets out the requirements for the implementation of the World Geodetic System – 1984 (WGS-84).The requirement to use a common geodetic system remains essential to facilitate the exchange of data between different systems. The expression of all coordinates in the AIP and charts using WGS-84 is an important first step for the transition to AIM. This Table will be used for the monitoring of the Key Performance Indicators (KPIs) related to the element Nr. 4 of the Module B0-DATM.

4- **Table B0-DATM 3-4-1** sets out the requirements for the provision of Terrain and Obstacle data sets for Area 1 and Area 4. It will be used for the monitoring of the Key Performance Indicators (KPIs) related to the element Nr. 5 of the Module B0-DATM.

5- **Table B0-DATM 3-4-2** sets out the requirements for the provision of Terrain and Obstacle data sets for Area 2. It will be used for the monitoring of the Key Performance Indicators (KPIs) related to the element Nr. 5 of the Module B0-DATM.

6- **Table B0-DATM 3-4-3** sets out the requirements for the provision of Terrain and Obstacle data sets for Area 3 and implementation of Airport Mapping Databases (AMDB). It will be used for the monitoring of the Key Performance Indicators (KPIs) related to the element Nr. 5 of the Module B0-DATM.

Table B0-DATM 3-1

Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID)

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory for which the provision of AIS/AIM products and services based on the IAID is required.

2 Requirement for the implementation and designation of the authoritative IAID, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 1 — The IAID of a State is a single access point for one or more databases (AIS, Terrain, Obstacles, AMDB, etc). The minimum set of databases which should be integrated is defined in Annex 15.
Note 2 — Information providing detail of "PI" should be given in the Remarks column (the implemented components of the IAID).
Note 3 — The information related to the designation of the authoritative IAID should be published in the AIP (GEN 3.1)

3 Requirement for an IAID driven AIP production, shown by:
FC – Fully compliant (eAIP: Text, Tables and Charts)
PC – Partially compliant
NC – Not compliant
Note 4 — AIP production includes, production of AIP, AIP Amendments and AIP Supplements

4 Requirement for an IAID driven NOTAM production, shown by:
FC – Fully Compliant
NC – Not compliant

5 Requirement for an IAID driven SNOWTAM production, shown by:
FC – Fully Compliant
NC – Not compliant

6 Requirement for an IAID driven PIB production, shown by:
FC – Fully compliant
NC – Not compliant

7 Requirement for Charting systems to be interoperable with the IAID, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

8 Requirement for Procedure design systems to be interoperable with the IAID, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented

Note 5 — full implementation includes the use of the IAID for the design of the procedures and for the storage of the encoded procedures in the IAID

9 Requirement for ATS systems to be interoperable with the IAID, shown by:

FI – Fully Implemented

PI – Partially Implemented

NI – Not Implemented

10 Action Plan — short description of the State's Action Plan with regard to the provision of AIM products and services based on the IAID, especially for items with a "PC", "PI", "NC" or "NI" status, including planned date(s) of full compliance, as appropriate.

11 Remarks — additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

TABLE B0-DATM-3-1

Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID)

State	IAID	AIP	NOTAM	SNOWTAM	PIB	Charting	Procedure Design	ATS	Action Plan	Remarks
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
BAHARAIN										
EGYPT										
IRAN, ISLAMIC REPUBLIC OF										
IRAQ										
JORDAN										
KUWAIT										
LEBANON										
LIBYA										
OMAN										
QATAR										
SAUDI ARABIA										
SUDAN										
SYRIAN ARAB REPUBLIC										
UNITED ARAB EMIRATES										
YEMEN										

Table B0-DATM-3-2
Aeronautical Data Quality

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory.

2 Compliance with the requirement for implementation of QMS for Aeronautical Information Services including safety and security objectives, shown by:

FC – Fully compliant

PC – Partially compliant
NC – Not compliant

3 Compliance with the requirement for the establishment of formal arrangements with approved data originators concerning aeronautical data quality, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

4 Implementation of digital data exchange with originators, shown by:

FI – Implemented
PI – Partially Implemented
NI – Not implemented

Note 1 — Information providing detail of "PI" and "NI" should be given in the Remarks column (percentage of implementation).

5 Compliance with the requirement for metadata, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

6 Compliance with the requirements related to aeronautical data quality monitoring (accuracy, resolution, timeliness, completeness), shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

7 Compliance with the requirements related to aeronautical data integrity monitoring, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

8 Compliance with the requirements related to the AIRAC adherence, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

9 Action Plan — short description of the State's Action Plan with regard to aeronautical data quality requirements implementation, especially for items with a "PC", "PI", "NC" or "NI" status, including planned date(s) of full compliance, as appropriate.

10 Remarks — additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

TABLE B0-DATM-3-2
Aeronautical Data Quality

State	QMS	Establishment of formal agreements	Digital data exchange with originators	Metadata	Data quality monitoring	Data integrity monitoring	AIRAC adherence	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10
BAHARAIN	FC						FC		
EGYPT	FC						FC		
IRAN, ISLAMIC REPUBLIC OF	FC						FC		
IRAQ	NC						FC		
JORDAN	FC						FC		
KUWAIT	FC						FC		
LEBANON	NC						FC		
LIBYA	NC						NC		
OMAN	PC						FC		
QATAR	FC						FC		
SAUDI ARABIA	FC						FC		
SUDAN	NC						FC		
SYRIAN ARAB REPUBLIC	NC						NC		
UNITED ARAB EMIRATES	FC						FC		
YEMEN	NC						NC		

Table B0-DATM-3-3

World Geodetic System-1984 (WGS-84)

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory for which implementation of WGS-84 is required.

2 Compliance with the requirements for implementation of WGS-84 for FIR and Enroute points, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

3 Compliance with the requirements for implementation of WGS-84 for Terminal Areas (arrival, departure and instrument approach procedures), shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

4 Compliance with the requirements for implementation of WGS-84 for Aerodrome, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

5 Compliance with the requirements for implementation of Geoid Undulation, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

6 Action Plan — short description of the State's Action Plan with regard to WGS-84 implementation, especially for items with a "PC", "PI", "NC" or "NI" status, including planned date(s) of full compliance, as appropriate.

7 Remarks — additional information, including detail of "PC" and "NC", as appropriate.

TABLE B0-DATM-3-3
World Geodetic System-1984 (WGS-84)

State	FIR/ENR	Terminal	AD	GUND	Action Plan	Remarks
1	2	3	4	5	6	7
BAHARAIN	FC	FC	FC	FC		
EGYPT	FC	FC	FC	FC		
IRAN, ISLAMIC REPUBLIC OF	FC	NC	FC	FC		
IRAQ	PC	PC	PC	NC		
JORDAN	FC	FC	FC	FC		
KUWAIT	FC	FC	FC	FC		
LEBANON	FC	FC	FC	NC		
LIBYA	PC	PC	NC	NC		
OMAN	FC	FC	FC	FC		
QATAR	FC	FC	FC	FC		
SAUDI ARABIA	FC	FC	FC	FC		
SUDAN	FC	FC	FC	FC		
SYRIAN ARAB REPUBLIC	FC	FC	FC	NC		
UNITED ARAB EMIRATES	FC	FC	FC	FC		
YEMEN	FC	FC	FC	FC		

Table B0-DATM-3-4-1
Provision of Terrain and Obstacle data sets for Areas 1 and 4

EXPLANATION OF THE TABLE

Column

1 Name of the State or territory for which Terrain and Obstacle data sets for Areas 1 and 4 are required.

2 Compliance with requirement for the provision of Terrain data sets for Area 1, shown by:
FC – Fully Compliant
PC – Partially Compliant
NC – Not Compliant

3 Compliance with requirement for the provision of Terrain data sets for Area 4, shown by:
FC – Fully Compliant
PC – Partially Compliant
NC – Not Compliant

4 Compliance with requirement for the provision of Obstacle data sets for Area 1, shown by:
FC – Fully Compliant
PC – Partially Compliant
NC – Not Compliant

5 Compliance with requirement for the provision of Obstacle data sets for Area 4, shown by:
FC – Fully Compliant
PC – Partially Compliant
NC – Not Compliant

6 Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacle data sets for Areas 1 and 4, especially for items with a "PC" or "NC" status, including planned date(s) of full compliance, as appropriate.

7 Remarks— additional information, including detail of "PC" and "NC", as appropriate.

TABLE B0-DATM-3-4-1

Provision of Terrain and Obstacle data sets for Areas 1 and 4

State	Terrain data sets		Obstacle data sets		Action Plan	Remarks
	Area 1	Area 4	Area 1	Area 4		
1	2	3	4	5	6	7
BAHARAIN	FC	FC	FC	FC		
EGYPT	FC	FC	PC			
IRAN, ISLAMIC REPUBLIC OF	PC	NC	PC	NC		
IRAQ	NC	NC	NC	NC		
JORDAN	NC	NC	NC	NC		
KUWAIT	NC	NC	NC	NC		
LEBANON	NC	NC	NC	NC		
LIBYA	NC	NC	NC	NC		
OMAN	NC	NC	NC	NC		
QATAR	FC	FC	FC	FC		
SAUDI ARABIA	FC	FC	FC	FC		
SUDAN	NC	NC	NC	NC		
SYRIAN ARAB REPUBLIC	NC	NC	NC	NC		
UNITED ARAB EMIRATES	FC	FC	FC	FC		
YEMEN	NC	NC	NC	NC		

Table B0-DATM-3-4-2
Provision of Terrain and Obstacle data sets for Area 2

EXPLANATION OF THE TABLE

Column

1 Name of the State or territory for which Terrain and Obstacle data sets for Area 2 are required.

2 Compliance with requirement for the provision of Terrain data sets for Area 2a, shown by:
FC – Fully Compliant
PC – Partially Compliant
NC – Not Compliant

3 Compliance with requirement for the provision of Terrain data sets for Area 2b, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not implemented
N/A – Not Applicable

4 Compliance with requirement for the provision of Terrain data sets for Area 2c, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable

5 Compliance with requirement for the provision of Terrain data sets for Area 2d, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable

6 Compliance with requirement for the provision of Obstacle data sets for Area 2a, shown by:
FC – Fully Compliant
PC – Partially Compliant
NC – Not Compliant

7 Compliance with requirement for the provision of Obstacle data sets for Area 2b, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not implemented
N/A – Not Applicable

8 Compliance with requirement for the provision of Obstacle data sets for Area 2c, shown by:
FI – Fully Implemented

PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable

9 Compliance with requirement for the provision of Obstacle data sets for Area 2d, shown by:

FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable

10 Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacle data sets for Area 2, especially for items with a "PC", "PI", "NC" or "NI" status.

11 Remarks— additional information, including detail of "PC", "PI" and "NC", "NI", as appropriate.

TABLE B0-DATM-3-4-2

Provision of Terrain and Obstacle data sets for Area 2

State	Terrain data sets				Obstacle data sets				Action Plan	Remarks
	Area 2a	Area 2b	Area 2c	Area 2d	Area 2a	Area 2b	Area 2c	Area 2d		
1	2	3	4	5	6	7	8	9	10	11
BAHARAIN										
EGYPT										
IRAN, ISLAMIC REPUBLIC OF										
IRAQ										
JORDAN										
KUWAIT										
LEBANON										
LIBYA										
OMAN										
QATAR										
SAUDI ARABIA										
SUDAN										
SYRIAN ARAB REPUBLIC										
UNITED ARAB EMIRATES										
YEMEN										

Table B0-DATM-3-4-3
Provision of Terrain and Obstacle data sets for Area 3 and Airport Mapping Databases (AMDB)

EXPLANATION OF THE TABLE

Column

1 Name of the State or territory for which Terrain and Obstacle data sets for Area 3 and AMDB are required.

2 Compliance with requirement for the provision of Terrain data sets for Area 3, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable

3 Compliance with requirement for the provision of Obstacle data sets for Area 3, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable

4 Implementation of AMDB, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable

5 Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacle data sets for Area 3 and AMDB implementation, especially for items with a "PC", "PI", "NC" or "NI" status.

6 Remarks— additional information, including detail of "PI" and "NI", as appropriate.

TABLE B0-DATM-3-4

Provision of Terrain and Obstacle data sets for Area 3 and Airport Mapping Databases (AMDB)

State	Terrain data sets (Area 3)	Obstacle data sets (Area 3)	AMDB	Action Plan	Remarks
1	2	3	4	5	6
BAHARAIN					
EGYPT					
IRAN, ISLAMIC REPUBLIC OF					
IRAQ					
JORDAN					
KUWAIT					
LEBANON					
LIBYA					
OMAN					
QATAR					
SAUDI ARABIA					
SUDAN					
SYRIAN ARAB REPUBLIC					
UNITED ARAB EMIRATES					
YEMEN					

B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety

The MET SG/5 meeting updated the Draft MID Region Air Navigation Strategy parts related to B0-AMET, including the agreement on the performance targets that measure the implementation of SADIS 2G and Secure SADIS FTP as well as QMS. The implementation of these elements and consideration to other elements (e.g. Meteorological Watch Offices, OPMET availability) could form the basis of Volume III of the electronic Air Navigation Plan.

B0 – FRTO: Improved Operations through Enhanced Enroute Trajectories

(Monitoring results as of November 2014)

Applicability State	FUA Implemented	Total number of ATS Routes	Total number of required routes to be implemented through segregated areas	number of routes that are NOT implemented due military restrictions (segregated areas)	Remarks
Bahrain	Yes	50	5	0	example
Egypt	No	49	4	2	example
Iran	No	130	10	4	example
Iraq	No	55	6	4	example
Jordan	Yes	16	5	5	example
Lebanon	Yes				
Libya	No				
Kuwait	No				
Oman	No				
Qatar	Yes				
Saudi Arabia	Yes				
Sudan	Yes				
Syria	No				
Unite Arab Emirates	Yes				
Yemen	No				
Total for the Region	9	300	30	15	example
Percentage	60		10%	50%	example

- END -