INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE FIRST MEETING OF THE MID AIR NAVIGAITON PLAN AD-HOC WORKING GROUP (ANP WG/1)

(Cairo, Egypt, 27-29 May 2013)

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

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

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PART I – HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The First Meeting of the MID Air Navigation Plan Ad-hoc Working Group (ANP WG/1) was held at the Meeting Room of the ICAO Middle East Regional Office in Cairo, Egypt, from 27 to 29 May 2013.

2. OPENING

2.1 Mr. Mohamed Smaoui, RO ANS/AIM, on behalf of Mr. Mohamed R. M. Khonji, the Regional Director, welcomed the participants to Cairo and wished them a successful and fruitful meeting. He recalled that MIDANPIRG/12, through Decision 12/49, recognized the need for a complete review of both the content and format of the MID Basic ANP and FASID and MIDANPIRG/13, through Decision 13/32, agreed to the establishment of an Ad-hoc Working Group tasked with the development of a revised version of the MID ANP.

2.2 Mr. Smaoui highlighted that the twelfth Air Navigation Conference (AN-Conf/12) held in Montréal from 19 to 30 November 2012 agreed that PIRGs should focus initially on implementing ASBU Block 0 Modules and finalize the development of their ASBU aligned regional plans by May 2014. He further noted that ICAO Headquarters established a Secretariat Working Group, composed of a representative from each Regional Office and ICAO Headquarters, to prepare an action plan and monitor the review/development of the ANP/eANP project.

2.3 In closing, Mr. Smaoui thanked the participants for their presence and wished the meeting every success in its deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of twenty five (25) participants from six (6) States (Bahrain, Egypt, Oman, Qatar, Saudi Arabia and United Arab Emirates). The list of participants is at **Attachment A** to the Report.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was chaired by Mr. Alaa Eldin Mahmoud Orabi, General Director of Air Traffic Planning and Follow-up Operations, Egypt. Mr. Mohamed Smaoui, RO ANS/AIM, was the Secretary of the meeting, supported by Mr. Raza Gulam, RO/CNS, Mr. Adel Ramlawi, RO/AGA and Mr. Elie El-Khoury, RO/ATM/SAR.

5. LANGUAGE

5.1 Discussions were conducted in English and documentation was issued in English.

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1: Adoption of the Provisional Agenda and Election of Chairperson

Agenda Item 2: Review of global developments related to Air Navigation Planning

Agenda Item 3: Development of the new MID Air Navigation Plan

Agenda Item 4: Future Work Programme

Agenda Item 5: Any other business

7. CONCLUSIONS AND DECISIONS – DEFINITION

7.1 All MIDANPIRG Sub-Groups and Task Forces record their actions in the form of Conclusions and Decisions with the following significance:

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

b) **Decisions** deal with matters of concern only to the MIDANPIRG and its contributory bodies

8. LIST OF DRAFT CONCLUSIONS AND DRAFT DECISIONS

The meeting has not developed any Draft Conclusion or Decision.

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF CHAIRPERSON

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

1.2 Mr. Alaa Eldin Mahmoud Orabi, General Director of Air Traffic Planning and Follow-up Operations, National Air Navigation Services Company, Egypt, was unanimously elected as the Chairperson of the MID Air Navigation Plan Ad-hoc Working Group (ANP WG).

REPORT ON AGENDA ITEM 2: REVIEW OF THE GLOBAL DEVELOPMENTS RELATED TO AIR NAVIGATION PLANNING

Outcome of the Twelfth Air Navigation Conference (AN-Conf/12) relevant to Air Navigation Planning

2.1 The meeting was apprised of the outcome of the twelfth Air Navigation Conference (AN-Conf/12) held in Montreal, 19-30 November 2012 relevant to Air Navigation Planning.

2.2 The meeting noted that the revised Fourth Edition of the *Global Air Navigation Plan* (Doc 9750, GANP) has been released in 2013 and includes the new Aviation Systems Block Upgrades (ASBU) framework. It provides a global planning framework which, among other things, provides a timeline for which future improvements can be implemented by States in accordance with their needs. In addition, it identifies the need for the development of standards and recommended practices, regulatory requirements, procedures and technology associated with the Aviation System Block Upgrades (ASBU).

2.3 The meeting recalled that, although the GANP has a global perspective, it is not intended that all ASBU modules are to be applied around the globe. When the ASBU blocks and modules are adopted by Regions, Sub-Regions or States they should be followed in close accordance with the specific ASBU requirements to ensure global interoperability and harmonization of air traffic management. It is expected that some ASBU modules will be essential at the global level and therefore may eventually be the subject of ICAO mandated implementation dates.

2.4 The meeting recalled that the progress and effectiveness of ICAO Regions and States against the priorities set out in their respective regional and State air navigation plans should be annually reported, using a consistent reporting format, to ICAO. This will assist Regions and States adjust their priorities to reflect actual performance and address any emerging air navigation issues.

2.5 With regard to Regional Air Navigation Plans (ANPs) and for the process of aligning the regional ANPs with the GANP, the meeting noted that the AN-Conf/12 agreed that PIRGs should focus initially on implementing ASBU Block 0 Modules and finalize the development of their ASBU aligned regional plans by May 2014.

2.6 In connection with the above, the following Recommendation developed by the AN-Conf/12 was highlighted:

Recommendation 6/1 – Regional performance framework – planning methodologies and Tools

That States and PIRGs:

a) develop and maintain regional air navigation plans consistent with the Global Air Navigation Plan;

b) finalize the alignment of regional air navigation plans with the Fourth Edition of the Global Air Navigation Plan by May 2014;

c) focus on implementing aviation system block upgrade Block 0 Modules on the basis of operational requirements, recognizing that these modules are ready for deployment;

d) use the electronic regional air navigation plans as the primary tool to assist in the implementation of the agreed regional planning framework for air navigation services and facilities;

e) consider how the continuous monitoring approach to safety oversight maps to the evaluation of Member States' safety oversight capabilities concerning aviation system block upgrades;

f) involve regulatory and industry personnel during all stages of planning and implementation of aviation system block upgrade modules;

g) develop action plans to address the identified impediments to air traffic management modernization as part of aviation system block upgrade planning and implementation activities;

That, ICAO:

h) review the current amendment process to the Regional Air Navigation Plans(ANPs) and recommend improvements to increase efficiencies related to the approval and maintenance of the data in the regional ANPs;

i) develop guidance material, on the basis of best practices employed worldwide, for the regional/local deployment of new ATM technologies, required procedures, operational approvals and continue to support States in the implementation of the aviation system block upgrades;

j) identify the issues, funding, training and resource requirements necessary to support a safety framework that would lay the foundation for successful implementation the aviation system block upgrades;

k) develop an outreach strategy to address the economic and institutional impediments to implementation of the aviation system block upgrades; and

l) develop a mechanism for sharing of best practices for the aviation system block upgrade implementation.

Outcome of The First Meeting of the Global eANP Working Group

2.7 The meeting noted that ICAO Headquarters established a Secretariat Working Group, composed of a representative from each Regional Office and ICAO Headquarters, to prepare an action plan and monitor the review/development of the ANP/eANP project. The Terms of Reference (TOR) of the eANP Working Group (eANP-WG) are at **Appendix 2A** to the Report on Agenda Item 2.

2.8 The meeting was apprised of the outcome of the eANP-WG/1 meeting held in the ICAO EUR/NAT Office in Paris from 4 to 8 February 2013. The eANP-WG agreed on the objective, scope and procedure for amendment of the future ANP, as well as the revised structure, format and Table of Contents of the ANP, taking into account the ASBU methodology. In this regard, it was

highlighted that the new ANP should be composed of three volumes:

a) Volume I should contain stable plan elements whose amendment necessitated approval by the Council and these elements be related to:

- assignment of responsibilities;
- mandatory requirements subject to regional agreement; and/or
- 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 whose amendment did not necessitate approval by the Council and these elements be related to:

- assignment of responsibilities;
- mandatory requirements subject to regional agreement; and/or
- 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 whose amendment did not need approval by the Council and these elements be related to the implementation of certain air navigation systems, based mainly on the ASBU modules endorsed at regional or sub-regional level.

2.9 The meeting noted that the eANP WG/1 meeting endorsed the following Recommendations for the development of the new ANP:

- The update would require the involvement of States and Planning and Implementation Groups (PIRGs) at an appropriate time.
- The current established mechanism for the maintenance of the paper-based ANP would continue until the approval of the new ANP, to be developed based on the outcome of the eANP-WG.
- The final eANP product should be web-based and interactive.
- A step-by-step approach for the development of the ANP materials would be followed.

- It was also reconfirmed that, to the extent possible, an evolution from the current system was preferable to a radical change (revolution) in order to preserve, to the maximum extent possible, the work already achieved.
- ICAO Headquarters' leadership was required.
- Considering that several Council decisions are related to the Regional ANPs, these decisions should be taken into consideration by the eANP-WG; however it was recognised that they might need to be revisited by the Council taking into consideration the eANP-WG's outcome.
- Similarly, it was noted that the existing ICAO provisions referring to the ANP or Regional Air Navigation (RAN) meetings should be taken into consideration by the eANP-WG, however some of these provisions may require amendment based on the outcome of the eANP-WG.

2.10 The meeting noted that in designing the tables/ASBU Module enablers to be included in Volume III, some decisions had to be taken on the level of detail required (i.e. level of State, aerodrome or runway) bearing in mind the existing mechanism and systems available for collection of data. The tables/ASBU Module enablers would provide the data necessary to produce, to the extent possible, the associated Air Navigation Report Form (ANRF), used for reporting purposes.

2.11 The Action Plan developed by the eANP WG/1 meeting is as follows:

a) Content of Volume I – to be finalised by 7 June 2013;

b) Content of Volume II – to be finalised by 4 October 2013;

c) Content of Volume III – to be finalised by 4 October 2013; and

d) Second meeting of the eANP-WG (eANP-WG/2) – tentatively scheduled to be held in ICAO Headquarters in Montreal, 18 to 22 November 2013.

2.12 The meeting supported the outcome of the eANP WG/1 meeting.

REPORT ON AGENDA ITEM 3: DEVELOPMENT OF THE NEW MID AIR NAVIGATION PLAN

Progress achieved for the development of Volumes I and II of the Regional ANPs

3.1 The meeting recalled that the eANP WG/1 meeting established a Steering Committee (SC) to coordinate and administer the activities of the working group and take decisions as appropriate to progress its work.

3.2 The meeting was apprised of the outcome of the eANP-WG SC teleconference organised on 25 March 2013. It was noted with appreciation that all Chiefs of Sections in ICAO HQ and Officers in the different Regional Offices have been briefed. The meeting noted also that generally, positive feedback was received, however, few questions were raised and clarification was provided. In this regard, it was reconfirmed that the principles for inclusion of material in Volumes I, II and III of the new ANP, as outlined in the final Summary of Discussions of the eANP-WG/1, were to be applied without any change.

3.3 The meeting noted that the SC was apprised of the progress made in the development of the different parts of Volumes I and II.

3.4 The meeting noted that the following process for review and approval of draft proposals was agreed:

a) Development and coordination of draft (led by eANP-WG Focal Point) with peers at Regional Offices and HQ Chiefs of Sections;
b) Review and comment of mature draft by eANP-WG members (led by eANP-WG Focal Point and shared with all concerned including HQ Chiefs of Sections); and
c) Endorsement of final mature version, and possible arbitration in case of disparities, by Steering Committee.

3.5 The meeting noted that the deadlines for endorsement by the Steering Committee of the developed material would be as follows:

- Volume I: 10/06/2013
- Volume II: 04/10/2013
- Volume III: 04/10/2013

Review of Part 0-Introduction and Part I- General Planning Aspects

3.6 The draft Volume I, Part 0 – Introduction and Part I – General Planning Aspects at **Appendix 3A** to the Report on Agenda Item 3 were reviewed and supported by the meeting.

3.7 The meeting noted that Volume II, Part 0 and Part I are still under development.

Review of Part II-AOP

3.8 The meeting reviewed the draft ANP Volume I Part II Aerodrome Operations and Planning (AOP) as at **Appendix 3B** to the Report on Agenda Item 3. It has been noted that the ICAO definition of International Airport has been endorsed as follows; "*any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out*".

3.9 It was noted that different criteria have been used by MID States for the inclusion of aerodromes in the ANP AOP Table 1 (list of International Aerodromes). This has created discrepancy and affected the aerodromes certification requirements in the MID Region.

3.10 The meeting reviewed the draft ANP Volume II Part II Aerodrome Operations and Planning (AOP). It was highlighted that a revision of Volume II Part II AOP is required to comply with the criteria endorsed by the eANP WG/1 meeting related to the inclusion of material in Volume II. In particular, it was noted that some provisions contained in the current Draft represent a duplication of Annex 14 provisions.

3.11 The meeting reviewed Table AOP II and agreed that the columns related to implementation and planning issues should be moved to Vol. III.

3.12 The comments on the Draft AOP Part of Volume II are reflected in **Appendix 3C** to the Report on Agenda Item 3.

Review of Part III-CNS

3.13 The meeting reviewed the draft PART III – CNS of Volume I and made minor comments as at **Appendix 3D** to the Report on Agenda Item 3.

3.14 The meeting noted that Volume II is still under development and should be ready by October 2013.

Review of Part IV- Air Traffic Management (ATM)

3.15 The meeting reviewed the draft ANP - Part IV- ATM - Volume I and underlined that it's necessary to ensure that the different parts of the ANP are developed in a harmonized manner (i.e.: Introduction, Standards, Recommended Practices and Procedures, General Regional Requirements and Specific Regional Requirements).

3.16 The meeting noted that the current draft of the ATM Part (Volume I) contains provisions that are already covered by Annex 11 SARPs and guidance material which are not appropriate for inclusion in Volume I. In this respect, the meeting underlined that it is necessary to strictly apply the criteria endorsed by the Secretariat eANP WG/1 meeting.

3.17 The comments on the Draft ATM Part of Volume I are reflected in **Appendix 3E** to the Report on Agenda Item 3.

3.18 The meeting noted that the ATM Part of Volume II is still under development.

Review of Part V- MET

3.19 The meeting reviewed the draft Part V – MET of Volumes I and II at **Appendix 3F** to the Report on Agenda Item 3 and noted that the format used for the development of these Parts is different from the format endorsed by the eANP WG/1 meeting in Paris and used for the development of all other Parts of the ANP. Accordingly, for harmonization purpose, the meeting agreed that the MET Parts should be presented in the format endorsed by the eANP WG/1 meeting (Text format not Tabular Format with the same Headers i.e.: Introduction, General Regional Requirements and Specific Regional Requirements).

Review of Part VI- Search and Rescue (SAR)

3.20 The meeting noted that the current draft of the SAR Part (Volume I) contains provisions that are already covered by Annex 12 SARPs.

3.21 It was highlighted in particular that the designation of Search and Rescue Regions (SRRs) should be included in Volume I and the designation of Rescue Coordination Centres (RCCs) and Rescue Sub Centres (RSCs) should be reflected in Volume II.

3.22 The comments on the Draft SAR Part of Volume I are reflected in **Appendix 3G** to the Report on Agenda Item 3.

3.23 The meeting noted that the SAR Part of Volume II is still under development.

3.24 It was highlighted that the ASBU Modules does not include any SAR elements and accordingly, SAR will not be reflected in Volume III of the ANP.

Review of Part VII-AIM

3.25 The draft Part VII-AIM for Volume I and Volume II at **Appendices 3H** and **3I** to the Report on Agenda Item 3, respectively, were reviewed and supported by the meeting.

3.26 Based on all of the foregoing, the meeting expressed its satisfaction of and support to the work achieved by the Secretariat eANP WG for the development of Volumes I and II of the ANP and recognized the difficulty of the task and the challenges to finish this work.

3.27 The meeting agreed that it might be very useful to link the provisions of Volumes I and II of the ANP (General Regional Requirements) to the appropriate Annex provisions (i.e.: reflect the Annex paragraph(s) number), when applicable.

Mechanism for the monitoring of the Aviation System Block Upgrades (ASBUs) Implementation in the MID Region (ANP Volume III)

3.28 The meeting was apprised of the the recent developments related to the air navigation priorities and targets at global level and the need to establish regional and national air navigation priorities and targets in line with the GANP.

3.29 It was highlighted that the GANP establishes a framework for incremental implementations based on the specific operational profiles and traffic densities of each region and State. This is accomplished through the Aviation System Block Upgrades (ASBUs).

3.30 The meeting noted that the latest version of ASBU working document dated 28 March 2013 is available on the ICAO Website at: http://www.icao.int/Meetings/anconf12/Pages/Aviation-System-Block-Upgrades.aspx.

3.31 The meeting agreed that it is necessary to develop a MID Region Air Navigation Strategy, based on the ASBU methodology, including the air navigation priorities and targets. The need for monitoring the air navigation systems performance in the MID Region, based on the identified/agreed ASBU Modules and associated Key Performance Indicators (KPIs) was reiterated with a view to report the progress of regional implementation through the planned online system referred to as the *Regional Performance Dashboard* (starting Jan 2014) which will also support/provide necessary inputs to the Annual *Global Air Navigation Report* (starting March 2014).

3.32 The meeting reiterated that this planning methodology requires full involvement of States, service providers, airspace users and other stakeholders, thus ensuring commitment by all for implementation. This approach would facilitate the response to Recommendation 6/1 of the AN-Conf/12 that calls on States and PIRGs to finalize the alignment of regional air navigation plans with the Fourth Edition of the GANP by May 2014.

3.33 The meeting recalled that MIDANPIRG/12 through Conclusion 12/47 endorsed 8 Metrics for performance monitoring of the air navigation systems in the MID Region.

3.34 Based on all of the foregoing and taking into consideration the global developments, including the outcome of the AN-Conf/12, the meeting recognized that the list of Metrics endorsed by MIDANPIRG should be reviewed and new priorities and targets for air navigation should be established.

3.35 The meeting reviewed all the ASBU Block 0 Modules and agreed that the following Modules be included in the MID Region Air Navigation Strategy, pending final endorsement by MIDANPIRG:

1) B0 – APTA: Optimization of Approach Procedures including vertical guidance
2) B0 – SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)
3) B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
4) B0 – DATM: Service Improvement through Digital Aeronautical Information Management
5) B0 – MET: Meteorological information supporting enhanced operational efficiency and safety
6) B0 – FRTO: Improved Operations through Enhanced En-Route Trajectories
7) B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)
8) B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

3.36 An extract from the ASBU working document related to the eight (8) selected Block 0 Modules is at **Appendix 3J** to the Report on Agenda Item 3.

3.37 Based on the above, the meeting developed the Tables at **Appendix 3K** to the Report on Agenda Item 3 to be used for the monitoring of the ASBU implementation in the MID Region. The Table should be further developed to include appropriate Key Performance Indicators (KPIs), targets and action plans. It was highlighted that necessary enablers/Tables should be developed and included in Volume III, taking into consideration the Air Navigation Report Forms, in order to provide States with the planning tool to be used for the measurement of air navigation systems performance.

3.38 The meeting encouraged States to review the Tables at **Appendix 3K** to the Report on Agenda item 3, and present working papers to the MSG/3 meeting (Cairo, 17-19 June 2013) with feedback and proposals to complete the Tables.

ANP WG/1
Appendix 3A to the Report on Agenda Item 3

(*Name of Region*) MODEL AIR NAVIGATION PLAN

VOLUME I

30 April 2013

TABLE OF CONTENTS

(*Name of region*) ANP, VOLUME I

PART 0 – INTRODUCTION

GENERAL

1. On [*date to be determined*], the ICAO Council decided that the regional air navigation plans should be published in three volumes.

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

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

4. ANP Volume III provides implementation requirements 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. 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.

5. ANP Volume III should contain dynamic (flexible) plan elements whose amendment does not need approval by the Council and these elements be related to the implementation of certain air navigation systems, based mainly on the ASBU modules endorsed at regional or sub-regional level.

6. The detailed amendment procedure of the three ANP Volumes is described in paragraph 18 below.

7. Dynamic lists such as descriptions of ATS routes are referenced to the Volume II, as appropriate or flagged as candidates for the proposed web-based air navigation planning tool.

8. It should be noted that the ANP, does not list all facilities in the region 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.

9. Guidance material on the detail of programmes or Concepts should be contained in supplementary material referenced appropriately or adopted as (name of region) Documents.

RELATIONSHIP BETWEEN THE GLOBAL AND REGIONAL AIR NAVIGATION PLANS

10. The ANPs represent the bridge between, from one side, the global provisions in the ICAO Standards and Recommended Practices (SARPs) and the Global Air Navigation Plan (GANP) (Doc 9750), and from the other side, the States' National Plans and real implementation.

11. 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 their establishment of air navigation priorities for the next fifteen years.

OBJECTIVE AND PURPOSE OF REGIONAL AIR NAVIGATION PLANS

12. 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.

13. 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.

14. 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).

15. The ANPs contains the regionally agreed Aviation System Block Upgrades (ASBUs) modules applicable to the specified ICAO region aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing the safety level, and help achieve the necessary harmonization and interoperability at the regional and global levels.

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

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

PROCEDURE FOR THE AMENDMENT OF REGIONAL AIR NAVIGATION PLANS

18.

PART A — Volume I- ANPs (to be finalized later)

(require review/approval by Council for the amending procedure)

Introduction

The procedure outlined below has been evolved to provide a means of maintaining basic regional plans using a web based tool.

General criteria

The Assembly has resolved that regional plans shall 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 shall be undertaken by correspondence between the Organization and the Contracting States and international organizations concerned.

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 cause the State to propose an amendment to the plan.

Procedure

If, in the light of the above criteria, any Contracting State (or group of States) of a region wishes to effect a change in the approved basic 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 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.)

The Secretary General 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. If, however, 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 first presented, adequately documented, to the Commission. In such cases, the Commission will decide the action to be taken on the proposal.

If, in reply to the Secretary General's inquiry to States and selected international organizations, no objection is raised to the proposal by a date specified, the proposal shall be submitted to the President of the Council, who is authorized to approve the amendment on behalf of the Council.

If, in reply to the Secretary General's inquiry to States and selected international organizations any objection is raised, and if objection remains after further consultation, the matter will be documented for formal consideration by the Air Navigation Commission. If the Commission concludes that the amendment is acceptable in its original or other form, it will present appropriate recommendations to the Council.

Proposals for the amendment of regional plans 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 plan was prepared, 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 pursuant to paragraph 3.2 above, 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.

Proposals for the amendment of regional plans may also be initiated by the Secretary General provided that the State or States whose facilities will be affected have expressed their concurrence with the proposal.

Amendment to regional plans which have been approved in accordance with the above procedure will be published in the ANP website at convenient intervals.

PART B — VOLUMES II and III –ANP (to be finalized later)

(requires Council review/approval for the amendment procedure)

Amendments of the Volumes II or III shall be effected on the basis of an adequately documented proposal submitted by a Contracting State (or a group of States) to the ICAO regional office; 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 the Volume II or III . (This procedure does not preclude a State having previous consultation with other States before submitting the amendment proposal to the ICAO regional office.)

The ICAO regional office will circulate the proposal, adequately documented, with a request for comments to the provider States in the region and to user States except those which obviously are not affected, and, for information and comments if necessary, to international organizations which may be invited to attend suitable ICAO meetings and which may be concerned with the proposal. If, however, it is considered that the proposed amendment conflicts with established ICAO policy, or that it raises questions which should be brought to the attention of the Air Navigation Commission, the proposal will be adequately documented and presented to the Air Navigation Commission. In such cases, the Commission will decide the action to be taken on the proposal.

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 on the subject has been reached and the proposal shall be incorporated into the Volumes II or III.

If, in reply to the ICAO regional office's inquiry, any State objects to the proposal, 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 necessary. If the Commission concludes that the amendment is acceptable in its original or other form, it will present appropriate recommendations to the Council.

Proposals for the amendment of the Volumes II or III submitted by international organizations directly concerned with the operation of aircraft in the region, which may be invited to attend suitable ICAO meetings where the Volume II or III were prepared, will be dealt with in the same manner as those received from States, except that, before circulating the proposal to all interested States, it will be ascertained 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.

Proposals for the amendment of the Volumes II or III may also be initiated by the ICAO regional office provided that the State or States whose facilities or services will be affected have expressed their concurrence with the proposal.

Amendments to the Volumes II or III which have been approved in accordance with the above procedure will be published in the ANP website at convenient intervals.

ABREVIATIONS

19. All 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.

ESTABLISHMENT AND PROVISION OF A MULTINATIONAL ICAO (*Name of region*) AIR NAVIGATION FACILITY/SERVICE (*If applicable*)

20. The operation of multinational air navigation services is well established within the (name of region) Region. . ICAO Doc 9161 – *Manual on Air Navigation Services Economics* details the ICAO policies on charges for air navigation services and provides additional information on the various models adopted globally. The introduction of multi-national 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 flight information region (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[1]. 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).

[1] Advice will be available from the ICAO Regional Office.

(*Name of region*) ANP, VOLUME I

PART I – (*name of region*) REGION GENERAL PLANNING ASPECTS (GEN)

GEOGRAPHICAL SCOPE

1. This (*name of region*) Air Navigation Plan is related to the ICAO (name of region) air navigation region. The plan 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.

2. A number of States within the ICAO (name of region) Region 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 . Regional subgroups include the: (include appropriate regional subgroups names if applicable)

Note: Diagram or list of regional sub groupings to be inserted in the Volume II or database.

(*If applicable*)

FLIGHT INFORMATION REGIONS *(*List FIRs corresponding to ANP region with coordinates approved by Council linked to database or chart*)*

3. The table below shows the current Flight Information Regions (FIR)/Upper Information Regions (UIR) which are part of the ICAO (*name of region*) Region. More details of Flight Information Regions/Upper Information Regions within the (*name of region*) air navigation region are contained in a centralised data base and can be accessed at <www.xxxxx>.

STATE	FIR/UIR

[Note: Insert chart.]

PERFORMANCE BASED APPROACH

4. Global Approach

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 converge with the bottom-up approach constituted by national planning by States. 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 in Paragraph 4.2. below.

4.2. These general expectations are relative to the effective operation of the ATM system and include access and equity; capacity; cost effectiveness; environmental impact; flexibility; flight efficiency; interoperability; participation and collaboration; predictability; safety; and security; which often compete with each other. Some aviation community members have explicit economic expectations, others favour efficiency and predictability, while some are concerned with access and equity; and all have safety expectations. 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

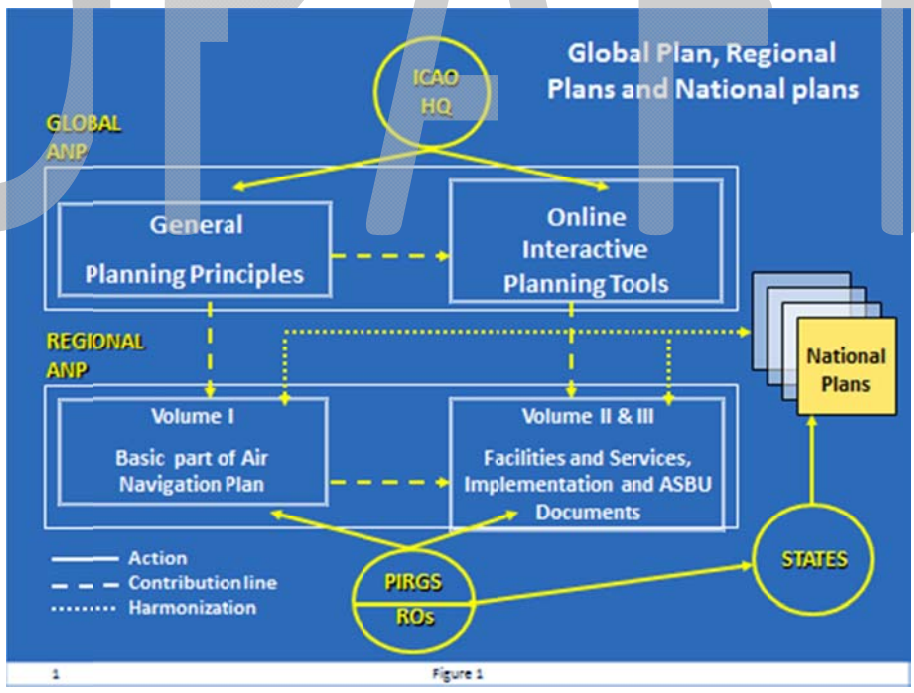

Figure 1. Relationship between global, regional and national plans.

6. 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

Global Air Navigation Plan, which should support the development of regional and national implementation plans that will support system architectures.

STATES' RESPONSIBILITIES

7. Each Contracting State is responsible for the provision of facilities and services in its territory under Article 28 of the Convention. The Council has recommended that these facilities and services include those specified in the air navigation plans.

8. Inclusion in air navigation plan documents of basic facilities and services provided by non-Contracting States and territories 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 of region) region are: (include names as applicable)

(*Name of region*) Region Planning

9. 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 converge with the bottom-up approach constituted by national planning by States.

10. Within the (*name of the region*) Region, performance objectives based on the ICAO KPA are being developed by the (*name of PIRG*) (*contributory body*). Whilst these performance objectives will be common throughout the (name of the region) Region, it is envisaged that local performance targets and related key performance indicators (KPI) with associated metrics and data collection requirements will be tailored to meet the specific needs of homogeneous areas within the respective (*name of the region*) sub-region (*if applicable*).

HUMAN RESOURCE PLANNING

11. 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.*[2]

12. 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.

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

HUMAN PERFORMANCE

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

14. States should:

i. Identify a certification process that requires at the design stage:
   a. recognition of the potential human performance issues that the proposed new technology attempts to address;
   b. 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;
ii. 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.
iii. Consider the management of human performance-related risks as a necessary and essential aspect of the oversight of safety management systems,
iv. Ensure that their technical personnel have exposure to training in human factors.

TRAINING

15. 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 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, while retain 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 balanced market exists to support the development and on-going implementation of high-quality training within 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.

16. 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.

17. All training provided by ICAO or third parties should take cognisance of the ICAO Civil Aviation Policy (*name of document*).

18. **Training of technical personnel**

21.1 The State authorities must determine the minimum professional qualifications for their technical personnel, and the competencies they should demonstrate. The State authorities should also provide for the technical and administrative training necessary for them to effectively accomplish their duties and responsibilities.

21.2 The State authorities must be prepared to finance their technical personnel's initial and recurrent training. The State's technical personnel represent the authority and, as such, require the continuing development of their knowledge and skills related to their respective responsibilities. This should be accomplished through periodic training and refresher courses in all the disciplines for which the technical officers are responsible. Participation in seminars and workshops organized by ICAO and international and regional aviation-related organizations can also enable the State's technical personnel to widen their horizons and share experience with experts from other Contracting States. Additional studies, such as courses in technical report writing and supervisory training, will also assist the technical experts in improving their effectiveness and efficiency.

21.3 Periodic practical and theoretical specialized (technical) training, including supervisory courses, will enable the State's technical personnel to maintain their competency and thus undertake their duties and responsibilities in an increasingly effective and efficient manner.

SAFETY CONSIDERATIONS

19. 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.

20. 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.

21. GASP objectives and corresponding target dates are applicable to the global community. Each of these objectives includes specific initiatives and milestones, which can be implemented by States in a continuous manner according to their distinct operational profiles and priorities. In this way, the initiatives included in the GASP will serve to deliver tailored progress in each Member State's SSP and safety processes necessary to support the air navigation systems of the future. At the regional level, the GASP supports the development of more collective solutions to

common safety issues by aligning and coordinating activities conducted by ICAO, its member States, international and regional organizations.

22. Regional Aviation Safety Groups (RASGs) harmonize activities undertaken to address aviation safety issues on a regional basis. The activities of the RASGs are aligned to serve the GASP objectives by providing practical assistance to States in their region. In addition, RASGs should coordinate relevant safety matters with PIRGs to ensure consistency and avoid overlap. The RASG (*RASG name*) should endorse safety plans associated with (*name of region or sub-region*) Programmes.

23. Planners should ensure that air navigation services development programmes are consistent with the GASP safety objectives and initiatives. In addition, air navigation deficiencies should be identified and reported to the ICAO Regional Office which will determine whether the reported deficiency is a case of non-compliance with the (*name of region*) ANP or SARPs. States are responsible for the prompt rectification of deficiencies to navigation services for which they are responsible for. The ICAO Regional Office will provide guidance and assistance to rectify such deficiencies as necessary. Detailed information on the process of identifying and managing air navigation deficiencies is contained in the (*name of PIRG*) Handbook, (*name of region*) Supplement to the uniform methodology for the identification, assessment and reporting of air navigation deficiencies.

ENVIRONMENT CONSIDERATIONS

28. It is an ICAO Strategic Objective to minimize the adverse effect of global civil aviation on the environment. Regional planning groups should ensure 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.

AIR TRAFFIC FORECASTS

29. ICAO regional traffic forecasting mainly supports regional ATM planning functions and is made available to all States. 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. Planning in the (*name of the region*) Region takes into account traffic forecasts compiled by the (*name of the region*) Traffic Forecasting Group (TFG), if exists, or other source of reliable information. These forecasts are updated periodically. The details of the traffic forecasts and other planning parameters for the [*name of region*] are contained in […].

Note: Materials prepared by TFGs are available to all States, either through ICAO Net or ICAO public website.

CONTINGENCY PLANNING

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

31. The effects of disruption of services in particular portions of airspace are likely to affect significantly the services in adjacent airspace. In this respect 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.

32. 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.

33. Regional contingency plans will be developed, approved and maintained by (*name of PIRG*) with the support of ICAO and other organizations.

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Appendix 3B to the Report on Agenda Item 3

(NAME) ANP, VOLUME I

PART II – AERODROME OPERATIONS AND PLANNING (AOP)

1. INTRODUCTION

1.1 This part of the (NAME) Regional Air Navigation Plan compliments the provisions of ICAO Annex 14, Volume I & II related to aerodromes Operations and Planning (AOP). It contains stable plan elements related to the assignment of responsibilities to States for the provision of the Aerodrome facilities and services within the ICAO (Name) region in accordance with the Article 28 of the Convention on International Civil Aviation (Doc 7300) and mandatory requirements to be implemented by States in accordance with regional air navigation agreements.

1.2 Adherence to ICAO Standards and Recommended Practices (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 ICAO SARPS within their national regulations. States should also ensure that any differences to ICAO SARPS have been assessed in respect of safety and are notified in accordance with ICAO requirements.

1.3 The dynamic plan element material that are 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 (NAME) ANP Volume II Part II AOP.

1.4 The (NAME) ANP Volume III contains recommendations that States can follow in programming the provision of their air navigation facilities and services including aerodrome facilities and services. This contains also the regionally agreed Aviation System Block Upgrades (ASBU) modules applicable to the specified ICAO region aimed at increasing capacity and improving efficiency of the aviation system while maintaining or enhancing safety level and help achieve the necessary harmonization.

Standards, Recommended Practices and Procedures

1.5 The Standards, Recommended Practices and Procedures and associated guidance material to be applied are contained in:

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

b) 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 should be determined based on the needs identified by users. Planning requirements for alternate aerodromes should to the greatest practicable extent be satisfied by 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;

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

2.2. Aerodromes, in addition to those required for international commercial air transport operations, should be determined to meet the needs of the international general aviation flights as identified by user requirements.

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

3. SPECIFIC REGIONAL REQUIREMENTS

3.1 TBD (if necessary)

Table AOP I

INTERNATIONAL AERODROMES REQUIRED IN THE [Name] REGION

EXPLANATION OF THE LIST

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.

Note 3 — Definition of International Aerodrome: Any airport designated by contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out. (ICAO Annex 9 - Facilitation)

City/Aerodrome/Designation	City/Aerodrome/Designation

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Appendix 3C to the Report on Agenda Item 3

(NAME) ANP, VOLUME II

PART II – AERODROME OPERATIONS AND PLANNING (AOP)

1. INTRODUCTION

1.1 This part of the (NAME) Regional Air Navigation Plan, Volume II contains dynamic plan elements related to the assignment of responsibilities to States for the applicability of the Standards and Recommended Practices established in Annex 14, Volume I and II that govern the application of the Aerodrome Design and Operations.

1.2 Table AOP-II shows the operational requirements at each aerodrome included in AOP Table I. The Table of Explanation preceding the Table AOP-II provides a detailed description of the data included in the Table. Pertinent information or comments on specific requirements or identification of particular issues affecting the provision of a system and target dates for the implementation of a facility/service may be shown as 'Remarks' in the table.

2. GENERAL REGIONAL REQUIREMENTS

2.1 The (NAME) ANP Volume II Table AOP-II shows the Contracting States that have accepted responsibility for the provision of AOP facilities and services at their international airports. This Table contains a detailed description/list of the facilities and/or services to be provided to fulfil the basic requirements of the Plan and are as agreed between the provider and user States concerned.

2.1.1 Table AOP-II, is kept under constant review by the PIRG in accordance with its schedule of management, in consultation with user and provider States and with the assistance of the ICAO Regional Office.

2.2 Contracting States should prepare and keep up to date national plans, for the orderly implementation of the parts of Regional Plans applicable to them.

2.3 *Aerodromes Physical characteristics*\

i. The specific physical characteristics planning for each regular use international aerodrome should meet the requirements of the critical aircraft. .

ii. The specific physical characteristics for each alternate use international aerodrome should be based on the requirements of the diverted critical aircraft and the take-off requirements for the aircraft for a flight to the aerodrome of intended destination.

iii. a) Physical characteristics, visual aids and emergency as well as other services should be determined for each regular and alternate aerodrome required for international operations and should include runway length and strength, as well as the aerodrome reference code(s), selected for runway and taxiway planning purposes.

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Comment [MS1]: Target dates and other planning data should not be reflected in Vol II

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Comment [MS2]: To be removed; more appropriate wording is reflected in para. 1.2 above

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Comment [MS3]: To be moved to the Introduction Section above

Comment [MS4]: No need to use Contracting States, i.e: just States …

b) Physical characteristics, visual aids, and emergency as well as other services should be determined for each aerodrome to meet at least the needs of the most commonly used aircraft operated or intended to be operated at the aerodrome by International General Aviation (IGA) and should include runway length and strength, as well as the aerodrome reference code(s) selected for runway and taxiway planning purposes.

iv. Where at an aerodrome, planning for Category II or III operations, as the case may be, is not a requirement during the plan period but such operations are contemplated at a time beyond the plan period, planning should take into account the possible requirement for Cat II or III operations.

v. In cases where the extension or development of an aerodrome to meet infrequent operations of the critical aircraft would entail disproportionate expenditures, alternative solutions should be explored.

Comment [AR5]: This is covered under ICAO SARPs and no need to repeat in ANP

2.4 Visual aids for low visibility aerodrome operations

At aerodromes where there is a requirement to conduct Low Visibility Take-offs, the appropriate visual and non-visual aids should be provided.

Comment [AR6]: This is covered under ICAO SARPs and no need to repeat in ANP

2.5 Non-precision approach aids

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 provisions.

Comment [AR7]: This is covered under ICAO SARPs and no need to repeat in ANP

2.6 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.

i. The reduced runway declared distances for take-off should consist, as for full runway declared distances, of TORA, TODA and ASDA.

ii. 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 aeroplane prior to take-off should be taken into account by the operators for the calculation of the aeroplane's take-off weight.

iii. 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.

iv. At each international aerodrome, specific minimum 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.

v. 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 minimum 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 take-off run available (TORA) in metres.

vi. 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.

vii. To this end, 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 AIP.

2.7 Aerodrome capacity Management

i. 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; and precise surface guidance to improve safety and to maximize aerodrome capacity in all weather conditions. The Air Navigation system will enable the efficient use of the capacity of the aerodrome airside infrastructure. The key conceptual changes include:

a) runway occupancy time will be reduced;

b) the capability to safely manoeuvre in all weather conditions whilst maintaining capacity;

c) precise surface guidance to and from a runway will be required in all conditions; and

d) the position (to an appropriate level of accuracy) and intent of all vehicles and aircraft operating on the movement area will be known and available to the appropriate ATM community members.

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

2.8 Aerodrome capacity assessment and requirement

i. 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.

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

iii. 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.

iv. Aerodrome capacity should be assessed and declared 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.

v. 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.

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

vii. Due to lack of capacity at many international airports, a better and more efficient utilization of existing runways 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 to a minimum. A possible solution is implementation of A-CDM.

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

2.9 Closure of regular aerodromes

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.

2.10 Scheduling aerodrome maintenance

States, when planning major runway 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

Table AOP II

AIRPORT PLANNING CHARACTERISTICS FOR FACILITIES AND SERVICES

EXPLANATION OF THE TABLE

Table AOP II shows the operational requirements for physical characteristics at each aerodrome to be considered in planning the facilities for safe and efficient aircraft operations.

The physical characteristics of the aerodrome relate to the Aerodrome Reference Code (ARC), which is selected for aerodrome planning purposes and determined in accordance with the characteristics of the critical design aircraft for which an aerodrome facility is intended. The ARC provides a simple method for inter-relating the numerous specifications concerning the characteristics of aerodromes so as to provide a series of aerodrome facilities that are suitable for the aeroplanes that are intended to operate at the aerodrome. The code is not intended to be used for determining runway length or pavement strength requirements. The physical characteristics of taxiways and aprons should be appropriate for the runways with which they are related.

The granting of an aerodrome certificate signifies to aircraft operators and other organization operating on the aerodrome that at the time of certification , the aerodrome meets the specifications regarding the facility and its operation and that it has, according to the certifying authority, the capability to maintain these specifications for the period of validity of the certificate. The visual aids for navigation, including markings, lighting and signs, etc., at an aerodrome shall be provided in accordance with Annex 14, Volume I specifications.

The requirements for alternate aerodromes should be satisfied by regular aerodromes used for international aircraft operations to the greatest practicable extent.

Column

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

Note. — 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.

When an aerodrome is needed for more than one type of use, normally the type which is highest on the above list is shown. An exception is that AS aerodromes are identified even when they are required for regular use by international non-scheduled air transport.

2 Aerodromes used for international operations shall be certified in accordance with the specifications contained in Annex 14, Volume I as well as other relevant ICAO specifications. This column show the current status on certification, whether fully implemented or in progress and target date for completion if in progress.

Comment [AR8]: Requirement for certification is specified by Annex 14. Implementation status needs to be moved to Vol. III

3 & 4	Aerodrome reference code (ARC) for aerodrome physical 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 aero-plane characteristics for which the facilities are provided. Column 3 shows the current ARC based on which the existing aerodrome facilities are provided and column 4 the planned ARC based on which the existing aerodrome facilities will be upgraded.
5	Target Date: Expected date of implementation of planned ARC
6 & 7	Required Rescue and Fire Fighting Service (RFF). The required level of protection expressed by means of an aerodrome RFF category number, in accordance with Annex 14, Volume I. Column 6 shows the current RFF category based on which the RFF facilities are provided. Column 7 shows the planned RFF category based on which the existing RFF facilities available will be upgraded.
8	Target Date: Expected Date of Implementation of planned RFF category
9	Runway designation numbers
10 & 11	Runway Type: Column 10 shows the Type of each of the runway 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. Column 11 shows the planned runway type to be provided.
12	Target date: Expected Date of Implementation of planned runway type
13	Runway Length: Required runway length expressed in terms of a balanced field length which should be adequate to meet the operational requirements of the aeroplanes for which the runway is intended. In planning, account is taken of local conditions (elevation, temperature, runway slope, humidity and runway surface characteristic). If the requirement for alternate use is more critical, the aircraft type and runway length requirements are also indicated below the abbreviation 'AS'. Critical aircraft for pavement strength and required pavement strength are expressed as the all- up mass in thousands of kilograms. If the aircraft requiring the aerodrome for alternate use is more critical, the aircraft type and runway strength required are also indicated below the abbreviation 'AS'. *Note — A specific aircraft model based on the best available sources of information should be selected for planning runway length as this requirement is particularly affected by aircraft model differences. Aircraft models should thus be reviewed carefully to see that the correct one is used in determining the aerodrome characteristics.*

Comment [AR9]: Vol II should contain only requirements. Target date is planning data that needs to be moved to Vol. III.

Comment [AR10]: Target date is planning data that needs to be moved to Vol. III

Comment [AR11]: Target date is planning data that needs to be moved to Vol. III

14 Runway Visual Range (RVR)

TDZ — Observations should be provided representative of the touchdown zone.

MID — Observations should be provided representative of the middle of the runway.

END — Observations should be provided representative of the end portion of the runway.

15 Remarks: This column is for showing other information including critical design aircraft selected for determining ARC, 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.

16 Designated alternate aerodrome- Name of the city and aerodrome, preceded by the location indicator

17 refer to explanation under 2 above;

18 Designated alternate aerodrome- Aerodrome reference code (ARC) for aerodrome physical characteristics expressed in accordance with Annex 14, Volume I, chapter 1.

Table AOP II

Aerodromes Characteristics														Remark	Alternate Aerodromes		
Location indicator-name of City and Aerodrome, Designation	Aerodrome Certification-Implemented/ in progress/Target date for implementation	Aerodrome Reference Code (ARC)			RFF Category			Runway characteristics							Location Indicator/Name of City & aerodrome	Aerodrome Certification-Implemented/In progress/ Target date	Aerodrome Reference Code
									Runway Type								
		Current	Planned	Target Date	Current	Planned	Target Date	Runway No.	Current	Planned	Target Date	Runway Length	RVR				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		18

Comment [AR12]: Certification implementation data need to be move to Vol. III

Comment [AR13]: Target date and planning data need to be moved to Vol. III

Comment [AR14]: Target date and planning data need to be moved to Vol. III

Comment [AR15]: Target date and planning data need to be moved to Vol. III

- END -

ANP WG/1
Appendix 3D to the Report on Agenda Item 3

PROPOSED NEW LAYOUT AND CONTENT FOR CNS SECTION OF VOLUME I

Deleted:

[AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] ANP, VOLUME I

PART III – COMMUNICATIONS, NAVIGATION AND SURVEILLANCE (CNS)

INTRODUCTION

1. This part of the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Regional Air Navigation Plan introduces the minimum necessary considerations for effective planning and implementation of Communications, Navigation and Surveillance (CNS) facilities and services in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] regions and complements the provisions of ICAO Annex 10 related to CNS. It contains stable plan elements related to the assignment of responsibilities to States for provisions of Annex 10 - *Aeronautical Telecommunications* - to the Convention on International Civil Aviation (Doc 7300). It contains stable 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; and mandatory requirements related to the CNS facilities and services to be implemented by States in accordance with regional air navigation agreements. CNS facilities and services shall meet the requirements of those other components of the air navigation system which they are intended to serve.

2. In planning for those other components, 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 shall fulfil multiple functions whenever this is feasible.

3. The Standards, Recommended Practices and Procedures to be applied are contained in:

a) Annex 2 – Rules of the Air
b) Annex 3 – Meteorological Service for international air navigation;
c) Annex 6 - Operation of Aircraft, Parts I (Chapter 7), II (Chapter 7) and III (Chapter 5);
d) Annex 10 — *Aeronautical Telecommunications*, Volumes I, II, III, IV and V;
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 (Doc 4444); and
i) *Regional Supplementary Procedures* (Doc 7030) – xxx Regions

Comment [RG1]: Order changed

GENERAL REGIONAL REQUIREMENTS

COMMUNICATIONS

AERONAUTICAL FIXED SERVICE (AFS)

4. The aeronautical fixed service (AFS) shall satisfy the communication requirements of ATS, 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. [Annex 3, 11.1; Annex 11, 6.2; Annex 12, 2.4; Annex 15, Chapter 9; Annex 10, Volume II, Chapter 4]

Deleted: AIS

THE [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] ATN NETWORK

5. The [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT]-ATN Network should have sufficient capacity to meet the basic requirements for data communications for the services mentioned in paragraph 4. above.

AERONAUTICAL MOBILE SERVICE (AMS)

6. Air-ground communications facilities shall 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

7. Air-ground communications for ATS purposes should be so designed that they 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 for optimum economy in the frequency spectrum used for this purpose.

AIR-GROUND DATA LINK COMMUNICATIONS

8. Air-Ground Data Link Communications should be implemented harmonised regionally to use efficiently the communication means and for optimum economy in the frequency spectrum use and system automation.

NAVIGATION

9. Planning of aeronautical radio navigation services be done on a total system basis, taking full account of the navigation capabilities as well as cost effectiveness. The total system composed by 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.
States shall develop PBN implementation plan taking into consideration Regional PBN Plan.

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

SURVEILLANCE

11. Planning of aeronautical surveillance system shall, where collaboration and sharing of data sources should be considered in support of an efficient use of the airspace.

FREQUENCY MANAGEMENT

12. Frequency assignment planning in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] region shall 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. The reporting of harmful frequency interference, allocation of bandwidths and the frequency assignment tool be detailed in volume II.

SPECIFIC REGIONAL REQUIREMENTS

Comment [RG2]: To be deleted

Comment [RG3]: All Shall to be replaced by should

Deleted: associated with the ~~ATS route network~~

Deleted: shall

Deleted: p

Deleted: b

Deleted: n

Comment [RG4]: To be Added

Comment [RG5]: To be deleted

Comment [RG6]: To be deleted and replaced by performance based

Deleted: associated with the ATS route network

Deleted: be made based on a system approach concept

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Appendix 3E to the Report on Agenda Item 3

(NAME) ANP, VOLUME I

PART IV - AIR TRAFFIC MANAGEMENT (ATM)

1 INTRODUCTION

1.1 This part contains stable elements referred to the States' responsibilities related to the Air Traffic Management (ATM) system requirements within the framework of the Global Air Navigation Plan (Doc 9750) to be applied within a specified area. It also contains mandatory requirements to States in accordance with regional air navigation agreements.

1.2 The dynamic elements referred to the States' responsibilities for the implementation of the ATM system mandatory requirements based on regional air navigation agreements are contained in Volume II.

1.3 Volume III contains flexible elements related to the implementation of certain air navigation systems, based mainly on the regionally agreed Aviation System Block Upgrades (ASBUs) applicable to the specified ICAO region aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety levels, and to help to achieve the necessary harmonization and interoperability at regional and global levels.

1.4 Guided by the vision outlined in the Global ATM Operational Concept, improvements to the ATM system should be based on the definition of **what assets** need to be deployed, to deliver **what required services**, to obtain **what expected performance**; and to do so while thinking across and within global concept components; across and within time horizons, from long term planning through to tactical decisions; and end-to-end, whether seen as gate-to-gate, or enroute-to-enroute.

Comment [MS1]: The Introduction Section should be aligned with the Introduction of other Parts.
This paragraph is not appropriate for inclusion in Volume I, which should contains only requirements. This may be reflected in Vol III.

Comment [EK2]: SARPs should be listed to ensure that the different parts of the eANP are developed in an harmonized manner (i.e.: Introduction, Standards, Recommended Practices and Procedures, General Regional Requirements and Specific Regional Requirements)

2 GENERAL REGIONAL REQUIREMENTS

2.1 The (Name of region) infrastructure should evolve to meet the challenging demands of the aviation community. States should deploy the necessary assets to attend the sometimes conflicting but legitimate performance requirements of all users in all key performance areas.

Responsibility for the provision of Air Traffic Services

2.3 Each Contracting State shall ensure that the provision of air traffic services covers its own territory and those areas over the high seas for which it is responsible for the provision of air traffic services. A State may delegate to another State the responsibility for establishing and providing air traffic services in flight information regions, over the territories of the former or make arrangements for the provision of services within high seas airspace for which it has responsibility. Such arrangements should be considered when performance improvements can be achieved.

ATS Routes and organized track structures

2.4 ATS routes and organized track structures should be provided to meet ATM requirements. States should to the extent possible coordinate with the ICAO Regional Office any change to the airspace structure, the assignment of or changes to compulsory reporting points and ATS routes; route and reporting point's designators should be obtained from the ICARD Global Database. Details of the ATS routes and designators within (name) Region are contained in Volume II/electronic database.

SSR Code Allotment Plan

2.5 The management of Secondary Surveillance Radar Codes (SSR codes), is a key element of ATM in order to ensure continuous and unambiguous aircraft identification. The requirements related to SSR Code Assignment System used in the (name) Region, including the SSR Code Management Plan (CMP) are contained in Vol. II. The SSR Code Management Plan is

Contingency planning

2.6 Air traffic services authorities shall develop and promulgate contingency plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services. Such contingency plans shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.

2.7 Notification by NOTAM of discontinuance of contingency measures and reactivation of the services set forth in the regional air navigation plan should be dispatched as early as practicable to ensure an orderly transfer from contingency conditions to normal conditions.

2.8 The contingency plan should be updated at regular intervals as required. In some cases the short time required for approval of implementation of a contingency plan may be insufficient, e.g. in case of natural disasters. In such cases ICAO should be informed immediately for appropriate coordination.

Comment [MS3]: Need to be more specific.

Comment [EK4]: To be removed; already covered in Annex 11 par 2.1

Deleted: In Vol. II it is reflected t

Deleted: to be

Deleted: is

Deleted: Note: . European Secondary Surveillance Radar (

Deleted:)

Deleted: (EUR Doc 023)

Formatted: English (U.S.)

Comment [EK5]: It's convenient to include the Implementation of Regional Contingency (Plan, Arrangements, Agreements etc.)

Comment [EK6]: To be removed; already covered in Annex 11 Chap. 2 Para. 2.3

Comment [EK7]: Already covered in Annex 11 Att C Para. 6

Unsatisfactory Conditions Reporting

2.9 The users of air navigation facilities and services should report any serious problems encountered due to the lack of implementation of air navigation facilities or services required by Regional Plans. The reports should be addressed to the Contracting States responsible for implementation. These States should act on such reports to resolve the problems, but when remedial action is not taken users should inform ICAO, through the respective international organization where appropriate.

Deleted: *Safety management*¶

Performance-based Navigation (PBN)

2.11 States are urged by ICAO Assembly Resolutions to complete a PBN implementation plan as a matter of urgency. Performance-based navigation specification(s) for designated areas, tracks or ATS routes shall be prescribed on the basis of regional air navigation agreements. In domestic areas applying performance-based navigation (PBN), navigation specifications shall be prescribed by States. In designating a navigation specification, limitations may apply as a result of navigation infrastructure constraints or specific navigation functionality requirements. Previous and post implementation risk assessment is a mandatory requirement.

Comment [EK8]: ANP should contain stable elements, reflecting the requirements for PBN Implementation (ex: requirement for the PBN Regional implementation Plan)

2.12 PBN offers many advantages over the historic, conventional navigation methods where instrument flight procedures and air routes were based upon specific sensors and their associated obstacle clearance criteria. PBN:

a) reduces the need to maintain sensor-specific routes and procedures, and their associated costs;
b) avoids the need for cost-prohibitive development of sensor-specific operations with each new evolution of navigation systems;
c) allows for more efficient use of airspace (route placement, fuel efficiency, noise abatement, etc.);
d) clarifies the way in which area navigation systems are used;
e) facilitates the operational approval process for operators by providing a limited set of navigation specifications intended to form the basis of certification and operational approval material which could be applied globally in conjunction with the appropriate navigation infrastructure; and
f) ensures that approval for operation in one State or region will be applicable in another State or region for those navigation applications calling up the same navigation specification.

2.13 The development and implementation of an airspace concept using PBN makes significant contributions in terms of different key performance areas. For example:

a) the PBN partnership approach to developing the airspace concept ensures that conflicting requirements are processed in an integrated manner and diverse interests are addressed without compromising safety, environmental mitigation, flight efficiency or capacity requirements;

b) safety is enhanced by ensuring that the placement of ATS routes and instrument flight procedures fully meet both ATM and obstacle clearance requirements;

c) environmental mitigation is improved when environmental needs are given the same level of importance as capacity enhancement when defining the operations in an airspace; and

d) airspace capacity and flight efficiency are enhanced by optimizing the lateral and vertical placement of both ATS routes and instrument flight procedures.

Comment [EK9]: This is guidance material and accordingly should not be reflected in Vol I

Flexible Use of Airspace

2.14 States are requested to continue to develop civil/military cooperation and co-ordination to enhance the Flexible Use of Airspace, 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 increase airspace capacity and to improve the efficiency and flexibility of aircraft operations.

2.15 The flexible use of airspace concept also covers airspace over the high seas. Its application should therefore be without prejudice to the rights and duties of States under the Convention on International Civil Aviation (Chicago Convention) and its annexes, or the 1982 UN Convention on the Law of the Sea (UNCLOS).

2.16 Regulations governing flights of State aircraft over the high seas should, to the maximum extent practicable, comply with the relevant provisions of Annex 2. Where this is not possible due to the nature of the operations involved, measures should be taken to ensure that other aircraft are not endangered by such operations. These should preferably be established in coordination with the State responsible for the provision of air traffic services over that part of the high seas affected by such operations.

Capacity Management

2.17 States planning should take into consideration the need to provide sufficient capacity to cater to both normal and peak traffic levels, without jeopardizing safety levels. ATFM should aim for capacity management and the optimization of the efficiency of the global ATM system, by ensuring that capacity is utilized to the maximum extent possible.

2.18 In managing the Terminal Control Areas airspace, States shall take into account the Continuous Descent operations (CDOs) in combination with the Continuous Climb Operations (CCOs) features in order to ensure that the efficiency of operations is safely maximized while significantly reducing greenhouse gas emissions. ATM tools and techniques, especially air traffic flow management (ATFM), may have to be implemented and/or updated to ensure that arrival and departure flows are smooth and appropriately sequenced.

Comment [EK10]: To use should instead of shall in the whole ANP

Comment [EK11]: This will be covered in VOL III and should not be mentioned in Vol I as CDO, CCO and ATFM are not mandatory requirements.

Reduced Vertical Separation Minimum (RVSM)

2.19 For the (NAME) Region airspace the reduced vertical separation minimum of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive, (NAME of Regional Monitoring Agency) is the designated Regional Monitoring Agency, for monitoring the height-keeping performance and

approval status of aircraft operating at these levels, in order to ensure that the continued application of this vertical separation minimum meets the agreed regional safety objectives.

Horizontal Separation

2.20 With the increased implementation of PBN and RNAV, should there not somewhere also be a monitoring requirement for the lateral/horizontal aircraft performance. Based on the experience with RVSM implementation and the vertical monitoring via the RMAs, the horizontal aircraft performance together with system failures should also be monitored in order to establish the overall system safety and to confirm that the ATS system meets the required target level of safety.

Comment [EK12]: It's important to keep this paragraph, because Annex 11 is mandating the establishment of a Regional RVSM monitoring programme. We need to designate the RMA(s) responsible for RVSM monitoring in each Region.

Comment [MS13]: Needs to be further discussed

3 SPECIFIC REGIONAL REQUIREMENTS

3.1 TBD (if necessary)

ANP WG/1
Appendix 3F to the Report on Agenda Item 3

Air Navigation Plan – Part V (MET) template

Contents

Air Navigation Plan – Part V (MET) – Volume I template

Introduction

Para. No.	*Text for inclusion in Volume I*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*
1.	**Introduction**						
a)	Part V constitutes the agreed regional requirements considered to be the minimum necessary for effective planning of aeronautical meteorology (MET) facilities and services in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region. Volume I of Part V (MET) of the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Air Navigation Plan (ANP) contains elements of the existing planning system and introduces the basic planning principles, operational requirements and planning criteria related to MET as developed for the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region. Volume I is kept under constant review by the [APIRG, APANPIRG, GREPECAS, EANPG, MIDANPIRG, NATSPG] in accordance with its schedule of management, in consultation with user and provider States and with the assistance of the ICAO Regional Office[s] concerned.	✓	✓	✓	✓	✓	✓
b)	Part V (MET) of the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] ANP is consistent with the Standards, Recommended Practices and Procedures to be applied, in accordance with regional air navigation agreement, as contained in: 1) Annex 3 — *Meteorological Service for International Air Navigation*; and 2) *Regional Supplementary Procedures* (Doc 7030).	✓	✓	✓	✓	✓	✓

General Regional Requirements

Para. No.	*Text for inclusion in Volume I*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
2.	**World area forecast system (WAFS) and meteorological offices**							
a)	In the [ASIA/PAC, NAT] Region, WAFC London has been designated as the centre for the operation of the aeronautical fixed service satellite distribution system (SADIS) and the Internet-based Secure SADIS FTP service and WAFC Washington has been designated as the centre for the operation of the Internet-based WAFS Internet File Service (WIFS). The status of implementation of SADIS and WIFS by States in the [ASIA/PAC, NAT] Region is indicated in **Table MET 3D-IMP (SADIS/WIFS)**. [Annex 3, 3.5.1 c) 3), 3.7 b) 3), Appendix 5, 1.6, Appendix 6, 1.2.2, and Appendix 6, 2.2.2]		✓				✓	3.5.1 c) 3) 3.7 b) 3) Appendix 5, 1.6 Appendix 6, 1.2.2, Appendix 6, 2.2.2
	In the [AFI, EUR, MID] Region, WAFC London has been designated as the centre for the operation of the aeronautical fixed service satellite distribution system (SADIS) and the Internet-based Secure SADIS FTP service. The status of implementation of SADIS by States in the [AFI, EUR, MID] Region is indicated in **Table MET 3D-IMP (SADIS)**. [Annex 3, 3.5.1 c) 3), 3.7 b) 3), Appendix 5, 1.6, Appendix 6, 1.2.2, and Appendix 6, 2.2.2]	✓			✓	✓		
	In the CAR/SAM Region, WAFC Washington has been designated as the centre for the operation of the Internet-based WAFS Internet File Service (WIFS). The status of implementation of WIFS by States in the CAR/SAM Region is indicated in **Table MET 3D-IMP (WIFS)**. [Annex 3, 3.5.1 c) 3), 3.7 b) 3), Appendix 5, 1.6, Appendix 6, 1.2.2, and Appendix 6, 2.2.2]			✓				
b)	In the [ASIA/PAC, NAT] Region, WAFS products in digital form should be disseminated by WAFC London using the SADIS 2G satellite broadcast and the Secure SADIS FTP service and by WAFC Washington using the WIFS. [Annex 3, 11.3]		✓				✓	11.3

Para. No.	*Text for inclusion in Volume I*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	In the [AFI, EUR, MID] Region, WAFS products in digital form should be disseminated by WAFC London using the SADIS 2G satellite broadcast and the Secure SADIS FTP service. [Annex 3, 11.3]	✓			✓	✓		
	In the CAR/SAM Region, WAFS products in digital form should be disseminated by WAFC Washington using the WIFS. [Annex 3, 11.3]			✓				
c)	Volcanic ash advisory centre[s] (VAAC[s]) [Anchorage, Buenos Aires, Darwin, London, Montréal, Tokyo, Toulouse, Washington, Wellington] [has/have] been designated to prepare volcanic ash advisory information for the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, as indicated at **Table MET 3B (Volcanic ash advisory centres)**. [Annex 3, 3.4.2 f), 3.5.1 and 7.1.4]	✓	✓	✓	✓	✓	✓	3.4.2 f) 3.5.1 7.1.4
d)	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 [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region to their corresponding ACC/FIC, MWO and VAAC, as indicated at **Table MET 3C (State volcano observatories)**. [Annex 3, 3.6]	✓	✓	✓	✓	✓	✓	3.6
e)	Tropical cyclone advisory centre[s] (TCAC[s]) [Darwin, Honolulu, La Réunion, Miami, Nadi, New Delhi, Tokyo] [has/have] been designated to prepare tropical cyclone advisory information for the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region, as indicated at **Table MET 3A (Tropical cyclone advisory centres)**. [Annex 3, 3.7 and 7.1.4]	✓	✓	✓		✓	✓	3.7 7.1.4
	There is no requirement in the EUR Region for a tropical cyclone advisory centre (TCAC).				✓			

Para. No.	*Text for inclusion in Volume I*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	[Annex 3, 3.7 and 7.1.4]							

Specific Regional Requirements

Para. No.	*Text for inclusion in Volume I*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*
3.	**North Atlantic observations**						
a)	In the NAT Region, surface and upper-air synoptic networks and observations provided under ICAO Joint Financing Agreements are indicated in **Appendix MET A** to Part V (MET).						✓

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Appendix MET A to Part V (MET) Volume I
NAT REGION ONLY

APPENDIX MET A

SURFACE AND UPPER AIR SYNOPTIC NETWORKS AND OBSERVATIONS

Observations to be provided under ICAO Joint Financing Agreements

Index No. Chiffre indicatif Indicativo	Station Estación	Surface synoptic observations Observations synoptiques à la surface Observaciones sinópticos de superficie								Half-hourly observations Observations semi-horaires Observaciones semi-horarios	Time of observation Heure d'observation Observaciones horarios							
											Radiowind Radiovent Radioviento				Radiosonde Radiosonda			
		00	03	06	09	12	15	18	21		00	06	12	18	00	06	12	18
	GREENLAND (D)																	
04220	Egedesminde	X	X	X	X	X	X	X	X	—	X	—	X	—	X	—	X	—
…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…

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Air Navigation Plan – Part V (MET) – Volume II template

Introduction

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*
1.	**Introduction**						
a)	The Standards, Recommended Practices and Procedures to be applied in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region are as listed in Part V (MET) of the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Air Navigation Plan (ANP).	✓	✓	✓	✓	✓	✓
b)	Volume II of Part V (MET) of the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] ANP contains a detailed description of the regional facilities and/or services required, as agreed between the provider and user States concerned. Such agreement indicates a commitment on the part of the States concerned to implement the requirements specified. Volume II is kept under constant review by the [APIRG, APANPIRG, GREPECAS, EANPG, MIDANPIRG, NATSPG] in accordance with its schedule of management, in consultation with user and provider States and with the assistance of the ICAO Regional Office[s] concerned.	✓	✓	✓	✓	✓	✓

General Regional Requirements

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
2.	**Meteorological offices**							
a)	In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, 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 1B (Meteorological watch offices)**. [Annex 3, 3.4.1, 10.2]	✓	✓	✓	✓	✓	✓	3.4.1 10.2
b)	In the EUR 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 1C (Offshore structures)**. [Annex 3, 4.1.2]				✓			4.1.2
	There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region for aeronautical meteorological stations to be established on offshore structures or at other points of significance in support of helicopter operations to offshore structures. [Annex 3, 4.1.2]	✓	✓	✓		✓	✓	
3.	**Meteorological observations and reports**							
a)	In the [ASIA/PAC, CAR/SAM, MID, NAT] Region, routine observations, issued as a METAR, should be made throughout the 24 hours of each day at intervals of one hour at aerodromes as indicated in **Table MET 1A (Aerodrome meteorological offices)**. [Annex 3, 4.3.1]		✓	✓		✓	✓	4.3.1
	In the EUR Region, 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, at intervals of one half-hour at aerodromes as indicated in **Table MET 1A (Aerodrome meteorological offices)**. For aerodromes included on the VHF VOLMET broadcast as indicated in **Table ATS [XX]**, routine observations, issued as METAR, should be made throughout the 24 hours of each day at intervals of one half-hour.				✓			

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	[Annex 3, 4.3.1]							
	In the AFI Region, routine observations, issued as a METAR, should be made throughout the 24 hours of each day at intervals of one hour at aerodromes as indicated in **Table MET 1A (Aerodrome meteorological offices)**. For aerodromes included on the VOLMET broadcast as indicated in **Table ATS [XX]**, routine observations, issued as METAR, should be made throughout the 24 hours of each day at intervals of one half-hour. [Annex 3, 4.3.1]	✓						
b)	At aerodromes that are not operational throughout 24 hours, METAR should be issued at least […] hour[s] prior to the aerodrome resuming operations in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region. [Annex 3, 4.3.3]	✓	✓	✓	✓	✓	✓	4.3.3
c)	In the EUR 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 1C (Offshore structures)**. [Annex 3, 4.5.3, Appendix 3, 4.8.1.5 and Appendix 8, 2.3]				✓			4.5.3 Appendix 3, 4.8.1.5 Appendix 8, 2.3
	There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region for 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 to be included as supplementary information in METAR and SPECI. [Annex 3, 4.5.3, Appendix 3, 4.8.1.5 and Appendix 8, 2.3]	✓	✓	✓		✓	✓	
d)	In the [EUR, NAT] Region, information on the state of the runway should be included as supplementary information in METAR and SPECI as indicated in **Table MET 1A (Aerodrome meteorological offices)**.				✓		✓	4.5.3 Appendix 3, 4.8.1.5

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	[Annex 3, 4.5.3, Appendix 3, 4.8.1.5 and Appendix 8, 2.3]							Appendix 8, 2.3
	There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, MID] Region for information on the state of the runway to be included as supplementary information in METAR and SPECI. [Annex 3, 4.5.3, Appendix 3, 4.8.1.5 and Appendix 8, 2.3]	✓	✓	✓		✓		
4.	**Forecasts**							
a)	In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, an aerodrome forecast, issued as a TAF, should be for the aerodromes indicated in **Table MET 1A (Aerodrome meteorological offices)**. [Annex 3, 6.2.1]	✓	✓	✓	✓	✓	✓	6.2.1
b)	In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, the period of validity of a routine TAF should be of […] hours to meet the requirements indicated in **Table MET 1A (Aerodrome meteorological offices)**. [Annex 3, 6.2.6]	✓	✓	✓	✓	✓	✓	6.2.6
c)	In the [ASIA/PAC, CAR/SAM, EUR, MID] Region, 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 1A (Aerodrome meteorological offices)**. [Annex 3, Appendix 10, 2.1.2 and 6.2.3, and Appendix 5, 1.2.5]		✓	✓	✓	✓	✓	6.2.3 Appendix 5, 1.2.5
	There is no requirement in the [AFI, NAT] Region for the forecast maximum and minimum temperatures to be included in TAF. [Annex 3, Appendix 10, 2.1.2 and 6.2.3, and Appendix 5, 1.2.5]	✓					✓	
d)	In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, landing forecasts (prepared in the form of a trend forecast) should be provided at aerodromes indicated in **Table MET 1A (Aerodrome meteorological offices)**.	✓	✓	✓	✓	✓	✓	3.3.3 6.3.1 9.1.3 b) Appendix

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	[Annex 3, 3.3.3, 6.3.1 and 9.1.3 b), Appendix 8, 4.1.2, and Appendix 8, 6.2 a)]							8, 4.1.2 Appendix 8, 6.2 a)
e)	In the EUR 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). [Annex 3, 9.1.3 g) and Appendix 5, 4.1]				✓			9.1.3 g) Appendix 5, 4.1
	There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region for 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, to be supplied to operators or flight crew members. [Annex 3, 9.1.3 g) and Appendix 5, 4.1]	✓	✓	✓		✓	✓	
5.	**AIRMET information**							
a)	In the EUR Region, AIRMET information should be issued by a MWO for its areas of responsibility as indicated in **Table MET 1B (Meteorological watch offices)**. [Annex 3, 3.4.2 e) and 7.2.1]				✓			3.4.2 e) 7.2.1
	There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region for AIRMET information to be issued by a MWO for its area of responsibility. [Annex 3, 3.4.2 e) and 7.2.1]	✓	✓	✓		✓	✓	
6.	**Service for operators and flight crew members**							
a)	In the EUR Region, meteorological information for pre-flight planning by operators of helicopters flying to offshore structures as indicated in **Table 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,				✓			Appendix 8, 2.3

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	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]. [Annex 3, Appendix 8, 2.3]							
	There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region for meteorological information for pre-flight planning by operators of helicopters flying to offshore structures. [Annex 3, Appendix 8, 2.3]	✓	✓	✓		✓	✓	
7.	**Requirements for and use of communications**							
a)	Operational meteorological information prepared as METAR, SPECI and TAF for aerodromes indicated in **Table Met 1A (Aerodrome meteorological offices)**, and SIGMET messages prepared for flight information regions or control areas indicated in **Table MET 1B (Meteorological watch offices)**, should be disseminated to the international OPMET databanks designated for the [ASIA/PAC, NAT] Region (namely […]) and to the centres designated for the operation of the aeronautical fixed service satellite distribution system (SADIS) and the Internet-based services (Secure SADIS FTP and WIFS) in the [ASIA/PAC, NAT] Region. *[Note. – The details of the exchange scheme to be used for the OPMET information is given in the [ASIA/PAC, NAT] Region [XXXX] Handbook [(Doc XXXX)].]* [Annex 3, Appendix 3, 3.1.1, Appendix 3, 3.1.2, Appendix 5, 1.6, and Appendix 6, 1.2.2]		✓				✓	Appendix 3, 3.1.1 Appendix 3, 3.1.2 Appendix 5, 1.6 Appendix 6, 1.2.2
	Operational meteorological information prepared as METAR, SPECI and TAF for aerodromes indicated in **Table MET 1A (Aerodrome meteorological offices)**, and SIGMET [and AIRMET] messages prepared for flight information regions or control areas indicated in **Table MET 1B (MWO)**, should be disseminated to the international OPMET databanks designated for the [AFI, EUR, MID] Region (namely […]) and to the centre designated for the operation of the aeronautical fixed service satellite distribution system (SADIS) and the Internet-based service (Secure SADIS	✓			✓	✓		

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	FTP) in the [AFI, EUR, MID] Region. *[Note. – The details of the exchange scheme to be used the OPMET information is given in the [AFI, EUR, MID] Region [XXXX] Handbook [(Doc XXXX)].]* [Annex 3, Appendix 3, 3.1.1, Appendix 3, 3.1.2, Appendix 5, 1.6, and Appendix 6, 1.2.2]							
	Operational meteorological information prepared as METAR, SPECI and TAF for aerodromes indicated in **Table MET 1A (Aerodrome meteorological offices)**, and SIGMET messages prepared for flight information regions or control areas indicated in **Table MET 1B (Meteorological watch offices)**, should be disseminated to the international OPMET databanks designated for the CAR/SAM Region (namely […]) and to the centre designated for the operation of the Internet-based service (WIFS) in the CAR/SAM Region. *[Note. – The details of the exchange scheme to be used the OPMET information is given in the CAR/SAM Region [XXXX] Handbook [(Doc XXXX)].]* [Annex 3, Appendix 3, 3.1.1, Appendix 3, 3.1.2, Appendix 5, 1.6, and Appendix 6, 1.2.2]			✓				
b)	SIGMET messages should be disseminated to other meteorological offices in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region [as indicated in **Table Met 1B (Meteorological watch offices)** / in accordance with the regional OPMET bulletin exchange scheme]. [Annex 3, Appendix 6, 1.2.1]	✓	✓	✓	✓	✓	✓	Appendix 6, 1.2.1
c)	Special air-reports that do not warrant the issuance of a SIGMET should be disseminated to other meteorological offices in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region [as indicated in **Table MET 1B (Meteorological watch offices)** / in accordance with the regional OPMET bulletin exchange scheme]. [Annex 3, Appendix 4, 3.1.3]	✓	✓	✓	✓	✓	✓	Appendix 4, 3.1.3
d)	In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, meteorological	✓	✓	✓	✓	✓	✓	9.5.1

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	information for use by aircraft in flight should be supplied through [D-VOLMET] [and] [VOLMET broadcasts]. [Annex 3, 9.5.1]							
e)	*(For Regions with VOLMET and where TAF and/or SIGMET are required on the broadcast)* In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, scheduled VOLMET broadcasts should contain [TAF] [and] [SIGMET]. [Annex 3, 11.6.2] *OR,* *(For Regions with VOLMET but where TAF and SIGMET are not required on the broadcast)* There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region for scheduled VOLMET broadcasts to contain [TAF] [and] [SIGMET]. [Annex 3, 11.6.2]	✓	✓	✓	✓	✓	✓	11.6.2
f)	*(For Regions with VOLMET and where METAR, SPECI and TAF are required on the broadcast)* In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, the aerodromes for which METAR, SPECI and TAF are to be included in VOLMET broadcasts, the sequence in which they are to be transmitted and the broadcast time, is indicated in **Table ATS [XX]**. [Annex 3, Appendix 10, 5.1.1] *OR,* *(For Regions with VOLMET but where METAR, SPECI and TAF are not required on the broadcast)* There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region for METAR, SPECI and TAF to be included in VOLMET broadcasts.	✓	✓	✓	✓	✓	✓	Appendix 10, 5.1.1

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
	[Annex 3, Appendix 10, 5.1.1]							
g)	*(For Regions with VOLMET and where SIGMET messages are required on the broadcast)* In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, the flight information regions for which SIGMET messages are to be included in scheduled VOLMET broadcasts is indicated in **Table ATS [XX]**. [Annex 3, Appendix 10, 5.1.2] *OR,* *(For Regions with VOLMET but where SIGMET messages are not required on the broadcast)* There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region for SIGMET messages to be included in scheduled VOLMET broadcasts. [Annex 3, Appendix 10, 5.1.2]	✓	✓	✓	✓	✓	✓	Appendix 10, 5.1.2
h)	*(For Regions with D-VOLMET and where METAR, SPECI and TAF are required to be uplinked)* In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, the aerodromes for which METAR, SPECI and TAF are to be available for uplink to aircraft in flight via D-VOLMET is included in **Table ATS [XX]**. [Annex 3, Appendix 10, 4.1.1] *OR,* *(For Regions with D-VOLMET but where METAR, SPECI and TAF are not required to be uplinked)* There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region for METAR, SPECI and TAF to be available for uplink to aircraft in flight via D-VOLMET. [Annex 3, Appendix 10, 4.1.1]	✓	✓	✓	✓	✓	✓	Appendix 10, 4.1.1

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*	*Annex 3 18th Edition*
i)	*(For Regions with D-VOLMET where SIGMET and AIRMET are required to be uplinked)* In the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region, the flight information regions for which SIGMET [and AIRMET] messages are to be available for uplink to aircraft in flight via D-VOLMET is indicated in **Table ATS [XX]**. [Annex 3, Appendix 10, 4.1.2] *OR,* *(For Regions with D-VOLMET but where SIGMET and AIRMET are not required to be uplinked)* There is no requirement in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region for SIGMET [and AIRMET] messages to be available for uplink to aircraft in flight via D-VOLMET. [Annex 3, Appendix 10, 4.1.2]	✓	✓	✓	✓	✓	✓	Appendix 10, 4.1.2

Specific Regional Requirements

Para. No.	*Text for inclusion in Volume II*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*
8.	**Additional meteorological information**						
a)	In the [AFI, MID] Region, meteorological information additional to that contained in **Table MET 1A (Aerodrome meteorological offices)** required by States during the pilgrimage season is indicated in **Table MET 2C (Pilgrimage season)**.	✓				✓	

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APPENDIX MET LLF

In the EUR Region, Section II of the GAMET area forecast should include the following information in addition to the provisions in Annex 3:

a) Short description of general weather situation in addition to the description of pressure centres and fronts;
b) Information about mean surface wind also for values less than 15 m/s (30kt);
c) Upper wind and temperature in mountainous areas for altitude 15000ft, or higher if necessary;
Note – Upper wind and temperature information should have a horizontal resolution no more than 500km;
d) Information about widespread surface visibility of 5000 m or more together with the weather phenomena (if any) causing a reduction of visibility and inserted between the upper wind and cloud information;
e) State of the sea and sea surface temperature; and

Note – States under whose jurisdiction off-shore structure or other points of significance in support of off-shore helicopter operations are located should, in consultation with the appropriate operators, establish or arrange for the information on the state of the sea and sea surface temperature to be included in all low-level area forecasts.

f) An outlook concerning expected hazardous weather phenomena during the following validity period.

Note 1. – When the area forecast for low-level flights is issued as a GAMET, the following regional procedures should be followed:

i. the term 'widespread' should be used to indicate a spatial coverage of more than 75 per cent of the area concerned; and
ii. the visibility and cloud base information in section II may be complemented in the form of visibility/cloud base categories.

Note 2. – Where combined cloud/visibility information is provided, this information should be in the form of visibility/cloud base categories and should be supplied for well-defined sub-areas and/or route segments. The boundaries of sub-areas and/or route segments for which forecasts for low-level flights are provided in condensed form should be published in the AIP. For each sub-area and/or route segment, the reference height to which the cloud-base information refers, should be specified.

Note 3. – Where visibility/cloud-base categories are used in low-level forecasts these should be as follows:

O visibility equal to or more than 8 km and cloud-base equal to or higher than 600 m (2000 ft);

D *visibility equal to or more than 5 km but less than 8 km with cloud-base 300 m (1000 ft) or higher, or cloud-base equal to 300 m (1000 ft) or higher but less than 600 m (2000 ft) with visibility equal to or more than 8 km;*

M *visibility equal to or more than 1.5 km but less than 5 km with cloud-base equal to or higher than 150 m (500 ft), or cloud-base equal to or higher than 150 m (500 ft) but less than 300 m (1000 ft) with visibility equal to or more than 5 km;*

X *visibility less than 1.5 km and/or cloud-base less than 150 m (500 ft). The visibility/cloud-base category indicated in the forecast for a sub-area should refer to the prevailing conditions in the sub-area concerned. Cloud information should refer to clouds with a coverage of BKN or OVC.*

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Implementation

Para. No.	*Text for inclusion in Volume III*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*
1.	**Implementation of the world area forecast system**						
a)	The status of implementation of SADIS 2G, Secure SADIS FTP or WIFS by States in the [ASIA/PAC, NAT] Region is indicated in **Table MET 3D-IMP (SADIS/WIFS)**.		✓				✓
	The status of implementation of SADIS 2G and/or Secure SADIS FTP by States in the [AFI, EUR, MID] Region is indicated in **Table MET 3D-IMP (SADIS)**.	✓			✓	✓	
	The status of implementation of the WIFS by States in the CAR/SAM Region is indicated in **Table MET 3D-IMP (WIFS)**.			✓			
2.	**Implementation of the international airways volcano watch**						
a)	The status of implementation of volcanic ash advisory information, including volcanic ash advisory information in graphical form, by volcanic ash advisory centre[s] (VAAC[s]) [Anchorage, Buenos Aires, Darwin, London, Montréal, Tokyo, Toulouse, Washington, Wellington] with responsibility for the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region is indicated in **Table MET 3B-IMP (Volcanic ash advisory centres)**.	✓	✓	✓	✓	✓	✓
b)	The status of implementation of the volcano observatory notice for aviation (VONA) by State volcano observatories in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region is indicated in **Table MET 3C-IMP (State volcano observatories).**	✓	✓	✓	✓	✓	✓
3.	**Implementation of the tropical cyclone watch**						
a)	The status of implementation of tropical cyclone advisory information, including tropical cyclone advisory information in graphical form, by tropical cyclone advisory centre[s] (VAAC[s]) [Darwin, Honolulu, La Réunion, Miami, Nadi, New Delhi, Tokyo] with responsibility for the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region is indicated in **Table MET 3A-IMP (Tropical cyclone advisory centres)**.	✓	✓	✓		✓	✓
	The implementation of tropical cyclone advisory information, including tropical				✓		

Para. No.	*Text for inclusion in Volume III*	*AFI*	*ASIA PAC*	*CAR SAM*	*EUR*	*MID*	*NAT*
	cyclone advisory information in graphical form, is not required in the EUR Region.						
4.	**Implementation of routine OPMET information**						
a)	The status of implementation of METAR/SPECI and TAF from AOP aerodromes in the [AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAT] Region is indicated in **Table MET 1A-IMP (Aerodrome meteorological offices)**.	✓	✓	✓	✓	✓	✓
5.	**Implementation of non-routine OPMET information**						
a)	The status of implementation of SIGMET information by States in the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region with a meteorological watch office (MWO) is indicated in **Table MET 1B-IMP (Meteorological watch offices)**. The implementation of AIRMET information is not required in the [AFI, ASIA/PAC, CAR/SAM, MID, NAT] Region.	✓	✓	✓		✓	✓
	The status of implementation of SIGMET and AIRMET information by States in the EUR Region with a meteorological watch office (MWO) is indicated in **Table MET 1B-IMP (Meteorological watch offices)**.				✓		

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Air Navigation Plan – Part V (MET) – Tables of requirements

Table MET 1A (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

ALL REGIONS

TABLE MET 1A

State	AOP aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	METAR/SPECI and TAF availability
1	2	3	4	5	6	7	8	9	10	11	12
Algeria	ADRAR/TOUAT-CHEIKH SIDI MOHAMED BELKEBIR	DAUA	RS	ADRAR/TOUAT-CHEIKH SIDI MOHAMED BELKEBIR	DAUA	Y	N	N	N	N	F
…	…	…	…	…	…	…	…	…	…	…	…

Table MET 1B (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

ALL REGIONS EXCEPT EUR

TABLE MET 1B

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
Afghanistan	KABUL ACC/FIC	OAKX	KABUL AD	OAKB	Y	Y	N	
…	…	…	…	…	…	…	…	

EUR REGION

TABLE MET 1B

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
Albania	TIRANA FIR/ACC	LAAA	TIRANA	LATI	Y	Y		N

TABLE MET 1B

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
…	…	…	…	…	…	…		…

Table MET 1C (Offshore structures)

Explanation of the table

Column

1 Name of the State where meteorological service is required

2 Name of the offshore structure 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 offshore structure

4 Latitude of the offshore structure (in the form Nnnnn or Snnnn)

5 Longitude of the offshore structure (in the form Ennnnn or Wnnnnn)

6 Name of the 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.

7 ICAO location indicator of the responsible meteorological office

8 Availability of information on the sea surface temperature as supplementary information in METAR/SPECI from the offshore structure concerned, where:
Y – Yes, available
N – No, not available

9 Availability of information on the state of the sea or significant wave height as supplementary information in METAR/SPECI from the offshore structure concerned, where:
Y – Yes, available
N – No, not available

10 Availability of forecasts from the offshore structure concerned, where:
Y – Yes, available
N – No, not available

EUR REGION ONLY

TABLE MET 1C

State	Offshore structure where meteorological service is to be provided				Responsible meteorological office		Availability of supplementary information in METAR/SPECI		Availability of forecasts
	Name	ICAO Location Indicator	Latitude	Longitude	Name	ICAO Location Indicator	Sea surface temperature	State of the sea or significant wave height	
1	2	3	4	5	6	7	8	9	10
Norway	EKOFISK	ENEK	N5632	E00312	…	…	Y	Y	Y
…	…	…		…	…	…	…	…	…

Table MET 2C (Pilgrimage season)

Explanation of the table

Column

1 Name of the State where meteorological service is to be available

2 Location where meteorological service is to be available
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

4 Name of the 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.

5 ICAO location indicator of the responsible meteorological office

6 Seasonal requirement for TAF for the location concerned, where:
Y – Yes, required
N – No, not required

7 Seasonal requirement for route forecasts for the location concerned, where:
Y – Yes, required
N – No, not required

AFI AND MID REGIONS ONLY

TABLE MET 2C

To be available in State	From or related to		Responsible meteorological office		Information to be provided	
	Name	ICAO Location Indicator	Name	ICAO Location Indicator	TAF	Route Forecast
1	2	3	4	5	6	7
Saudi Arabia	ABIDJAN	DIAP	…	…	Y	Y
…	…	…	…	…	…	…

Table MET 3A (Tropical cyclone advisory centres)

Explanation of the table

Column

1 Name of the State responsible for the provision of a tropical cyclone advisory centre (TCAC)

2 Name of the TCAC
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 TCAC

4 Area of responsibility of the TCAC for the preparation and issuance of tropical cyclones advisory information

5 Period of operation of the TCAC

6 Name of the meteorological watch office (MWO) to which tropical cyclone advisory information is to be sent by the TCAC
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.

7 ICAO location indicator of the MWO

ALL REGIONS EXCEPT EUR

TABLE MET 3A

State	Tropical Cyclone Advisory Centre (TCAC)	ICAO Location Indicator	Area of responsibility of the TCAC	Period of operation of the TCAC	MWO to which tropical cyclone advisory information is to be sent by the TCAC	
					Name	ICAO Location Indicator
1	2	3	4	5	6	7
Australia	Darwin	YPDM	South-East Indian Ocean: N: Equator E: E14100 S: S3600 W: E09000 South-West Pacific Ocean: N: Equator E: E16000 S: S4000 W: E14100	November to April	Adelaide Brisbane …	YPRM YBRF …
…	…	…	…	…	…	…

Table MET 3B (Volcanic ash advisory centres)

Explanation of the table

Column

1 Name of the State responsible for the provision of a volcanic ash advisory centre (VAAC)

2 Name of the VAAC
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 VAAC

4 Area of responsibility of the VAAC for the preparation and issuance of volcanic ash advisory information

5 Name of the State served by the VAAC where meteorological watch offices (MWO) and area control centres/flight information centres (ACC/FIC) are located

6 ICAO Region served by the VAAC where MWOs and ACCs/FICs are located

7 Name of the MWO to which volcanic ash advisory information is to be sent by the VAAC
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.

8 ICAO location indicator of the MWO

9 Name of the ACC/FIC to which volcanic ash advisory information is to be sent by the VAAC
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.

10 ICAO location indicator of the ACC/FIC

ALL REGIONS

TABLE
MET 3B

State	Volcanic Ash Advisory Centre (VAAC)	ICAO Location Indicator	Area of responsibility of the VAAC	Location of MWO and ACC/FIC served by the VAAC		MWO to which volcanic ash advisory information is to be sent by the VAAC		ACC/FIC to which volcanic ash advisory information is to be sent by the VAAC	
				State	ICAO Region	Name	ICAO Location Indicator	Name	ICAO Location Indicator
1	2	3	4	5	6	7	8	9	10
United States	Anchorage	PAWU	Anchorage Oceanic FIR, Anchorage Continental FIR, Anchorage Arctic FIR, and West to E15000, North to N6000	Russian Federation	EUR	Yakutsk Anadyr …	UEEE UHMA …	Yakutsk Anadyr …	UEEE UHMA …
…	…	…	…	…	…	…	…	...	…

Table MET 3C (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

3 Name of the volcanic ash advisory centre (VAAC) to which information related to pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash cloud should be sent by the volcano observatory using the Volcano Observatory Notice for Aviation (VONA)
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.

4 ICAO location indicator of the VAAC

5 Name of the meteorological watch office (MWO) to which information related to pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash cloud should be sent by the volcano observatory using the Volcano Observatory Notice for Aviation (VONA)
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 MWO

7 Name of the area control centre/flight information centre (ACC/FIC)) to which information related to pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash cloud should be sent by the volcano observatory using the Volcano Observatory Notice for Aviation (VONA)
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.

8 ICAO location indicator of the ACC/FIC

ALL REGIONS

TABLE MET 3C

State	Volcano observatory	VAAC to which VONA is to be sent by the State volcano observatory		MWO to which VONA is to be sent by the State volcano observatory		ACC/FIC to which VONA is to be sent by the State volcano observatory	
		Name	ICAO Location Indicator	Name	ICAO Location Indicator	Name	ICAO Location Indicator
1	2	3	4	5	6	7	8
Iceland	Icelandic Meteorological Office	London	EGRR	Reykjavik Airport, NOT, MET	BIRK	Reykjavik ACC	BIRD
…	…	…	…	…	…	…	…

— — — — — — — —

Air Navigation Plan – Part V (MET) – Tables of implementation

Table MET 1A-IMP (Aerodrome meteorological offices)

Explanation of the table

Column

1 Name of the State where meteorological service is required

2 Name of the 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 aerodrome

4 Designation of 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 Status of implementation of METAR/SPECI, where
Y – Yes, implemented
N – No, not implemented

8 Status of implementation of TAF, where
Y – Yes, implemented
N – No, not implemented

ALL REGIONS

TABLE MET 1A-IMP

State	AOP aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Implementation as per Table MET 1A	
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	TAF
1	2	3	4	5	6	7	8
Algeria	ADRAR/TOUAT-CHEIKH SIDI MOHAMED BELKEBIR	DAUA	RS	ADRAR/TOUAT-CHEIKH SIDI MOHAMED BELKEBIR	DAUA	Y	Y
…	…	…	…	…	…	…	…

Table MET 1B-IMP (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 Status of implementation of SIGMET information (excluding for volcanic ash and for tropical cyclones) as per requirement in Table MET 1B, where:
Y – Yes, implemented
N – No, not implemented

7 Status of implementation of SIGMET information for volcanic ash, where:
Y – Yes, implemented
N – No, not implemented

8 Status of implementation of SIGMET information for tropical cyclone, where:
Y – Yes, implemented
N – No, not implemented

9 Status of implementation of AIRMET information, where
Y – Yes, implemented
N – No, not implemented

ALL REGIONS EXCEPT EUR

TABLE MET 1B-IMP

State	FIR or CTA where meteorological service is required		Responsible meteorological watch office		Implementation as per Table MET 1B			
	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
Afghanistan	KABUL ACC/FIC	OAKX	KABUL AD	OAKB	Y	Y	--	
…	…	…	…	…	…	…	…	

EUR REGION

TABLE MET 1B-IMP

State	FIR or CTA where meteorological service is required		Responsible meteorological watch office		Implementation as per Table MET 1B			
	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
Albania	TIRANA FIR/ACC	LAAA	TIRANA	LATI	Y	Y		--

TABLE MET 1B-IMP

State	FIR or CTA where meteorological service is required		Responsible meteorological watch office		Implementation as per Table MET 1B			
	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
…	…	…	…	…	…	…	[redacted]	…
							[redacted]	

Table MET 3A-IMP (Tropical cyclone advisory centres)

Explanation of the table

Column

1 Name of the State responsible for the provision of a tropical cyclone advisory centre (TCAC)

2 Name of the TCAC

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 TCAC

4 Status of implementation of tropical cyclone advisory information, where:

Y – Yes, implemented

N – No, not implemented

5 Status of implementation of tropical cyclone advisory information in graphical format, where:

Y – Yes, implemented

N – No, not implemented

ALL REGIONS EXCEPT EUR

TABLE MET 3A-IMP

State	Tropical Cyclone Advisory Centre (TCAC)	ICAO Location Indicator	Implementation as per Table MET 3A	
			TCA	TCG
1	2	3	4	5
Australia	Darwin	YPDM	Y	N
…	…	…	…	…

Table MET 3B-IMP (Volcanic ash advisory centres)

Explanation of the table

Column

1 Name of the State responsible for the provision of a volcanic ash advisory centre (VAAC)

2 Name of the VAAC

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 VAAC

4 Status of implementation of volcanic ash advisory information, where:

Y – Yes, implemented

N – No, not implemented

5 Status of implementation of volcanic ash advisory information in graphical format, where:

Y – Yes, implemented

N – No, not implemented

ALL REGIONS

TABLE MET 3B-IMP

State	Volcanic Ash Advisory Centre (VAAC)	ICAO Location Indicator	Implementation as per Table MET 3B	
			VAA	VAG
1	2	3	4	5
United States	Anchorage	PAWU	Y	Y
…	…	…	…	…

Table MET 3C-IMP (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

3 Status of implementation of the volcano observatory notice for aviation (VONA), where:

Y – Yes, implemented

N – No, not implemented

ALL REGIONS

TABLE MET 3C-IMP

State	Volcano observatory	Implementation as per Table MET 3C
		VONA
1	**2**	**3**
Iceland	Icelandic Meteorological Office	…
…	…	…

Table MET 3D-IMP ([SADIS/WIFS] [SADIS] [WIFS])

Explanation of the table

Column

1 Name of the State

[2, 3, 4] Status of implementation of [SADIS 2G, Secure SADIS FTP, WIFS], where:

Y – Yes, implemented

N – No, not implemented

AFI REGION

TABLE MET 3D-IMP

State	Implementation	
	SADIS 2G	Secure SADIS FTP
1	2	3
Algeria	Y	N
Angola	Y	N
…	…	…

ASIA/PAC REGION

TABLE MET 3D-IMP

State	Implementation		
	SADIS 2G	Secure SADIS FTP	WIFS
1	2	3	4
Afghanistan	N	N	
Australia	N	Y	Y
…	…	…	…

CAR/SAM REGION

TABLE MET 3D-IMP

State	Implementation
	WIFS
1	2
Antigua and Barbuda	Y
Argentina	Y
…	…

TABLE MET 3D-IMP

State	Implementation	
	SADIS 2G	Secure SADIS FTP
1	2	3
Albania	N	Y
Armenia	Y	N
…	…	…

EUR REGION

MID REGION

TABLE MET 3D-IMP

State	Implementation	
	SADIS 2G	Secure SADIS FTP
1	2	3
Bahrain	Y	Y
Iran (Islamic Republic of)	Y	N
…	…	…

NAT REGION

TABLE MET 3D-IMP

State	Implementation		
	SADIS 2G	Secure SADIS FTP	WIFS
1	2	3	4
Iceland	N	Y	N

— END —

ANP WG/1
Appendix 3G to the Report on Agenda Item 3

(NAME) ANP, VOLUME I

PART VI - SEARCH AND RESCUE (SAR)

1 INTRODUCTION

1.1 This part of the (NAME) Region Air Navigation Plan contains stable plan elements referred to the assignment of responsibilities to States related to the Search and Rescue Services (SAR) requirements to be applied within a specified area in accordance with Article 25 and Article 28 of the Convention on International Civil Aviation (Doc 7300) and mandatory requirements to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan elements material referred to the assignment of responsibilities to States for the implementation of the SAR Services mandatory requirements based on regional air navigation agreements related to the management of Search and Rescue facilities and services are contained in the (NAME) ANP Volume II Part VI SAR.

1.3

Standards, Recommended Practices and Procedures

1.4 Adherence to ICAO Standards and Recommended Practices (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 ICAO SARPS within their State and its national airspace. States should ensure that any differences to SARPS have been assessed in respect of safety and are notified in accordance with ICAO requirements.

1.5 The Standards, Recommended Practices and Procedures to be applied are contained in:

a) Annex 10 – *Aeronautical Communications*;
b) Annex 12 – *Search and Rescue*;
c) *Procedures for Air Navigation Services — Air Traffic Management* (Doc 4444);
d) *Regional Supplementary Procedures* (Doc 7030) - EUR Region; and
e) *International Aeronautical and Maritime Search and Rescue Manual* (Doc 9731-AN/958).

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Comment [EK1]: Vol. III will not contain a SAR Part

Deleted: The (NAME) ANP Volume III contains recommendations that States shall follow in programming the provision individually or in cooperation with other States, arrange, on a 24-hour basis, for the establishment and prompt provision of search and rescue (SAR) services within their territories to ensure that assistance is rendered to aircraft in distress and to survivors of aircraft accidents, irrespective of nationality, status or the circumstances in which they are found. It also requires that those portions of the high seas or areas of undetermined sovereignty for which search and rescue services will be established shall be determined on the basis of regional air navigation agreements.

2 GENERAL REGIONAL REQUIREMENTS

2.1 Each Contracting State shall 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 air traffic services, in accordance with the (NAME) A**NP Volume I Chart SAR-1.**

2.2 ICAO standards require that Contracting States shall, individually or in cooperation with other States, arrange, on a 24-hour basis, for the establishment and prompt provision of search and rescue (SAR) services within their territories to ensure that assistance is rendered to aircraft in distress and to survivors of aircraft accidents, irrespective of nationality, status or the circumstances in which they are found. It also requires that those portions of the high seas or areas of undetermined sovereignty for which search and rescue services will be established shall be determined on the basis of regional air navigation agreements.

2.3 States are encouraged to develop and improve their SAR services, co-operate with neighboring States and to consider their SAR services to be part of a global system. For example, States should conclude agreements regarding co-operation of their SAR services in border areas and, more especially, over the high seas and in inhospitable areas (deserts, mountainous areas) where speediest possible action is essential to the success of SAR operations.

2.4 To ensure compatibility between aeronautical and maritime search and rescue regions (SRRs), aeronautical SAR authorities in States should maintain close liaison with their maritime counterparts and the International Maritime Organization (IMO) and consider the possibility of establishing joint aeronautical/maritime rescue coordination centres or equivalent arrangements. Details of such arrangements and any subsequent changes should be notified to the ICAO Regional Office for incorporation into Table SAR-1 of Vol II.

2.5 In order to provide a more efficient SAR service and to reduce the costs associated with providing SAR facilities, States should consider establishing joint facilities where possible. Planning for search and rescue services should be based to the maximum practicable extent on existing services and facilities, even if these are not provided primarily for search and rescue purposes, in order to obtain a reasonable cost-effectiveness relationship in maintaining these services and facilities in the required state of readiness

2.6 States should take the steps necessary and practicable to ensure the availability of effective aeronautical SAR services by:

a) identifying aeronautical search and rescue authorities in legislation and high-level national SAR plans and committees, and make provisions to support those authorities as necessary;

b) adopting and implementing, to the fullest extent practicable, the guidance material contained in the three-volume IAMSAR Manual (ICAO Doc 9731) for establishing effective domestic and regional services for aeronautical search and rescue;

c) establishing domestic and international SAR agreements where such agreements may improve SAR services and to coordinate efforts among entities that provide or support SAR services;

Comment [MS2]: All the "shall" should be replaced by "should"

Comment [EK3]: Vol I should contain the designation/description of the SRRs and should refer the designation/description of RCCs and RSCs to Vol II.

Comment [EK4]: To be removed; covered in Annex 12 Chap. 2 Para 2.1

Comment [EK5]: To be removed ; Covered in Annex 12 Chap 3

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Comment [MS6]: This needs to be further discussed before an agreement is reached to maintain or not this as a requirement

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d) ensuring that a robust communications network, which takes into account any technologies commonly used by aircraft and RCCs, is in place to receive a voice or data distress alert from aircraft via terrestrial and satellite systems that may commonly be used for that purpose, and to enable acknowledgement of that alert and coordination of the SAR response;

e) ensuring that RCCs know how to obtain data, as appropriate, from the AMVER ship reporting system to identify ships at sea that can provide assistance to aircraft and persons in distress;

f) ensuring that civil aviation authorities arrange with the appropriate national maritime authorities in order to encourage ships to voluntarily participate in the AMVER system, and;

g) ensuring that all RCC personnel have an effective working knowledge of the English language.

2.7 Each State should designate a single SAR Point of Contact (SPOC) to facilitate cooperation with the associated mission control centre (MCC) of the COSPAS/SARSAT system in order to ensure the timely distribution of distress data.

***Note 1**.— A SPOC may be an aeronautical or a maritime Rescue Co-ordination Centre (RCC).*

***Note 2**.— COSPAS = Space System for Search of Vessels in Distress; SARSAT = Search and Rescue Satellite-aided Tracking.*

Comment [MS7]: To be removed; already covered by Annex 12

2.8 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.

2.9 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.

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2.10 States should:

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a) take appropriate action to reduce the number of false alarms on emergency frequencies caused by inadvertent activation of emergency locator transmitters and eliminate unauthorized use of those frequencies;

b) make available information as to how ELT registration information can be obtained rapidly by rescue coordination centres (RCCs) of other States;

c) when considered feasible, make arrangements for joint SAR exercises between their SAR units and those of other States and with operators, at regular intervals and, if possible, at least once a year;

d) invite observers from other interested States and organizations to participate in such exercises; and

e) enable SAR personnel to attend training courses in this field, after provision of adequate information from interested States to ICAO concerning the type of training to be received.

Comment [EK8]: To replace by "Each State should develop and implement comprehensive training programmes and periodic training plans for all SAR personnel, including initial, on-the-job, recurrent and specialized training."

3 SPECIFIC REGIONAL REQUIREMENTS

3.1 TBD (if necessary)

ANP WG/1
Appendix 3H to the Report on Agenda Item 3

XXX ANP, VOLUME I

PART VII - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

1. INTRODUCTION

1.1 This part of the **XXX** Regional Air Navigation Plan, Volume I complements the provisions of ICAO Annexes 4 and 15 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 XXX Region 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 element material that are 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 **XXX** ANP Volume II, Part VII – AIM.

1.3 The **XXX** ANP Volume III contains dynamic (flexible) plan elements related to the implementation of certain air navigation systems, based mainly on the ASBU modules endorsed at regional or sub-regional level aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and help achieve the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed Aviation System Block Upgrades (ASBUs) 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).

1.4 Recommendations that States can follow in programming the provision of their air navigation facilities and services, including AIS/AIM 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 might also be included in Volume III.

Standards, Recommended Practices and Procedures

1.5 The Standards, Recommended Practices and Procedures and related guidance material applicable to the provision of AIS and ultimately AIM are contained in the following ICAO documentation:

a) Annex 4 – Aeronautical Charts;
b) Annex 15 – Aeronautical Information Services;
c) Doc 7030 – Regional Supplementary Procedures;
d) Doc 7383 – Aeronautical Information Services Provided by States;
e) Doc 7910 – Location Indicators;
f) Doc 8126 – Aeronautical Information Services Manual;

g) Doc 8168 – Aircraft Operations– Construction of Visual and Instrument Flight Procedures (PANS-OPS, Volume I and Volume II);
h) Doc 8400 – ICAO Abbreviations and Codes (PANS-ABC);
i) Doc 8697 – Aeronautical Charts Manual;
j) Doc 9377 – Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services;
k) Doc 9674 – World Geodetic System (1984) Manual;
l) Doc 9855 – Guidelines on the Use of the Public Internet for Aeronautical Applications; and
m) Doc 9881– Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information;
n) Doc 9906 (Volume I) – Flight Procedure Design Quality Assurance System;
o) Doc 9839 – "AIM QMS Manual" (Draft);
p) Doc 9991 – "Training Manual for AIM" (Draft).

2. GENERAL REGIONAL REQUIREMENTS

2.1 Each State 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 **Chart AIM-1**.

2.2 Each State is 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 Each State should develop and implement comprehensive training programmes and periodic training plans for all AIS/AIM technical staff, including initial, on-the-job, recurrent and specialized training.

3. SPECIFIC REGIONAL REQUIREMENTS

3.1. TBD (if necessary)

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XXX ANP, VOLUME II

PART VII - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

1. INTRODUCTION

1.1 This part of the **XXX** Regional Air Navigation Plan, Volume II complements the provisions of ICAO Annexes 4 and 15 related to AIS/AIM. 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.

2. GENERAL REGIONAL REQUIREMENTS

2.1. The responsibility for the provision of AIS/AIM facilities and services in the **XXX** Region, is reflected in the **XXX ANP Volume II Table AIM-X,** 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 AIP.

2.3. States should be planning for the transition from AIS to AIM. The national plans for the transition from AIS to AIM should be based on the ICAO Roadmap for the transition from AIS to AIM, and in accordance with associated regional guidance material that may be developed from time to time.

2.4. 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 to the ICAO XXX Regional Office.

2.5. States should take necessary measures to ensure that aeronautical information and data it provides meet the regulatory Aeronautical Data quality requirements.

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

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

2.8. 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.

2.9. Appropriate 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.

2.10. 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 — 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-x**.

3. SPECIFIC REGIONAL REQUIREMENTS

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

Thread: Airport Accessibility (APTA)

Module N° B*0-APTA*: Optimization of Approach Procedures including vertical guidance

Summary	The use of performance-based navigation (PBN) and ground-based augmentation system (GBAS) landing system (GLS[1]) procedures will enhance the reliability and predictability of approaches to runways, thus increasing safety, accessibility and efficiency. This is possible through the application of Basic global navigation satellite system (GNSS), Baro vertical navigation (VNAV), satellite-based augmentation system (SBAS) and GLS. The flexibility inherent in PBN approach design can be exploited to increase runway capacity.	
Main performance impact as per Doc 9883	KPA-01 – Access and Equity, KPA-02 – Capacity, KPA-04 – Efficiency, KPA-05 – Environment; KPA-10 – Safety.	
Operating environment/ Phases of flight	Approach	
Applicability considerations	This module is applicable to all instrument, and precision instrument runway ends, and to a limited extent, non-instrument runway ends.	
Global concept component(s) as per Doc 9883	AUO – Airspace user operations AO – Aerodrome operations	
Global plan initiatives (GPI)	GPI-5: Area navigation (RNAV) and RNP (PBN) GPI-14: Runway operations GPI-20: WGS84	
Main dependencies	Nil	
Global readiness checklist		Status (ready now or estimated date).
	Standards readiness	✓ (B0 - GLS CAT I only)
	Avionics availability	✓
	Ground system availability	✓
	Procedures available	✓
	Operations approvals	✓

Module N° B*0-SURF:* Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)

Summary	Basic A-SMGCS provides surveillance and alerting of movements of both aircraft and vehicles on the aerodrome thus improving runway/aerodrome safety. ADS-B information is used when available (ADS-B APT).	
Main performance impact as per Doc 9883	KPA- 01 – Access and Equity, KPA-02 – Capacity, KPA-04 – Efficiency, KPA-05 – Environment, KPA-10 – Safety.	
Operating environment/ Phases of flight	Aerodrome surface movements (aircraft + vehicles), taxi, push-back, parking	
Applicability considerations	A-SMGCS is applicable to any aerodrome and all classes of aircraft/vehicles. Implementation is to be based on requirements stemming from individual aerodrome operational and cost-benefit assessments. ADS B APT, when applied is an element of A-SMGCS, is designed to be applied at aerodromes with medium traffic complexity, having up to two active runways at a time and the runway width of minimum 45 m.	
Global concept component(s) as per Doc 9854	AO – Aerodrome operations CM – Conflict management	
Global plan initiatives (GPI)	GPI-9: Situational awareness GPI-13: Aerodrome design and management GPI-16: Decision support systems and alerting systems GPI-18: Electronic information services in the global plan initiatives	
Main dependencies	Linkage with B*0-ACDM* and B*0-RSEQ*	
Global readiness checklist		Status (indicate ready with a tick or input date)
	Standards readiness	√
	Avionics availability	√
	Infrastructure availability	√
	Ground automation availability	√
	Procedures available	√
	Operations approvals	√

Module N° B0-*FICE*: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

Summary	To improve coordination between air traffic service units (ATSUs) by using ATS interfacility data communication (AIDC) defined by the ICAO *Manual of Air Traffic Services Data Link Applications* (Doc 9694). The transfer of communication in a data link environment improves the efficiency of this process particularly for oceanic ATSUs.	
Main performance impact as per Doc 9883	KPA-02 – Capacity, KPA-04 – Efficiency**,** KPA-07 – Global Interoperability, KPA-10 – Safety.	
Operating environment/ Phases of flight	All flight phases and all type of ATS units.	
Applicability considerations	Applicable to at least two area control centres (ACCs) dealing with en-route and/or terminal control area (TMA) airspace. A greater number of consecutive participating ACCs will increase the benefits.	
Global concept component(s) as per Doc 9854	CM – conflict management	
Global plan initiatives (GPI)	GPI-16: Decision support systems	
Main dependencies	Linkage with B*0-TBO*	
Global readiness checklist		Status (ready now or estimated date)
	Standards readiness	√
	Avionics availability	No requirement
	Ground systems availability	√
	Procedures available	√
	Operations approvals	√

Module N° B*0-DATM*: Service Improvement through Digital Aeronautical Information Management

Summary	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.	
Main performance impact as per Doc 9883	KPA-03 – Cost-effectiveness, KPA-05 – Environment, KPA-07 – Global interoperability, KPA-10 – Safety.	
Operating environment/ Phases of flight	All phases of flight	
Applicability considerations	Applicable at State level, with increased benefits as more States participate	
Global concept component(s) as per Doc 9854	IM – information management	
Global plan initiatives (GPI)	GPI-18: Electronic information services	
Main dependencies	NIL	
Global readiness checklist		Status (ready now or estimated date)
	Standards readiness	✓
	Avionics availability	✓
	Ground systems availability	✓
	Procedures available	✓
	Operations approvals	✓

Module N° B*0-AMET*: Meteorological information supporting enhanced operational efficiency and safety

<table>
<tr><td>Summary</td><td colspan="2">Global, regional and local meteorological information:

a) forecasts provided by world area forecast centres (WAFC), volcanic ash advisory centres (VAAC) and tropical cyclone advisory centres (TCAC);
b) aerodrome warnings to give concise information of meteorological conditions that could adversely affect all aircraft at an aerodrome including wind shear; and
c) SIGMETs to provide information on occurrence or expected occurrence of specific en-route weather phenomena which may affect the safety of aircraft operations and other operational meteorological (OPMET) information, including METAR/SPECI and TAF, to provide routine and special observations and forecasts of meteorological conditions occurring or expected to occur at the aerodrome.

This information supports flexible airspace management, improved situational awareness and collaborative decision making, and dynamically-optimized flight trajectory planning.

This module includes elements which should be viewed as a subset of all available meteorological information that can be used to support enhanced operational efficiency and safety.</td></tr>
<tr><td>Main performance impact as per Doc 9883</td><td colspan="2">KPA-02 – Capacity, KPA-03 – Cost-effectiveness, KPA-04 – Efficiency, KPA-05 – Environment, KPA-06 – Flexibility, KPA-07 – Global interoperability, KPA-08 – Participation by the ATM community, KPA-09 – Predictability, KPA-10 – Safety.</td></tr>
<tr><td>Operating environment/ Phases of flight</td><td colspan="2">All phases of flight.</td></tr>
<tr><td>Applicability considerations</td><td colspan="2">Applicable to traffic flow planning, and to all aircraft operations in all domains and flight phases, regardless of level of aircraft equipage.</td></tr>
<tr><td>Global concept component(s) as per Doc 9854</td><td colspan="2">AOM – airspace operations and management
DCB – demand and capacity balancing
AO – aerodrome operations</td></tr>
<tr><td>Global plan initiatives (GPI)</td><td colspan="2">GPI-19: Meteorological systems
GPI-6: Air traffic flow management
GPI-16: Decision support systems and alerting systems</td></tr>
<tr><td>Main dependencies</td><td colspan="2">None. Meteorological information and supporting distribution systems are in existence today.</td></tr>
<tr><td rowspan="6">Global readiness checklist</td><td></td><td>Status (ready now or estimated date).</td></tr>
<tr><td>Standards readiness</td><td>√</td></tr>
<tr><td>Avionics availability</td><td>√</td></tr>
<tr><td>Ground system availability</td><td>√</td></tr>
<tr><td>Procedures available</td><td>√</td></tr>
<tr><td>Operations approvals</td><td>√</td></tr>
</table>

Module N° B0-*FRTO*: Improved Operations through Enhanced En-Route Trajectories

Summary	To allow the use of airspace which would otherwise be segregated (i.e. special use airspace) along with flexible routing adjusted for specific traffic patterns. This will allow greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight length and fuel burn.	
Main performance impact as per Doc 9883	KPA-01 – Access & Equity, KPA-02 – Capacity, KPA-04 – Efficiency, KPA-05 – Environment, KPA-06 – Flexibility, KPA-09 – Predictability.	
Operating environment/ Phases of flight	En-route, TMA	
Applicability considerations	Applicable to en-route and terminal airspace. Benefits can start locally. The larger the size of the concerned airspace the greater the benefits, in particular for flex track aspects. Benefits accrue to individual flights and flows. Application will naturally span over a long period as traffic develops. Its features can be introduced starting with the simplest ones.	
Global concept component(s) as per Doc 9854	AOM – airspace organization and management AUO – airspace users operations DCB – demand and capacity balancing	
Global plan initiatives (GPI)	GPI-1: Flexible use of airspace GPI-4: Align upper airspace classifications GPI-7: Dynamic and flexible airspace route management GPI-8: Collaborative airspace design and management	
Main dependencies	NIL	
Global readiness checklist		Status (ready now or estimated date)
	Standards readiness	✓
	Avionics availability	✓
	Ground systems availability	✓
	Procedures available	✓
	Operations approvals	✓

Thread: Continuous Descent Operations (CDO)

Module N° B*0-CDO*: Improved Flexibility and Efficiency in Descent Profiles (CDO)

Summary	To use performance-based airspace and arrival procedures allowing aircraft to fly their optimum profile using continuous descent operations (CDOs). This will optimize throughput, allow fuel efficient descent profiles and increase capacity in terminal areas.	
Main performance impact as per Doc 9883	KPA-04 – Efficiency, KPA-05 – Environment, KPA-09 – Predictability, KPA-10 – Safety.	
Operating environment/ Phases of flight	Approach/arrivals and en-route.	
Applicability considerations	Regions, States or individual locations most in need of these improvements. For simplicity and implementation success, complexity can be divided into three tiers: a) least complex – regional/States/locations with some foundational PBN operational experience that could capitalize on near term enhancements, which include integrating procedures and optimizing performance; b) more complex – regional/States/locations that may or may not possess PBN experience, but would benefit from introducing new or enhanced procedures. However, many of these locations may have environmental and operational challenges that will add to the complexities of procedure development and implementation; and c) most complex – regional/States/locations in this tier will be the most challenging and complex to introduce integrated and optimized PBN operations. Traffic volume and airspace constraints are added complexities that must be confronted. Operational changes to these areas can have a profound effect on the entire State, region or location.	
Global concept component(s) as per Doc 9854	AOM – airspace organization and management AO – aerodrome operations TS – traffic synchronization, AOM	
Global plan initiatives (GPI)	GPI-10: Terminal area design and management GPI-11: RNP and RNAV standard instrument departures (SIDS) and standard terminal arrivals (STARS)	
Main dependencies	Nil	
Global readiness checklist		Status (ready now or estimated date).
	Standards readiness	√
	Avionics availability	√
	Ground system availability	√
	Procedures available	√
	Operations approvals	√

Module N° B*0-CCO*: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

Summary	To implement continuous climb operations in conjunction with performance-based navigation (PBN) to provide opportunities to optimize throughput, improve flexibility, enable fuel-efficient climb profiles and increase capacity at congested terminal areas.	
Main performance impact as per Doc 9883	KPA-04 – Efficiency, KPA-05 – Environment, KPA-10 - Safety	
Operating environment/ Phases of flight	Departure and en-route	
Applicability considerations	Regions, States or individual locations most in need of these improvements. For simplicity and implementation success, complexity can be divided into three tiers: a) least complex: regional/States/locations with some foundational PBN operational experience that could capitalize on near-term enhancements, which include integrating procedures and optimizing performance; b) more complex: regional/States/locations that may or may not possess PBN experience, but would benefit from introducing new or enhanced procedures. However, many of these locations may have environmental and operational challenges that will add to the complexities of procedure development and implementation; and c) most complex: regional/States/locations in this tier will be the most challenging and complex to introduce integrated and optimized PBN operations. Traffic volume and airspace constraints are added complexities that must be confronted. Operational changes to these areas can have a profound effect on the entire State, region or location.	
Global concept component(s) s per Doc 9854	AUO – airspace user operations TS – traffic synchronization AOM – airspace organization and management	
Global plan initiatives (GPI)	GPI 5: Area navigation/required navigation performance (RNAV/RNP) (performance-based navigation) GPI-10: Terminal area design and management GPI-11: RNP and RNAV standard instrument departures (SIDS) and standard instrument arrivals (STARS)	
Main dependencies	Linkage with B*0-CCO*	
		Status (ready now or estimated date).
Global readiness checklist	Standards readiness	√
	Avionics availability	√
	Infrastructure availability	√
	Ground automation availability	√
	Procedures available	√
	Operations approvals	√

Appendix C- Reference Table of the new and old ASBU Modules

Example: previous Module B0-65 has now become: Module B*0-APTA*

Old ASBU Modules Numbering System	**New ASBU Modules Identifiers**	
65	*APTA*	*Airport Accessibility*
70	*WAKE*	*Wake Turbulence Separation*
15	*RSEQ*	*Runway Sequencing*
75	*SURF*	*Surface Operations*
80	*ACDM*	*Airport Collaborative Decision Making*
81	*RATS*	*Remote Air Traffic Services*
25	*FICE*	*FF/ICE*
30	*DAIM*	*Digital Aeronautical Management*
31	*SWIM*	*System Wide Information Management*
105	*AMET*	*Advanced Meteorological Information*
10	*FRTO*	*Free Route Operations*
35	*NOPS*	*Network Operations*
84	*ASUR*	*Alternative Surveillance*
85	*ASEP*	*Airborne Separation*
86	*OPFL*	*Optimum Flight Levels*
101	*ACAS*	*Airborne Collision Avoidance Systems*
102	*SNET*	*Ground-Based Safety Nets*
05	*CDO*	*Continuous Descent Operations*
40	*TBO*	*Trajectory-Based Operations*
20	*CCO*	*Continuous Climb Operations*
90	*RPAS*	*Remotely Piloted Aircraft Systems*

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ANP WG/1
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MONITORING OF THE AVIATION SYSTEM BLOCK UPGRADES (ASBUS) IMPLEMENTATION IN THE MID REGION

B0 – APTA: Optimization of Approach Procedures including vertical guidance				
Applicability: Aerodromes (TBD)				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**
LNAV approaches				
LNAV/VNAV approaches				
Precision approaches				

B0 – SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)				
Applicability: Aerodromes (TBD)				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**

B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration				
Applicability: States/ACCs (TBD)				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**
AIDC/OLDI				

B0 – DATM: Service Improvement through Digital Aeronautical Information Management				
Applicability: States				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**
1- AIXM based AIS database				
2- eAIP				
3- WGS-84				
4-eTOD				
5- Aeronautical data quality				

B0 – MET: Meteorological information supporting enhanced operational efficiency and safety				
Applicability: States				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**

B0 – FRTO: Improved Operations through Enhanced En-Route Trajectories				
Applicability: States				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**
Airspace under full control of Civil Authority				
Airspace under full control of				

Military Authority				
Jointly used Airspace (Civil/Military)				

B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)				
Applicability: Aerodromes				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**
International aerodromes/TMAs with CDO				

B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)				
Applicability: Aerodromes				
Metrics	**Key Performance Indicators (KPIs)**	**Targets**	**Action Plan**	**Remarks**
International aerodromes/TMAs with CCO				

REPORT ON AGENDA ITEM 4: FUTURE WORK PROGRAMME

4.1 The meeting recalled that the approval of the final version of the three Volumes of the ANP is expected to be made at the eANP WG/2 meeting (Montreal, 18-22 November 2013).

4.2 Taking into consideration that MIDANPIRG/14 is scheduled to be held in Jeddah, Saudi Arabia, 15-19 December 2013, the meeting agreed that the need for a second meeting of the ANP Ad-hoc Working Group would be decided by MIDANPIRG/14 taking into account the outcome of the Secretariat eANP WG/2 meeting.

REPORT ON AGENDA ITEM 5: ANY OTHER BUSINESS

5.1 Nothing has been discussed under this Agenda Item.

ANP WG/1
Attachment A to the Report

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