



International Civil Aviation Organization

AIR NAVIGATION SYSTEMS IMPLEMENTATION GROUP

Second Meeting (ANSIG/2)
(Cairo, Egypt, 6 – 8 December 2016)

Agenda Item 4.2.2: Specific Air Navigation Issues

AIM ISSUES

(Presented by the Secretariat)

SUMMARY

This paper presents update on the AIS/AIM matters at the Regional and Global levels.

Action by the meeting is at paragraph 3.

REFERENCES

- AIM SG/2 Report
- MIDANPIRG/15 Report
- MSG/5 Report

1. INTRODUCTION

- 1.1 The MIDANPIRG/15 meeting was held in Bahrain from 8 to 11 June 2015.
- 1.2 The AIM SG/2 meeting was held in Kish Island, Iran from 31 August to 2 September 2015.
- 1.3 The MSG/5 meeting was held in Cairo, Egypt from 18 to 20 April 2016.

2. DISCUSSION

Guidance for AIM Planning and Implementation in the MID Region

2.1 The meeting may wish to note that, in order to support AIM Planning and Implementation in the MID Region, the ICAO MID Office developed a draft Guidance Material on the AIM Implementation: “*Guidance for AIM Planning and implementation in the MID Region*”. The Document explains concept and operational elements of AIM; outlines the Regional and National AIM planning (Roadmaps); and provides guidance and tools for their implementation at the Regional and National levels.

2.2 The meeting may wish to note that the MSG/5 meeting urged States to review the draft “Guidance for AIM Planning and implementation in the MID Region” at **Appendix A**, and provide the ICAO MID Regional Office with their comments/inputs, including their needs/expectations and

best practices/success stories, before 15 September 2016, for the development of the final version to be presented to MIDANPIRG/16 for endorsement.

2.3 Based on the above, the following Draft Conclusion is proposed:

DRAFT CONCLUSION 2/XX: GUIDANCE FOR AIM PLANNING AND IMPLEMENTATION IN THE MID REGION

That, the Guidance for AIM Planning and Implementation in the MID Region is endorsed as MID Doc 008.

AIRAC adherence monitoring

2.4 The meeting may wish to note that IATA raised concerns related to the repetitive occurrence of late publication of aeronautical information of operational significance and the non-adherence with the AIRAC provisions in the MID Region. Accordingly, the AIM SG/2 meeting agreed on the need for continuous monitoring of AIRAC adherence. In this respect, it was highlighted that the AIRAC adherence monitoring system should be part of the Quality Management System. In addition, the meeting underlined the need for the users/IATA to report to concerned State(s) and the ICAO MID Regional Office any case of non-adherence to the AIRAC provisions.

2.5 In this connection, the ICAO MID Regional Office issued State Letter Ref.: ME 3/2.5 – 15/332 dated 6 December 2015 urging States to report their status of the AIRAC adherence, using the AIRAC Adherence Monitoring Questionnaire at **Appendix B**. Nine (9) States (Bahrain, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan and UAE) reported on their AIRAC adherence system. Only one State reported a case of non-adherence to AIRAC with regard to the publication of the AIRAC AIP Supplement related to Hajj Flight Operations 2015, cause of which was reported late receipt of the raw data from the originator.

2.6 The meeting may wish to recall that MIDANPIRG/15, though Conclusion 15/17, urged States to take necessary measures for the signature of formal arrangements between AIS/AIM and the data originators, commensurate with the Aerodrome operators, Air Navigation Service Providers (ANSPs) and the Military Authority. In this respect, the meeting highlighted the need for AIS/AIM to raise the awareness of the Data Originators regarding the AIRAC provisions; and include necessary procedures related to AIRAC adherence in the arrangement with the Data Originators.

2.7 Based on the above, the following Draft Conclusion, emanated from the AIM SG/2 Draft Conclusion 2/2 is proposed:

DRAFT CONCLUSION 2/XX: AIRAC ADHERENCE MONITORING

That:

- a) *States be urged to:*
 - i. *implement a system for AIRAC adherence monitoring; and*
 - ii. *report on annual basis (by 31 December) to the ICAO MID Regional Office the case(s) of late publication of aeronautical information of operational significance and non-adherence to the AIRAC provisions, using the AIRAC Adherence Monitoring Questionnaire at Appendix B.*
- b) *IATA report to the concerned State(s) and the ICAO MID Regional Office any case of late publication of aeronautical information of operational significance and non-adherence to the AIRAC provisions.*

Amendment 39 to Annex 15

2.8 The meeting may wish to note that the adoption of Amendment 39 to Annex 15 was issued on 1 April 2016 (Ref.: AN 2/2.4-16/18) with the effective date of 11 July 2016. The Amendment, at **Appendix C**, is published into two parts:

- a) Amendment 39 A (Applicability date 10 November 2016):
 - recommendations of the third meeting of the Aerodrome Panel (AP/3) relating to the publication of information on runway end safety area (RESA) and arresting system in the aeronautical information publication (AIP);
 - recommendations of the twelfth meeting of the Instrument Flight Procedures Panel (IFPP/12) relating to en-route airway directional use restrictions; and
 - recommendations of the second meeting of the Operational Data Link Panel (OPLINKP/2) relating to performance-based communication and surveillance (PBCS) and satellite voice communications (SATVOICE).
- b) Amendment 39 B (Applicability date 5 November 2020):
 - recommendations of the Friction Task Force of the Aerodrome Design and Operations Panel (ADOP) relating to the use of a global reporting format for assessing and reporting runway surface conditions; and

2.9 It should be noted that the time between the effective date and the applicability date of the Amendment 39 B is longer than usual due to the nature and complexity of the proposal. The Amendment (item 4 – Implementation Assistance Tasks, page E-4) proposes that training/awareness programs be initiated on the preparation for implementing the use of a global reporting format for assessing and reporting runway surface conditions, including the new SNOWTAM format.

Amendment 59 to Annex 4

2.10 The meeting may wish to note the adoption of Amendment 59 to Annex 4 at **Appendix D**, which was issued on 11 April 2016 (Ref.: AN 9/1.3-16/38) with the effective date of 11 July 2016 and applicability date of 10 November 2016, arising from the second meeting of the Operational Data Link Panel (OPLINKP/2); and the twelfth meeting of the Instrument Flight Procedures Panel (IFPP/12) concerning satellite voice communications (SATVOICE); visual segment surface (VSS) penetrations charting requirements; and update of the provisions relating to publication depiction and functionality requirements of fly-by and fly-over significant points, area minimum altitude (AMA), CAT H procedures and en-route airway directional use restrictions.

Interregional Seminar on “Service improvement through integration of digital AIM, MET and ATM Information”

2.11 The meeting may wish to recall that the Fourth Inter-Regional Coordination meeting between APAC, EUR/NAT and MID (IRCM/4) which was held in Bangkok, Thailand from 14 to 16 September 2015, agreed that an Interregional Seminar be held jointly between the APAC, EUR/NAT and MID Regions on “*Service Improvement through Integration of Digital AIM, MET and ATM Information*” in 2017. The objective of the Seminar will be to monitor implementation status of the ASBU Block 0 Modules of the PIA 2 (i.e. B0-DATM, B0-AMET and B0-FICE) and associated challenges/lessons learned and to focus on the pre-requisites for an efficient and timely planning for the implementation of the Block 1 Modules related to SWIM (B1-DATM, B1-AMET, B1-SWIM and B1-FICE).

2.12 The meeting may wish to note that the MSG/5 meeting encouraged States to participate in the Seminar and agreed on the following MSG Conclusion:

MSG CONCLUSION 5/11: INTERREGIONAL SEMINAR ON “SERVICE IMPROVEMENT THROUGH INTEGRATION OF DIGITAL AIM, MET AND ATM INFORMATION”

That,

- a) ICAO organize an Interregional Seminar on “Service improvement through integration of digital AIM, MET and ATM Information” in 2017; and*
- b) States be encouraged to attend and support the Seminar.*

2.13 The meeting may wish to note that the Seminar is planned to be held in EUROCONTROL, Brussels, Belgium from 2 to 5 October 2017.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information provided;
- b) endorse, as appropriate, the proposed Draft Conclusions;
- c) review the draft “*Guidance for AIM Planning and implementation in the MID Region*” at **Appendix A**;
- d) discuss on the implementation of Amendment 39B to Annex 15; and
- e) invite States, Organizations and Industry to support, participate in and share their experience with the Interregional Seminar on “Service Improvement through Integration of Digital AIM, MET and ATM Information Services” (Brussels, Belgium, 2-5 October 2017).



ANSIG/2-WP/11
APPENDIX A

MID Doc 00x

INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

GUIDANCE FOR AIM PLANNING AND IMPLEMENTATION
IN THE MID REGION

EDITION FEBRUARY, 2017

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontier or boundaries.

RECORD OF AMENDMENTS

Edition Number	Edition Date	Description	Pages Affected
0.1	1 September 2015	Initial draft version	All
0.2	7 October 2015	Inputs incorporated by AIM SG/2	All
0.3	April 2016	Change in Doc title; improving order and content of chapters; States comments considered; Reviewed by MSG/5	All
0.4	November 2016	Review by ANSIG/2	All

TABLE OF CONTENTS

FOREWARD	6
Abbreviations and Acronyms	7
CHAPTER 1 – ICAO AIM Concept.....	9
Introduction.....	9
Transition from AIS to AIM	9
ICAO Roadmap for the transition from AIS to AIM.....	9
AIS-AIM Study Group	11
Information Management Panel (IMP).....	11
CHAPTER 2 –Regional AIM Planning.....	13
MID Region AIM Implementation Roadmap	13
CHAPTER 3 – ASBU Methodology and the MID Region Air Navigation Strategy (AIM/SWIM related ASBU Modules).....	15
ASBU Methodology	15
MID Region Air Navigation Strategy	15
Block 0 AIM related Module	15
B0-DATM Implementation.....	15
<i>Aeronautical Information Exchange Model (AIXM)</i>	18
<i>electronic AIP (eAIP)</i>	18
<i>Quality Management System (QMS)</i>	19
<i>World Geodetic System-1984 (WGS-84)</i>	20
<i>electronic Terrain and Obstacle Dataset (eTOD)</i>	20
AIM/SWIM related Modules	21
CHAPTER 4 – AIM National Planning and Implementation.....	23
National Planning.....	23
Implementation of a system for AIRAC adherence monitoring	23
Air Navigation Deficiencies.....	24

Human Resource and Training	25
CHAPTER 5 –Reporting and Monitoring	26
MID eANP VOL III.....	26
Regional Performance Dashboard	26
Methodology for assessing and reporting the progress of transition from AIS to AIM	26
APPENDICES	31
Appendix A – National AIM Implementation Roadmap Template.....	32
Appendix B – AIRAC Adherence Monitoring	34
Appendix C – Sample State’s Corrective Action Plan.....	35
References.....	36

DRAFT

FOREWARD

The “Guidance for AIM Planning and Implementation in the MID Region” has been developed in 2015-16 to harmonize Transition from AIS to AIM in the MID Region and to addresses Global and Regional issues related to planning and implementation of Aeronautical Information Management. This Regional AIM Plan explains concept and operational elements of AIM; outlines the Regional and National AIM Roadmaps; and provides guidance and tools for their implementation at the Regional and National levels.

This Document consolidates updates and supersedes all previous guidance materials on the AIM implementation in the MID Region (National AIM Roadmap Template, Regional AIM Roadmap, etc.). The “Guidance for AIM Planning and Implementation in the MID Region” will be reviewed and updated, whenever deemed necessary, by the AIM Sub-Group.

First edition of the Document, consolidated by the ICAO MID Regional Office, was endorsed by **MIDAPIRG/16 (Kuwait, 13-16 February 2017)**.

The Document was prepared in accordance with ICAO provisions related to AIM, the Global Air Navigation Plan, Aviation System Block Upgrades (ASBU) methodology, MID Region Air Navigation Plan and the MID Region Air Navigation Strategy, in addition to the twelfth Air Navigation Conference (AN-Conf/12) Recommendation 3/8 related to AIM. States are invited to take necessary measures to implement provisions of this document and notify their experiences and practices related to transition from AIS to AIM.

Abbreviations and Acronyms

The abbreviations and acronyms used in this document along with their expansions are given in the following List:

AI	Aeronautical Information
AICM	Aeronautical Information Conceptual Model
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIS	Aeronautical Information Services
AIS-AIM SG	AIS to AIM Study Group
AIM	Aeronautical Information Management
AIM SG	Aeronautical Information Management Sub-Group
AIXM	Aeronautical Information Exchange Model
AN-Conf/11	Eleventh Air Navigation Conference
AN-Conf/12	Twelfth Air Navigation Conference
ANP	Air Navigation Plan
ANSP	Air Navigations Services Provider
ASBU	Aviation System Block Upgrade
ATM	Air Traffic management
eAIP	electronic Aeronautical Information Publication
eANP	electronic Air Navigation Plan
eTOD	electronic Terrain and Obstacle Data
GANP	Global Air Navigation Plan
GANR	Global Air Navigation Report
GIS	Geographic Information System
GML	Geography Markup Language
IM	Information Management
IMP	Information Management Panel
ISO	International Organization for Standardization
MET	Meteorology
MIDAD	MID Region AIM Database
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group

MIL	Military
MSG	MIDANPIRG Steering Group
PBN	Performance-Based Navigation
QMS	Quality Management System
RWY	Runway
SARPs	Standards and Recommended Practices
SMART	Specific, Measurable, Achievable, Relevant and Timely
SWIM	System Wide Information Management
TORs	Terms of Reference
UML	Unified Modeling Language
WGS-84	World Geodetic System-1984
XML	Extensible Markup Language

CHAPTER 1

ICAO AIM CONCEPT

INTRODUCTION

1.1 The Eleventh Air Navigation Conference (AN-Conf/11) held in Montréal, 22 September to 3 October 2003, endorsed the Global ATM Operational Concept (Doc 9854) and recognized that, in the global air traffic management (ATM) system environment envisioned by the operational concept, aeronautical information service (AIS) would become one of the most valuable and important enabling services. As the global ATM system foreseen in the operational concept was based on a collaborative decision-making environment, the timely availability of high-quality and reliable electronic aeronautical, meteorological, airspace and flow management information would be necessary. Some recommendations of AN-Conf/11 addressed the importance of aeronautical information in particular.

1.2 Aeronautical Information Management (AIM) during its evolution has been defined as the provision of the right Aeronautical Information (quality assured), at the right place (digital), at the right time (timeliness). ICAO Annex 15 defines AIM as the dynamic, integrated management of aeronautical information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

1.3 The Twelfth Air Navigation Conference (AN-Conf/12) held in Montréal, 19 to 30 November 2012, through Recommendation 3/8, supported and pushed:

- Transition from AIS to AIM by implementing a fully automated digital aeronautical data chain;
- Implementing necessary processes to ensure the quality of aeronautical data; and
- Engage in intraregional and interregional cooperation for an expeditious transition from AIS to AIM in a harmonized manner and to using digital data exchange and consider regional or subregional AIS databases as an enabler for the transition from AIS to AIM information from the origin to the end users

TRANSITION FROM AIS TO AIM

ICAO Roadmap for the transition from AIS to AIM

1.4 The aeronautical information/data based on paper and telex-based text messages can not satisfy anymore the requirements of the ATM integrated and interoperable system. AIS is required to evolve from the paper product-centric service to the data-centric aeronautical information management (AIM) with a different method of information provision and management.

1.5 ICAO published in 2009 the “*Roadmap for the transition from AIS to AIM*”. The changes foreseen are such that this development is being referred to as the transition from aeronautical information services (AIS) to aeronautical information management (AIM). It identifies the major milestones recommended for a uniform evolution across all regions of the world and specific steps that need to be achieved for implementation.

1.6 The Roadmap envisaged the transition into three phases and twenty one steps. Three phases of action are envisaged for States and ICAO to complete the transition to AIM:

– *Phase 1 — Consolidation*

Phase 1 is the pre-requisite for the transition from AIS to AIM (implementation of the current SARPs). In Phase 1, QMS implementation is still a challenge for some States.

– *Phase 2 — Going digital*

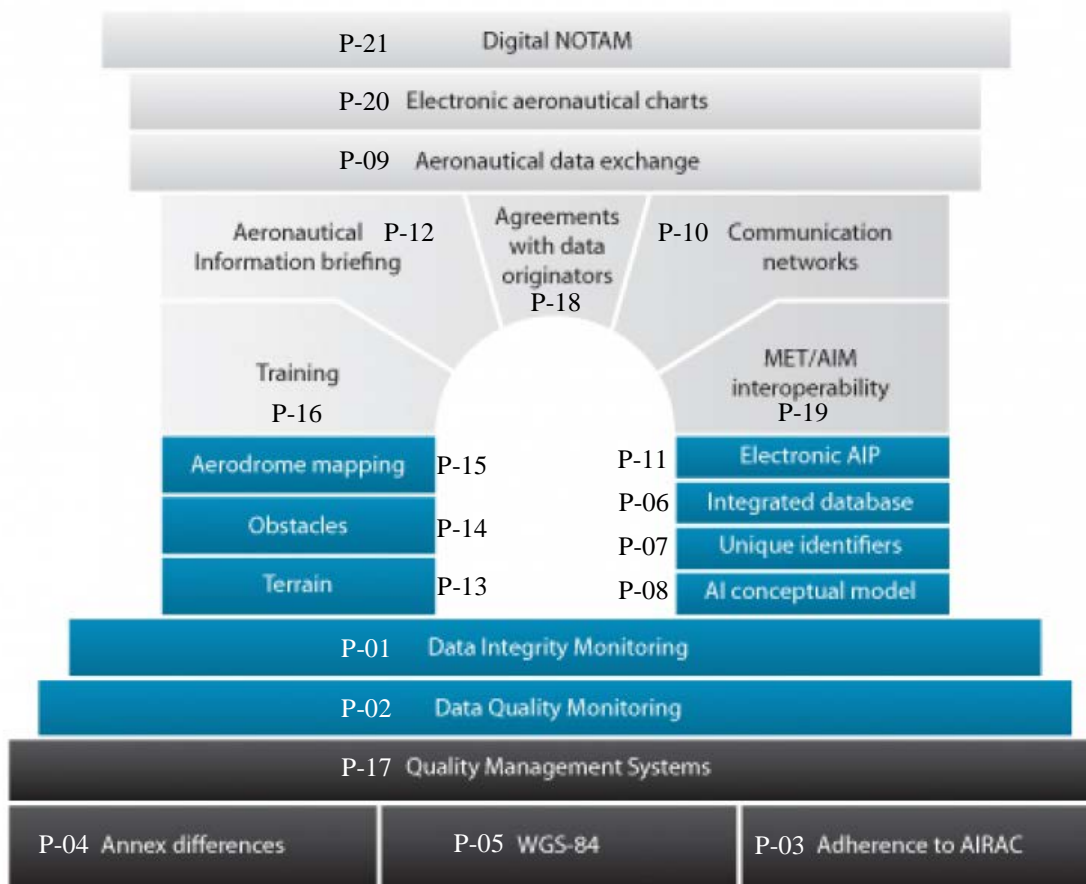
Main components of the Phase 2 are:

- Data-driven processes for the production of the current products;
- Introduction of structured digital data from databases into AIS/AIM processes;
- Introduction of highly structured databases and tools such as GIS;
- Electronic Terrain and Obstacle Datasets; and
- Implementation of aeronautical information conceptual model (AICM).

– *Phase 3 — Information management*

Main components of the Phase 3 are:

- Enabling AIM functions to address the new requirements of the Global ATM Operational Concept in a net-centric information environment;
- Transfer of information in the form of digital data based on the established databases; and
- Aeronautical data exchange model ensuring interoperability between all systems.



Positioning of the 21 steps of the roadmap in the three phases

AIS-AIM Study Group

1.7 The Air Navigation Commission in 2008 agreed to the establishment of AIS-AIM SG in order to assist with the development of:

- A global strategy/roadmap for the transition from AIS to AIM;
- SARPs and guidance material related to the provision of a standard AICM and standard AIXM to enable the global exchange of data in digital format; and
- Other SARPs, guidance material and training material necessary to support AIM implementation.

1.8 Some achievements of the AIS-AIM Study Group are:

- ICAO Roadmap for transition from AIS to AIM;
- Amendments to Annex 15:
 - Amendment 36: New provisions related to the operational use of the public Internet; volcanic ash deposition; QMS; use of automation enabling digital data exchange; eAIP; NOTAM Format; and eTOD.
 - Amendment 37: Annex 15 restructuring; Chapter 1 (General), Chapter 2 (Responsibilities and functions) and Chapter 3 (Aeronautical Information Management) introduced in Nov 2014;
 - Amendment XX: Chapters 4 (Scope of AI and data), Chapter 5 (AI Products and services) and Chapter 6 (AI updates) instead of current Chapters 4-11 (in progress).
- Development of Aeronautical Data Catalogue (in progress)
- Development of PANS AIM (in progress)
- Development of Training Manual, Quality Manual, update of AIS Manual (Doc 8126) (in progress)

1.9 AIS-AIMSG/12 was the last AIS-AIMSG held in Montreal, Canada from 19 to 23 October 2015. Materials related to the AIS-AIM SG including the meetings' Study Notes, Information Papers and Summary of Discussions are available on the ICAO AIM website at:

<http://www.icao.int/safety/ais-aimsg/Pages/default.aspx>

Information Management Panel (IMP)

1.10 The Air Navigation Commission in 2014 agreed to the establishment of the Information Management Panel (IMP) to elaborate on necessary concepts and develop a global and interoperable approach to ensure effective management of information within the global air navigation system. The IMP will undertake tasks relating to the global transition from AIS to AIM, based upon Recommendations 3/1, 3/2, 3/3 and 3/9 of the Twelfth Air Navigation Conference in 2012 (AN-Conf/12).

1.11 Four (4) Working Groups were established to undertake tasks of the Panel:

- Information Services and NOTAM
- Information Architecture & Management

- SWIM Awareness & Communication
- SWIM Governance

1.12 Materials related to the IMP including the meetings' Working/Information Papers and Reports are available on the ICAO AIM website at:

<http://www.icao.int/airnavigation/IMP/Pages/default.aspx>

DRAFT

CHAPTER 2**REGIONAL AIM PLANNING*****MID REGION AIM IMPLEMENTATION ROADMAP***

2.2 Having Phase I of the transition from AIS to AIM mostly completed in the MID Region, the current focus should be the implementation of phase II of the Roadmap for the transition from AIS to AIM to prepare further transition to Phase III in a timely manner. Accordingly, States should take into consideration the “MID Region AIM Implementation Roadmap” in planning for the transition from AIS to AIM in a prioritized manner.

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MID REGION AIM IMPLEMENTATION ROADMAP

	2014				2015				2016				2017				2018				Priority	Remarks
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
AIXM	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Green	Green	Green	Green	1	The target is to have 60% by 2015, 80% by 2017 and 100% by 2019
eAIP	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	1	The target is to have 60% by 2016, 70% by 2018 and 100% by 2020
Terrain A-1	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	2	The target is to have 50% by 2015, 70% by 2018
Obstacle A-1	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	2	The target is to have 40% by 2015, 60% by 2018
Terrain A-4	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	2	The target is to have 50% by 2015, 100% by 2018
Obstacle A-4	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	2	The target is to have 50% by 2015, 100% by 2018
Terrain A-2a	White	White	White	White	White	White	White	White	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange	Orange	3	The target is to have 30% by 2017, 50% by 2018
Obstacle A-2a	White	White	White	White	White	White	White	White	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange	Orange	3	The target is to have 30% by 2017, 50% by 2018
Data Quality Monitoring	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	3	Target for 2018: To be implemented by 50% of the States that have implemented QMS at least for the segment originator-AIS (excluding the segment AIS-End user)
Data Integrity Monitoring	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	3	
Agreement with data originators	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	3	Target for 2018: 50% of the States that have implemented QMS
Terrain and Obstacle for Areas 2b, 2c, 2d and 3	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	4	Optional based on the States’ decision to be reflected in the States’ national Regulations and AIM National Plans, in accordance with operational needs
Aerodrome Mapping	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	White	4	Optional based on the States’ decision to be reflected in the States’ national Regulations and AIM National Plans, in accordance with operational needs

White: Not started **Yellow:** Initial Target **Orange:** Intermediate Target **Green:** Target for full implementation

CHAPTER 3

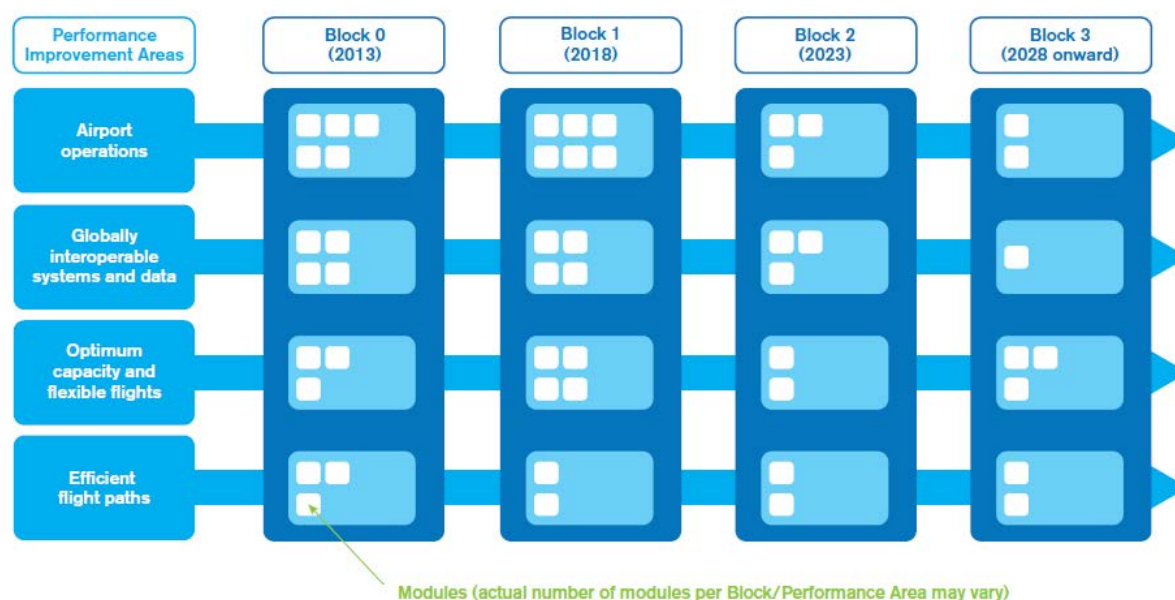
ASBU METHODOLOGY AND THE MID AIR NAVIGATION STRATEGY (AIM/SWIM RELATED ASBU MODULES)

ASBU METHODOLOGY

3.1 ICAO introduced the Aviation System Block Upgrades (ASBU) methodology in the fourth edition of the Doc 9750 (Global Air Navigation Plan), endorsed by the ICAO Assembly in 2013, as a systemic manner to achieve a harmonized implementation of the air navigation services. An ASBU designates a set of improvements that can be implemented globally from a defined point in time to enhance the performance of the ATM system.

3.2 The GANP represents a rolling, 15-year strategic methodology which leverages existing technologies and anticipates future developments based on State/industry agreed operational objectives. The Block Upgrades are organized in five-year time increments starting in 2013 and continuing through 2028 and beyond.

3.3 ASBU methodology defines improvements, through modules, over four blocks in four performance improvements areas:



MID REGION AIR NAVIGATION STRATEGY

3.4 Revised MID Region Air Navigation Strategy (MID Doc 002) was endorsed by the MIDANPIRG/15 meeting to introduce Block 0 ASBU Modules implementation priorities, elements, indicators and targets for the MID Region. It recognizes 11 (out of 18) Block 0 Modules as priority 1 in the MID Region (for more information refer to the MID Doc 002 in the ICAO Secure Portal at: https://portal.icao.int/RO_MID/Pages/MIDDocs.aspx).

BLOCK 0 AIM RELATED MODULE

B0-DATM Implementation

3.5 Block 0 contains 18 Modules and serves as the enabler and foundation for the envisioned future aviation systems. B0-DATM is a priority 1 ASBU Module in accordance with the

MID Region Air Navigation Strategy (MID Doc 002). MID Doc 002 defines the B0-DATM as follows:

Description and purpose

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

Main performance impact:

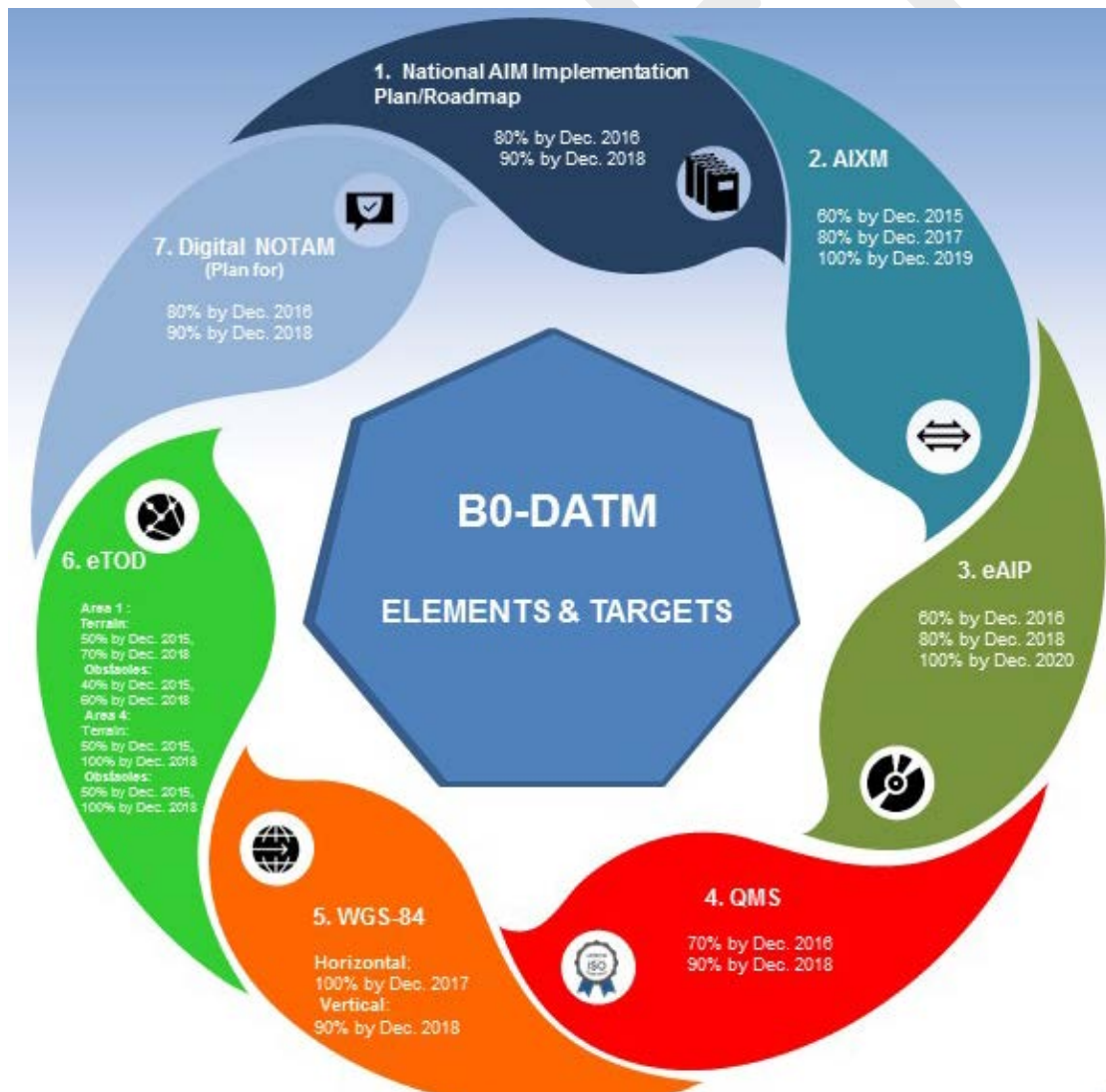
KPA- 01 – Access and Equity	KPA-02 – Capacity	KPA-04 – Efficiency	KPA-05 – Environment	KPA-10 – Safety
N	N	Y	Y	Y

Applicability consideration:

Applicable at State level, with increased benefits as more States participate

B0 – DATM: Service Improvement through Digital Aeronautical Information Management			
Elements	Applicability	Performance Indicators/Supporting Metrics	Targets
National AIM Implementation Plan/Roadmap	<i>All States</i>	Indicator: % of States that have National AIM Implementation Plan/Roadmap Supporting Metric: Number of States that have National AIM Implementation Plan/Roadmap	80% by Dec. 2016 90% by Dec. 2018
AIXM	<i>All States</i>	Indicator: % of States that have implemented an AIXM-based AIS database Supporting Metric: Number of States that have implemented an AIXM-based AIS database	60% by Dec. 2015 80% by Dec. 2017 100% by Dec. 2019
eAIP	<i>All States</i>	Indicator: % of States that have implemented an IAID driven AIP Production (eAIP) Supporting Metric: Number of States that have implemented an IAID driven AIP Production (eAIP)	60% by Dec. 2016 80% by Dec. 2018 100% by Dec. 2020
QMS	<i>All States</i>	Indicator: % of States that have implemented QMS for AIS/AIM Supporting Metric: Number of States that have implemented QMS for AIS/AIM	70% by Dec. 2016 90% by Dec. 2018
WGS-84	<i>All States</i>	Indicator: % of States that have implemented WGS-84 for horizontal plan (ENR, Terminal, AD) Supporting Metric: Number of States that have implemented WGS-84 for horizontal plan (ENR, Terminal, AD) Indicator: % of States that have implemented WGS-84 Geoid Undulation Supporting Metric: Number of States that have implemented WGS-84 Geoid Undulation	Horizontal: 100% by Dec. 2017 Vertical: 90% by Dec. 2018

eTOD	All States	<p>Indicator: % of States that have implemented required Terrain datasets</p> <p>Supporting Metric: Number of States that have implemented required Terrain datasets</p> <p>Indicator: % of States that have implemented required Obstacle datasets</p> <p>Supporting Metric: Number of States that have implemented required Obstacle datasets</p>	<p>Area 1 : Terrain: 50% by Dec. 2015, 70% by Dec. 2018 Obstacles: 40% by Dec. 2015, 60% by Dec. 2018</p> <p>Area 4: Terrain: 50% by Dec. 2015, 100% by Dec. 2018</p> <p>Obstacles: 50% by Dec. 2015, 100% by Dec. 2018</p>
Digital NOTAM*	All States	<p>Indicator: % of States that have included the implementation of Digital NOTAM into their National Plan for the transition from AIS to AIM</p> <p>Supporting Metric: Number of States that have included the implementation of Digital NOTAM into their National Plan for the transition from AIS to AIM</p>	<p>80% by Dec. 2016</p> <p>90% by Dec. 2018</p>



Aeronautical Information Exchange Model (AIXM)

3.6 The aeronautical information exchange model (AIXM) is designed to enable the management and distribution of aeronautical information services data in digital format. AIXM takes advantages of established information engineering standards and supports current and future aeronautical information system requirements. The major tenets are:

- a) an exhaustive temporality model, including support for the temporary information contained in NOTAM;
- b) alignment with ISO standards for geospatial information, including the use of the geography markup language (GML);
- c) support for the latest ICAO and user requirements for aeronautical data including obstacles, terminal procedures and airport mapping databases; and
- d) modularity and extensibility.

3.7 AIXM covers the ICAO requirements for the “data necessary for the safety, regularity and efficiency of international air navigation”, existing industry standards (e.g. ARINC 424) and emerging data needs. It has constructs for: aerodromes, navigation aids, terminal procedures, airspace and route structures, ATM and related services, air traffic restrictions and other data.

3.8 AIXM has two components:

- a) The AIXM UML Model provides a formal description of the information.
- b) The AIXM XML Schemas are an encoding format for aeronautical data.

3.9 AIXM 5 takes advantages of established information engineering standards and supports current and future aeronautical information system requirements.

electronic AIP (eAIP)

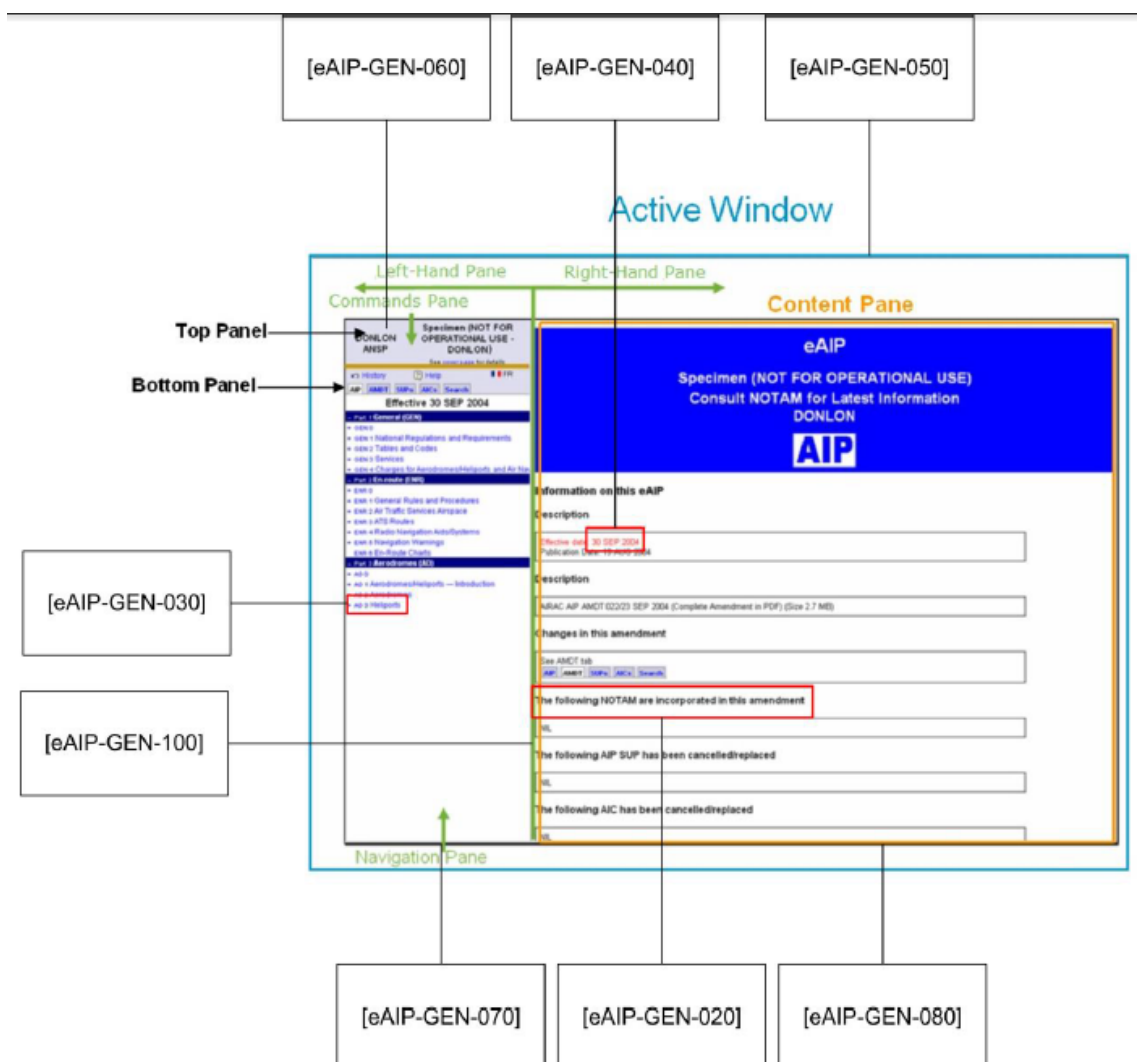
3.10 The AIP, AIP Amendment, AIP Supplement and AIC should also be published in a format that allows for displaying on a computer screen and printing on paper. When provided, the eAIP should be available on a physical distribution medium (CD, DVD, etc.) and/or online on the Internet. When provided, the information content of the eAIP and the structure of chapters, sections and sub-sections shall follow the content and structure of the paper AIP. The eAIP shall include files that allow for printing a paper AIP.

Note 1 - This composite electronic document is named “Electronic AIP” (eAIP) and may be based on a format that allows for digital data exchange.

Note 2 - The eAIP is not intended to support the Digital Notice to Airmen (NOTAM) process, as Digital NOTAM require a database of aeronautical information and are, therefore, not reliant on the eAIP.

3.11 Aeronautical data and aeronautical information within the AIPs, AMDTs and SUPs should be made available, as a minimum, “in a way that allows the content and format of the documents to be directly readable on a computer screen”.

3.12 General requirements associated with the **display of the eAIP** are reflected below:



3.13 The eAIP, as a minimum, should have help and search facility and provide history of current and previous amendments to users. It should also include a table of content. Format, display and content requirement for AIP Pages, AIP SUP, AIP Amendment and AIC should be in accordance with Annex 15, Doc 8126 and other related SARPs.

Note 3 – More guidance material on the specifications of eAIP could be found in the EUROCONTROL Specifications for the electronic Aeronautical Information Publication (eAIP).

Quality Management System (QMS)

3.14 Quality management systems shall be implemented and maintained encompassing all functions of an aeronautical information service. The execution of such quality management systems shall be made demonstrable for each function stage.

Note 1 - An ISO 9000 certificate issued by an accredited certification body would be considered an acceptable means of compliance.

Note 2 - Guidance material is contained in the Manual on the Quality Management System for Aeronautical Information Services (Doc 9839).

Note 3 - Necessary measures should be taken for the signature of formal arrangements concerning data quality between AIS/AIM and the data originators, commensurate with the Aerodrome operators, Air Navigation Service Providers (ANSPs) and the Military Authority.

World Geodetic System-1984 (WGS-84)

3.15 World Geodetic System — 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system for international air navigation. Consequently, published aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.

3.16 WGS-84 shall be introduced in the published coordinates in AIP in the following sections:

- a) Enroute
- b) Terminal
- c) Aerodrome
- d) Geoid Undulation

Note - Comprehensive guidance material concerning WGS-84 is contained in the World Geodetic System - 1984 (WGS-84) Manual (Doc 9674).

electronic Terrain and Obstacle Dataset (eTOD)

3.17 eTOD is an electronic set(s) of terrain and/or obstacle data for the defined coverage areas and with the defined data specifications to fulfill the needs of electronic air navigation applications for digital data. The coverage areas for sets of electronic terrain and obstacle data shall be specified as:

- Area 1: the entire territory of a State;
- Area 2: within the vicinity of an aerodrome, subdivided as follows;
 - Area 2a: a rectangular area around a runway that comprises the runway strip plus any clearway that exists.
 - Area 2b: an area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side;
 - Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a; and
 - Area 2d: an area outside the Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing TMA boundary, whichever is nearest;
- Area 3: the area bordering an aerodrome movement area that extends horizontally from the edge of a runway to 90 m from the runway centre line and 50 m from the edge of all other parts of the aerodrome movement area.

— Area 4: The area extending 900 m prior to the runway threshold and 60 m each side of the extended runway centre line in the direction of the approach on a precision approach runway, Category II or III.

3.18 Electronic terrain data shall be provided for Area 1 and 4. The obstacle data shall be provided for obstacles in Area 1 higher than 100 m above ground.

Note - Comprehensive guidance material concerning eTOD is contained in Annex 15; the Guidelines for electronic terrain, obstacle and aerodrome mapping information (Doc 9881) and the EUROCONTROL Terrain and Obstacle Data Manual.

AIM/SWIM RELATED MODULES

3.19 Performance Improvement Area 2 (Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management) focuses on ASBU Modules which mainly support Collaborative Decision Making (CDM) through Information Management (i.e. Aeronautical Information, MET, Flight and Flow, etc.) in a SWIM environment:

Performance Improvement Area 2: Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management			
Block 0 (2013)	Block 1 (2018)	Block 2 (2023)	Block 3 (2028)
B0-FICE Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	B1-FICE Increased Interoperability, Efficiency and Capacity through FF-ICE, Step 1 application before Departure	B2-FICE Improved Coordination through multi-centre Ground-Ground Integration: (FF-ICE/1 and Flight Object, SWIM)	B3-FICE Improved Operational Performance through the introduction of Full FF-ICE
B0-DATM Service Improvement through Digital Aeronautical Information Management	B1-DATM Service Improvement through Integration of all Digital ATM Information		
	B1-SWIM Performance Improvement through the application of System-Wide Information Management (SWIM)	B2-SWIM Enabling Airborne Participation in collaborative ATM through SWIM	
B0-AMET Meteorological information supporting enhanced operational efficiency and safety	B1-AMET Enhanced Operational Decisions through Integrated Meteorological Information (Planning and Near-term Service)		B3-AMET Enhanced Operational Decisions through Integrated Meteorological Information (Near-term and Immediate Service)

CHAPTER 4

AIM NATIONAL PLANNING AND IMPLEMENTATION

NATIONAL PLANNING

4.1 States should focus on the implementation of phase II of the ICAO Roadmap for the transition from AIS to AIM and take into consideration the “MID Region AIM implementation Roadmap” in planning for the transition from AIS to AIM in a prioritized manner

4.2 States are required to develop/update their National AIM Implementation Roadmap on an annual basis (by end of December), using the Template at **Appendix A** (National AIM Implementation Roadmap Template).

IMPLEMENTATION OF A SYSTEM FOR AIRAC ADHERENCE MONITORING

4.2 Operationally significant changes to the AIP, listed in Annex 15, Appendix 4 shall be published in accordance with AIRAC procedures and shall be clearly identified by the acronym — AIRAC.

4.3 When an AIP Amendment or an AIP Supplement is published in accordance with AIRAC procedures, a NOTAM called “Trigger NOTAM” shall be originated giving a brief description of the contents, the effective date and time, and the reference number of the amendment or supplement.

4.4 The Trigger NOTAM shall be issued as soon as possible, preferably at the publication date of the AIRAC AIP Amendment or the AIP Supplement. This NOTAM shall come into force on the same effective date and time as the amendment or supplement and shall remain valid for a period of fourteen days.

4.5 The text in Item E) should start with the words ‘TRIGGER NOTAM’ (followed only in the case of an AIP Amendment by the abbreviation PERM), the reference number of the published AIP Amendment or AIP Supplement concerned, the effective date and a brief description of its contents. Effective time will be omitted in Item E) unless it differs from the default AIRAC effective time of 0000 UTC.

4.6 Trigger NOTAM shall be issued in the appropriate NOTAM series, according to the information to be promulgated and shall follow the normal NOTAM procedures.

Example:

Q) HECA/QARTT/1/BO/000/999

A) HECC B) 1604280000 C) 1409032359

E) TRIGGER NOTAM – PERM AIRAC AIP AMDT 4/16 WEF 28 APR 2016.

IMPLEMENTATION OF NEW ATS ROUTE UL111.

Note – the term ‘PERM’ is inserted in Item E) to stress that Item C) contains an artificial end-date and that the information is of a permanent nature.

4.7 When information has not been submitted by the AIRAC date, a NIL notification shall be originated and distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned.

4.8 Implementation dates other than AIRAC effective dates shall not be used for pre-planned operationally significant changes requiring cartographic work and/or for updating of navigation databases.

4.9 Information provided under the AIRAC system in paper copy form shall be distributed by the AIS unit at least 42 days in advance of the effective date with the objective of reaching recipients at least 28 days in advance of the effective date. Information provided as electronic media, concerning the circumstances listed in Annex 15, Appendix 4 shall be distributed/made available by the AIS unit so as to reach recipients at least 28 days in advance of the AIRAC effective date.

Recommendation – *Whenever major changes are planned and where advance notice is desirable and practicable, information provided as electronic media should be distributed/made available at least 56 days in advance of the effective date. This should be applied to the establishment of, and premeditated major changes in, the circumstances listed in Appendix 4, Part 3, and other major changes if deemed necessary.*

4.10 AIS/AIM should 1) raise the awareness of the Data Originators regarding the AIRAC provisions and 2) include necessary procedures related to AIRAC adherence in the arrangement with the Data Originators.

4.11 States should implement a system for AIRAC adherence monitoring and report on annual basis (by 31 December) to the ICAO MID Regional Office the case(s) of late publication of aeronautical information of operational significance and non-adherence to the AIRAC provisions. **Appendix B** could be used as a monitoring and reporting tool in the AIRAC adherence.

AIR NAVIGATION DEFICIENCIES

4.12 A deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

4.13 Priority for action to remedy a deficiency is based on the following safety assessments:

'U' priority = Urgent requirements having a direct impact on safety and requiring immediate corrective actions. Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

'A' priority = Top priority requirements necessary for air navigation safety. Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

'B' priority = Intermediate requirements necessary for air navigation regularity and efficiency. Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

4.14 MIDANPIRG is responsible to identify and address specific deficiencies in the air navigation field and to facilitate the development and implementation of an action plan by States to resolve identified deficiencies, where necessary.

4.15 States are required to use the MID Air Navigation Deficiency Database (MANDD) for the submission of requests for addition, update, and elimination of Air Navigation Deficiencies,

including the submission of a specific Corrective Action Plan (CAP) for each deficiency. Each State MANDD Focal Point is given the required credential and MANDD is accessible at: <http://www.cairo.icao.int/>

4.16 A Sample State's Corrective Action Plan (CAP) is provided as **Appendix C** for assistance to States in developing their CAPs for the Air Navigation Deficiencies.

4.17 States are required to submit a Formal Letter to the ICAO MID Regional Office containing the evidence(s) that mitigation measures have been implemented for the elimination of deficiency(ies) when requesting the elimination of deficiency(ies) from the MANDD.

HUMAN RESOURCE AND TRAINING

4.18 Within the context of the established quality management system, the competencies and the associated knowledge, skills and abilities required for each function shall be identified, and personnel assigned to perform those functions shall be appropriately trained. Processes shall be in place to ensure that personnel possess the competencies required to perform specific assigned functions. Appropriate records shall be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments shall be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel shall be used as a means to detect and correct shortfalls.

Note 1 - Guidance material concerning training methodology to ensure the competency of personnel is contained in the Aeronautical Information Management Training Development Manual (Doc 9991).

CHAPTER 5

REPORTING AND MONITORING

MID eANP VOLUME III

5.1 The status of implementation is reported/monitored through the Tables in the MID eANP Volume III. the MID eANP is available on the ICAO MID website at: <http://www.icao.int/MID/Pages/MIDeANP.aspx>

REGIONAL PERFORMANCE DASHBOARD

5.2 The 38th Assembly approved the Regional Performance Dashboards. The Dashboards aim to provide a glance of both Safety and Air Navigation Capacity and Efficiency strategic objectives, using a set of indicators and targets based on the regional implementation of the Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP).

5.3 ICAO introduced the Regional Performance Dashboards as a framework of nested reporting of results with an increased focus on implementation. The initial version of the dashboard shows the globally agreed targeted performance at the regional level and contains graphics and maps with a planned expansion to include regionally agreed targets and the Aviation System Block upgrades (ASBU) Block 0 Modules (i.e. AIM National Plan/Roadmap, AIXM, eAIP, eTOD, WGS-84 and QMS).

5.4 For the first edition of the Regional Performance Dashboards, the implementation of 3 steps from Phase I of the ICAO Roadmap for transition from AIS to AIM (AIRAC, QMS and WGS-84) is monitored. The dashboard can be accessed on the ICAO website at: <http://www.icao.int/safety/Pages/Regional-Targets.aspx>.

5.5 It is agreed that in the expansion of the MID Regional Performance Dashboard, AIM National Roadmap, AIXM 5+, eAIP, eTOD Area 1 and 4 should be added to the MID Region Dashboard.

METHODOLOGY FOR ASSESSING AND REPORTING THE PROGRESS OF TRANSITION FROM AIS TO AIM

5.6 “*Methodology for assessing and reporting the progress of transition from AIS to AIM*” aims to develop a uniform method and plan for the reporting by the States on the progress achieved for the AIM transition, based on the ICAO Roadmap for Transition from AIS to AIM. The ICAO air navigation planning and implementation performance framework requires that reporting, monitoring, analysis and review activities be conducted on a cyclical, annual basis (ICAO DOC 9750). The Methodology is used while collecting data for monitoring the progress achieved in the transition from AIS to AIM and for the purpose of Regional Performance Dashboard, MID eANP, etc.

5.7 MIDANPIRG/15 meeting (Bahrain, 8-11 June 2015) reviewed the draft Methodology for reporting and assessing the progress related to the transition from AIS to AIM, as an initial MID Regional framework for monitoring the progress achieved for the AIM transition.

METHODOLOGY FOR REPORTING AND ASSESSING THE PROGRESS RELATED TO THE TRANSITION FROM AIS TO AIM

Element (Phase/Step/Step No.)		Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks	
1		2	3	4	5	
Phase 1						
AIRAC adherence		P-03	FC/NC	Implementation of a system for AIRAC adherence monitoring (compliance with annex 15 AIRAC provisions) (TBD)	Block 0	
WGS-84 implementation		P-05	FC/PC/NC	National AIP GEN 2.1.3 'Geodetic reference datum' provides information about the implementation of WGS-84 in ENR, Terminal and AD	Block 0	
QMS		P-17	FC/NC	ISO 9001 Certification	Block 0	
Phase 2						
Data quality monitoring		P-01	FI/NI	QMS (P-17) and Agreement with data originators (P-18) is implemented (TBD)	Block 0	
Data integrity monitoring		P-02			Linked to P-01	
Integrated aeronautical information database	AIXM-based AIS Database	P-06	FI/NI	National aeronautical data and information is stored and maintained in AIXM-based AIS database	Block 0	Structured AI Database with digital exchange capabilities (AIXM 5.1)
	Implementation of IAID		FI/PI/NI	Implementation of a database providing eAIP (text, tables and charts) and NOTAM, linked to the terrain/obstacles and aerodrome mapping datasets (TBD)	Block 1	
Unique identifiers		P-07			Linked to P-06	
Aeronautical information conceptual model		P-08			Linked to P-06	
Electronic AIP		P-11	FI/NI	National AIP GEN 3.1.3 'Aeronautical publications' provides information about the availability of the National AIP in electronic format (eAIP)	Block 0	
Terrain	Area 1	P-13	FC/NC	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained	Block 0	
	Area 4	P-13	FC/PC/NC or N/A	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset for specific CAT II/III RWY can be obtained. States should indicate in remarks the number of existing CAT II/III RWY. N/A for States with no CAT II/III RWY.	Block 0	In case of PC, list name of CAT II/III ADs having the dataset

Element (Phase/Step/Step No.)		Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks
1		2	3	4	5
	Area 2a	P-13 FC/PC/NC	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained. States should indicate in remarks the number of AD eligible for provision of Area 2 data. This number should come from the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation: — RS: international scheduled air transport, regular use — RNS: international non-scheduled air transport, regular use — RG: international general aviation, regular use.	Block 0	<i>In case of PC, list name of ADs having the dataset</i>
	Take-off flight path area	P-13 FC/PC/NC	Same as Terrain Area 2a	Block 0	<i>In case of PC, list name of ADs having the dataset</i>
	An area bounded by the lateral extent of the aerodrome obstacle limitation surfaces	P-13 FC/PC/NC	Same as Terrain Area 2a	Block 0	<i>In case of PC, list name of ADs having the dataset</i>
Obstacles	Area 1	P-14 FC/NC	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained	Block 0	
	Area 4	P-14 FC/PC/NC or N/A	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset for specific CAT II/III RWY can be obtained. States should indicate in remarks the number of existing CAT II/III RWY. N/A for States with no CAT II/III RWY.	Block 0	<i>In case of PC, list name of CAT II/III ADs having the dataset</i>
	Area 2a	P-14 FC/PC/NC	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained. States should indicate in remarks the number of AD eligible for provision of Area 2 data. This number should come from the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation: — RS: international scheduled air transport, regular use	Block 0	<i>In case of PC, list name of ADs having the dataset</i>

Element (Phase/Step/Step No.)	Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks
1	2	3	4	5
objects in the take-off flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the take-off flight path area	P-14 FC/PC/NC	<p>— RNS: international non-scheduled air transport, regular use</p> <p>— RG: international general aviation, regular use.</p> <p>Same as Obstacles Area 2a</p>	Block 0	<i>In case of PC, list name of ADs having the dataset</i>
penetrations of the aerodrome obstacle limitation surfaces	P-14 FC/PC/NC	Same as Obstacles Area 2a	Block 0	<i>In case of PC, list name of ADs having the dataset</i>
Aerodrome mapping	P-15 FI/PI/NI	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained	Block 1	<i>In case of PC, list name of ADs having the dataset</i>
Phase 3				
Aeronautical data exchange	P-09 FI/PI/NI	Direct data exchange between AIS and data originators/users (TBD)	Block 1	<i>In case of PC, list name of Units (Data Originators/Users)</i>
Communication networks	P-10			
Aeronautical information briefing	P-12 FI/PI/NI	<p>Provision of preflight aeronautical information briefing at the international aerodromes (TBD)</p> <p>Mandatory for international aerodromes contained in the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation:</p> <p>— RS: international scheduled air transport, regular use</p> <p>— RNS: international non-scheduled air transport, regular use</p> <p>— RG: international general aviation, regular use.</p>	Block 1	<i>In case of PC, list name of ADs providing AI briefing</i>
Training	P-16			

Element (Phase/Step/Step No.)	Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks
1	2	3	4	5
Agreement with data originators	P-18	FI/PI/NI	Signed agreements between AIS and ANSPs (ATM, CNS, etc.), Aerodromes and Military	Block 0 <i>In case of PC, list name of Data Originator(s)</i>
Interoperability with meteorological products	P-19			<i>Linked to P-12</i>
Electronic aeronautical charts	P-20	FI/NI	National AIP GEN 3.2 'Aeronautical Charts provides information about the availability of the e-Aeronautical Charts	Block 1
Digital NOTAM	P-21	FI/NI	TBD	Block 1

FC: Fully Compliant; PC: Partially Compliant; NC: Not Compliant; FI: Fully Implemented; PI: Partially Implemented; NI: Not Implemented; N/A: Not Applicable

APPENDICES

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APPENDIX A
NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE

Phase/Step	Step No.	Timeline												Start	End	Remarks	
		2014			2015			2016			2017						2018
Phase I																	
AIRAC adherence	P-03																
WGS-84 implementation	P-05																
QMS	P-17																
Phase II																	
Data Quality Monitoring	P-01																
Data Integrity Monitoring	P-02																
AIXM	P-06																
Unique identifiers	P-07																
Aeronautical information conceptual model	P-08																
eAIP	P-11																
Terrain A-1	P-13																
Obstacle A-1	P-14																
Terrain A-4	P-13																
Obstacle A-4	P-14																
Terrain A-2	P-13																Please specify implementation of Area 2a, 2b, 2c and/or 2d

Phase/Step	Step No.	Timeline												Start	End	Remarks	
		2014			2015			2016			2017						2018
Obstacle A-2	P-14																Please specify implementation of Area 2a, 2b, 2c and/or 2d
Terrain A-3	P-13																
Obstacle A-3	P-14																
AD Mapping	P-15																
Phase III																	
Aeronautical data exchange	P-09																
Communication networks	P-10																
Aeronautical information briefing	P-12																
Training	P-16																
Agreement with data originators	P-18																
Interoperability with meteorological products	P-19																
Electronic aeronautical charts	P-20																
Digital NOTAM	P-21																

Legend		Not Started
		In Progress
		Implemented

APPENDIX B

AIRAC ADHERENCE MONITORING

YEAR: 2016			STATE:		
AIRAC EFF Date	AIRAC AMDT Serial Number; or NIL Notification	AIRAC AMDT PUB/Distribution Date	Trigger NOTAM (Serial Number)	No change until 28 days after EFF Date? (Yes / No)	Remarks
7 JAN 16	- AIRAC/16; or - NIL notification issued on				
4 FEB 16	- AIRAC/16; or - NIL notification issued on				
3 MAR 16	- AIRAC/16; or - NIL notification issued on				
31 MAR 16	- AIRAC/16; or - NIL notification issued on				
28 APR 16	- AIRAC/16; or - NIL notification issued on				
26 MAY 16	- AIRAC/16; or - NIL notification issued on				
23 JUN 16	- AIRAC/16; or - NIL notification issued on				
21 JUL 16	- AIRAC/16; or - NIL notification issued on				
18 AUG 16	- AIRAC/16; or - NIL notification issued on				
15 SEP 16	- AIRAC/16; or - NIL notification issued on				
13 OCT 16	- AIRAC/16; or - NIL notification issued on				
10 NOV 16	- AIRAC/16; or - NIL notification issued on				
8 DEC 16	- AIRAC/16; or - NIL notification issued on				

APPENDIX C

SAMPLE STATE'S CORRECTIVE ACTION PLAN

DEFICIENCY DESCRIPTION		PRIORITY (U/A/B)
		RATIONALE <i>F:Financial, H:HR, S:State, O:Other</i>
STATE'S COMMENTS/OBSERVATION		
CORRECTIVE ACTION(S) PROPOSED	ACTION OFFICE/BODY	DATE OF COMPLETION

References

- ICAO Annex 15 – Aeronautical Information Services
- ICAO Doc 9750 – Global Air Navigation Plan
- ICAO Roadmap for the transition from AIS to AIM
- EUROCONTROL Guidelines – Operating procedures for AIS Dynamic Data (OPADD)
- EUROCONTROL Specifications for the electronic Aeronautical Information Publication (eAIP)
- EUROCONTROL Terrain and Obstacle Data Manual
- MIDANPIRG/15 Report
- MID Doc 002 – MID Region Air Navigation Strategy
- MSG/4 Report
- <http://www.aixm.aero>
- http://www.icao.int/airnavigation/Documents/ICAO_AN%20Report_EN_final_30042014.pdf
- <http://www.icao.int/airnavigation/IMP/Pages/default.aspx>
- <http://www.icao.int/safety/ais-aimsg/Pages/default.aspx>
- <http://www.icao.int/safety/Pages/Regional-Targets.aspx>
- https://portal.icao.int/RO_MID/Pages/MIDDocs.aspx
- <https://portal.icao.int/space/anp/Pages/Home.aspx>

- END -

APPENDIX B

AIRAC ADHERENCE MONITORING QUESTIONNAIRE– 2015

NAME OF STATE:

Please circle the appropriate response.

1. Have you published any operationally significant information, as referred to in Appendix 4 of Annex 15, other than using the AIRAC System? **Yes / No**

If the answer is “Yes”, please explain:

.....

.....

.....

2. Have you received any complain from the users about non-adherence to AIRAC? **Yes / No**

If the answer is “Yes”, please explain:

.....

.....

.....

3. Please fill the required data in the table below on the AIRAC System in your State:

AIRAC EFF Date	AIRAC AMDT Serial Number; or NIL Notification	AIRAC AMDT PUB/Distribution Date	Trigger NOTAM (Serial Number)	No change until 28 days after EFF Date? (Yes / No)	Remarks
8 JAN 15	- AIRAC/15; or - NIL notification issued on				
5 FEB 15	- AIRAC/15; or - NIL notification issued on				
5 MAR 15	- AIRAC/15; or - NIL notification issued on				
2 APR 15	- AIRAC/15; or - NIL notification issued on				
30 APR 15	- AIRAC/15; or - NIL notification issued on				
28 MAY 15	- AIRAC/15; or - NIL notification issued on				
25 JUN 15	- AIRAC/15; or - NIL notification issued on				

23 JUL 15	- AIRAC/15; or - NIL notification issued on				
20 AUG 15	- AIRAC/15; or - NIL notification issued on				
17 SEP 15	- AIRAC/15; or - NIL notification issued on				
15 OCT 15	- AIRAC/15; or - NIL notification issued on				
12 NOV 15	- AIRAC/15; or - NIL notification issued on				
10 DEC 15	- AIRAC/15; or - NIL notification issued on				

4. Details and signature of the person completing this form:

Full Name:

Title:

Organization:

Mailing address:

Contact details:

Email address:

Signature:

.....

Please return completed form by 31 January 2016 to:

Email: icaomid@icao.int or Fax: +2 (02) 22674843



International
Civil Aviation
Organization

Organisation
de l'aviation civile
internationale

Organización
de Aviación Civil
Internacional

Международная
организация
гражданской
авиации

منظمة الطيران
المدني الدولي

国际民用
航空组织

Tel.: +1 514-954-8219 ext. 6718

Ref.: AN 2/2.4-16/18

1 April 2016

Subject: Adoption of Amendment 39 to Annex 15

Action required: a) Notify any disapproval before 11 July 2016; b) Notify any differences and compliance before 10 October 2016 and 5 October 2020; c) Consider the use of the Electronic Filing of Differences (EFOD) System for notification of differences and compliance

Sir/Madam,

1. I have the honour to inform you that Amendment 39 to the *International Standards and Recommended Practices, Aeronautical Information Services* (Annex 15 to the Convention on International Civil Aviation) was adopted by the Council at the fifth meeting of its 207th Session on 22 February 2016. Copies of the Amendment and the Resolution of Adoption are available as attachments to the electronic version of this State letter on the ICAO-NET (<http://portal.icao.int>) where you can access all other relevant documentation.

2. When adopting the amendment, the Council prescribed 11 July 2016 as the date on which it will become effective, except for any part concerning which a majority of Contracting States have registered their disapproval before that date. In addition, the Council resolved that Amendment 39, to the extent it becomes effective, will become applicable on 10 November 2016¹.

3. Amendment 39 arises from:

- a) recommendations of the third meeting of the Aerodrome Panel (AP/3) relating to the publication of information on runway end safety area (RESA) and arresting system in the aeronautical information publication (AIP);
- b) recommendations of the twelfth meeting of the Instrument Flight Procedures Panel (IFPP/12) relating to en-route airway directional use restrictions;

¹ 5 November 2020 for Amendment 39-B

- c) recommendations of the Friction Task Force of the Aerodrome Design and Operations Panel (ADOP) relating to the use of a global reporting format for assessing and reporting runway surface conditions; and
- d) recommendations of the second meeting of the Operational Data Link Panel (OPLINKP/2) relating to performance-based communication and surveillance (PBCS) and satellite voice communications (SATVOICE).

4. The amendment concerning publication of RESA and arresting system is a consequential amendment to enhance safety of aerodrome operations in Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*. The proposed amendment requires data concerning arresting system to be measured, described and promulgated in addition to information related to runway end safety area.

5. The amendment arising from IFPP/12 clarifies requirements with respect to en-route airway directional use restrictions. Conflicting information in ICAO provisions has led to confusion on how it is depicted in State AIPs. The amendment to Annex 15 along with consequential amendments to Annex 4 — *Aeronautical Charts* and the *Aeronautical Information Services Manual* (Doc 8126) will resolve this issue and present the necessary changes to remove any confusion.

6. The amendment concerning PBCS is a consequential amendment to support provisions for PBCS in Annex 11 — *Air Traffic Services* regarding prescription of required communication performance (RCP)/required surveillance performance (RSP) specification(s). The proposed amendment is to ensure that RCP and/or RSP specifications are listed in a standardized format in a State's AIP. The amendment concerning SATVOICE includes a provision in the AIP for SATVOICE number(s) so that they are easily accessible to the flight operations personnel.

7. The amendment concerning enhanced global reporting format for assessing and reporting runway surface conditions is designed to report runway surface conditions in a standardized manner such that flight crew are able to accurately determine aeroplane take-off and landing performance, resulting in a global reduction in runway excursion incidents/accidents. The proposal provides a solution to a long outstanding issue of relating aeroplane performance to runway state information in a more objective way. The amendment is part of a major revision to several Annexes.

8. The subject is given in the amendment to the Foreword of Annex 15, a copy of which is in Attachment A.

9. In conformity with the Resolution of Adoption, may I request:

- a) that before 11 July 2016 you inform me if there is any part of the adopted Standards and Recommended Practices (SARPs) amendments in Amendment 39 (i.e., Amendments 39-A and 39-B) concerning which your Government wishes to register disapproval, using the form in Attachment B for this purpose. Please note that only statements of disapproval need be registered and if you do not reply it will be assumed that you do not disapprove of the amendment;
- b) that before 10 October 2016² you inform me of the following, using the Electronic Filing of Differences (EFOD) System or the form in Attachment C for this purpose:

² 5 October 2020 for Amendment 39-B

- 1) any differences that will exist on 10 November 2016³ between the national regulations or practices of your Government and the provisions of the whole of Annex 15, as amended by all amendments up to and including Amendment 39, and thereafter of any further differences that may arise; and
- 2) the date or dates by which your Government will have complied with the provisions of the whole of Annex 15, as amended by all amendments up to and including Amendment 39.

10. With reference to the request in paragraph 9 a) above, it should be noted that a registration of disapproval of Amendment 39 or any part of it in accordance with Article 90 of the Convention does not constitute a notification of differences under Article 38 of the Convention. To comply with the latter provision, a separate statement is necessary if any differences do exist, as requested in paragraph 9 b) 1). It is recalled in this respect that international Standards in Annexes have a conditional binding force, to the extent that the State or States concerned have not notified any difference thereto under Article 38 of the Convention.

11. With reference to the request in paragraph 9 b) above, it should be also noted that the ICAO Assembly, at its 38th Session (24 September to 4 October 2013) resolved that Member States should be encouraged to use the EFOD System when notifying differences (Resolution A38-11 refers). The EFOD System is currently available on the Universal Safety Oversight Audit Programme (USOAP) restricted website (<http://www.icao.int/usoap>) which is accessible by all Member States. You are invited to consider using this for notification of compliance and differences.

12. Guidance on the determination and reporting of differences is given in the Note on the Notification of Differences in Attachment D. Please note that a detailed repetition of previously notified differences, if they continue to apply, may be avoided by stating the current validity of such differences.

13. I would appreciate it if you would also send a copy of your notifications, referred to in paragraph 9 b) above, to the ICAO Regional Office accredited to your Government.

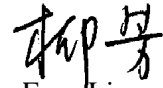
14. At the fifth meeting of its 204th Session, the Council requested that States, when being advised of the adoption of an Annex amendment, be provided with information on implementation and available guidance material, as well as an impact assessment. This is presented for your information in Attachments E and F, respectively.

15. As soon as practicable after the amendment becomes effective, on 11 July 2016, replacement pages incorporating Amendment 39 (i.e., Amendments 39-A and 39-B) will be forwarded to you.

16. Please note that Amendment 39-B concerning the use of a global reporting format for assessing and reporting runway surface conditions has an applicability date of 5 November 2020. It should be noted that the time between the effective date and the applicability date is longer than usual due to the nature and complexity of the proposal.

³ 5 November 2020 for Amendment 39-B

Accept, Sir/Madam, the assurances of my highest consideration.



Fang Liu

Secretary General

Enclosures:

- A — Amendment to the Foreword of Annex 15
- B — Form on notification of disapproval of all or part of Amendment 39 to Annex 15
- C — Form on notification of compliance with or differences from Annex 15, Amendment 39
- D — Note on the Notification of Differences
- E — Implementation task list and outline of guidance material in relation to Amendment 39 to Annex 15
- F — Impact assessment in relation to Amendment 39 to Annex 15

ATTACHMENT A to State letter AN 2/2.4-16/18

AMENDMENT TO THE FOREWORD OF ANNEX 15

Add the following at the end of Table A:

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject</i>	<i>Adopted/Approved Effective Applicable</i>
39-A	Third meeting of the Aerodrome Panel (AP/3); Twelfth meeting of the Instrument Flight Procedures Panel (IFPP/12); Second meeting of the Operational Data Link Panel (OPLINKP/2)	Amendment concerning: a) publication of information on runway end safety area (RESA) and arresting system in the aeronautical information publication (AIP); b) en-route airway directional use restrictions; and c) performance-based communication and surveillance (PBCS) and satellite voice communications (SATVOICE)	22 February 2016 11 July 2016 10 November 2016

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject</i>	<i>Adopted/Approved Effective Applicable</i>
39-B	Friction Task Force of the Aerodrome Design and Operations Panel (ADOP)	Amendment concerning the use of a global reporting format for assessing and reporting runway surface conditions	22 February 2016 11 July 2016 5 November 2020

**NOTIFICATION OF DISAPPROVAL OF ALL OR PART OF
AMENDMENT 39 TO ANNEX 15**

To: The Secretary General
International Civil Aviation Organization
999 Robert-Bourassa Boulevard
Montreal, Quebec
Canada H3C 5H7

(State) _____ hereby wishes to disapprove the following parts of
Amendment 39 to Annex 15:

Signature _____

Date _____

NOTES

- 1) If you wish to disapprove all or part of Amendment 39 to Annex 15, please dispatch this notification of disapproval to reach ICAO Headquarters by 11 July 2016. If it has not been received by that date it will be assumed that you do not disapprove of the amendment. **If you approve of all parts of Amendment 39, it is not necessary to return this notification of disapproval.**
- 2) This notification should not be considered a notification of compliance with or differences from Annex 15. Separate notifications on this are necessary. (See Attachment C.)
- 3) Please use extra sheets as required.

ATTACHMENT C to State letter AN 2/2.4-16/18

**NOTIFICATION OF COMPLIANCE WITH OR DIFFERENCES FROM ANNEX 15
(including all amendments up to and including Amendment 39)**

To: The Secretary General
International Civil Aviation Organization
999 Robert-Bourassa Boulevard
Montréal, Québec
Canada H3C 5H7

1. No differences will exist on _____ between the national regulations and/or practices of **(State)** _____ and the provisions of Annex 15, including all amendments up to and including Amendment 39.

2. The following differences will exist on _____ between the regulations and/or practices of **(State)** _____ and the provisions of Annex 15, including Amendment 39 (Please see Note 2) below.)

a) Annex Provision	b) Details of Difference	c) Remarks
(Please give exact paragraph reference)	(Please describe the difference clearly and concisely)	(Please indicate reasons for the difference)

(Please use extra sheets as required)

3. By the dates indicated below, **(State)** _____ will have complied with the provisions of Annex 15, including all amendments up to and including Amendment 39 for which differences have been notified in 2 above.

a) Annex Provision (Please give exact paragraph reference)	b) Date	c) Comments
--	----------------	--------------------

(Please use extra sheets as required)

Signature _____

Date _____

NOTES

- 1) If paragraph 1 above is applicable to your State, please complete paragraph 1 and return this form to ICAO Headquarters. If paragraph 2 is applicable to you, please complete paragraphs 2 and 3 and return the form to ICAO Headquarters.
- 2) A detailed repetition of previously notified differences, if they continue to apply, may be avoided by stating the current validity of such differences.
- 3) Guidance on the notification of differences is provided in the Note on the Notification of Differences and in the *Manual on Notification and Publication of Differences* (Doc 10055).
- 4) Please send a copy of this notification to the ICAO Regional Office accredited to your Government.

ATTACHMENT D to State letter AN 2/2.4-16/18

NOTE ON THE NOTIFICATION OF DIFFERENCES
(Prepared and issued in accordance with instructions of the Council)

1. *Introduction*

1.1 Article 38 of the *Convention on International Civil Aviation* (“Convention”) requires that a Contracting State notify ICAO any time it does not comply with a Standard in all respects, it does not bring its regulations or practices into full accord with any Standard, or it adopts regulations or practices differing in any particular respect from the Standard.

1.2 The Assembly and the Council, when reviewing the notification of differences by Contracting States in compliance with Article 38 of the Convention, have repeatedly noted that the timeliness and currency of such notifications is not entirely satisfactory. Therefore, this note is issued to reiterate the primary purpose of Article 38 of the Convention and to facilitate the determination and notification of differences.

1.3 The primary purpose of the notification of differences is to promote safety, regularity and efficiency in air navigation by ensuring that governmental and other agencies, including operators and service providers, concerned with international civil aviation are made aware of all national regulations and practices in so far as they differ from those prescribed in the Standards contained in Annexes to the Convention.

1.4 Contracting States are, therefore, requested to give particular attention to the notification of differences with respect to Standards in all Annexes, as described in paragraph 4 b) 1) of the Resolution of Adoption.

1.5 Although differences from Recommended Practices are not notifiable under Article 38 of the Convention, the Assembly has urged Contracting States to extend the above considerations to Recommended Practices contained in Annexes to the Convention, as well.

2. *Notification of differences from Standards and Recommended Practices (SARPs)*

2.1 Guidance to Contracting States in the notification of differences to Standards and Recommended Practices (SARPs) can only be given in very general terms. Contracting States are further reminded that compliance with SARPs generally extends beyond the issuance of national regulations and requires establishment of practical arrangements for implementation, such as the provision of facilities, personnel and equipment and effective enforcement mechanisms. Contracting States should take those elements into account when determining their compliance and differences. The following categories of differences are provided as a guide in determining whether a notifiable difference exists:

- a) *A Contracting State’s requirement is more exacting or exceeds a SARP (Category A)*. This category applies when the national regulation and practices are more demanding than the corresponding SARP, or impose an obligation within the scope of the Annex which is not covered by the SARP. This is of particular importance where a Contracting State requires a higher standard which affects the operation of aircraft of other Contracting States in and above its territory;

- b) *A Contracting State's requirement is different in character or the Contracting State has established other means of compliance (Category B)**. This category applies, in particular, when the national regulation and practices are different in character from the corresponding SARP, or when the national regulation and practices differ in principle, type or system from the corresponding SARP, without necessarily imposing an additional obligation; and
- c) *A Contracting State's requirement is less protective, partially implemented or not implemented (Category C)*. This category applies when the national regulation and practices are less protective than the corresponding SARP; when no national regulation has been promulgated to address the corresponding SARP, in whole or in part; or when the Contracting State has not brought its practices into full accord with the corresponding SARP.

These categories do not apply to Not Applicable SARP. Please see the paragraph below.

2.2 **Not Applicable SARP.** When a Contracting State deems a SARP concerning aircraft, operations, equipment, personnel, or air navigation facilities or services to be not applicable to the existing aviation activities of the State, notification of a difference is not required. For example, a Contracting State that is not a State of Design or Manufacture and that does not have any national regulations on the subject, would not be required to notify differences from Annex 8 provisions related to the design and construction of an aircraft.

2.3 **Differences from appendices, tables and figures.** The material comprising a SARP includes not only the SARP itself, but also the appendices, tables and figures associated with the SARP. Therefore, differences from appendices, tables and figures are notifiable under Article 38. In order to file a difference against an appendix, table or figure, States should file a difference against the SARP that makes reference to the appendix, table or figure.

2.4 **Differences from definitions.** Contracting States should notify differences from definitions. The definition of a term used in a SARP does not have independent status but is an essential part of each SARP in which the term is used. Therefore, a difference from the definition of the term may result in there being a difference from any SARP in which the term is used. To this end, Contracting States should take into consideration differences from definitions when determining compliance or differences to SARPs in which the terms are used.

2.5 The notification of differences should be not only to the latest amendment but to the whole Annex, including the amendment. In other words, Contracting States that have already notified differences are requested to provide regular updates of the differences previously notified until the difference no longer exists.

* The expression “different in character or other means of compliance” in b) would be applied to a national regulation and practice which achieve, by other means, the same objective as that of the corresponding SARPs or for other substantive reasons so cannot be classified under a) or c).

2.6 Further guidance on the identification and notification of differences, examples of well-defined differences and examples of model processes and procedures for management of the notification of differences can be found in the *Manual on Notification and Publication of Differences* (Doc 10055).

3. *Form of notification of differences*

3.1 Differences can be notified:

- a) by sending to ICAO Headquarters a form on notification of compliance or differences; or
- b) through the Electronic Filing of Differences (EFOD) System at www.icao.int/usoap.

3.2 When notifying differences, the following information should be provided:

- a) the number of the paragraph or subparagraph which contains the SARP to which the difference relates*;
- b) the reasons why the State does not comply with the SARP, or considers it necessary to adopt different regulations or practices;
- c) a clear and concise description of the difference; and
- d) intentions for future compliance and any date by which your Government plans to confirm compliance with and remove its difference from the SARP for which the difference has been notified.

3.3 The differences notified will be made available to other Contracting States, normally in the terms used by the Contracting State when making the notification. In the interest of making the information as useful as possible, Contracting States are requested to ensure that:

- a) statements be as clear and concise as possible and be confined to essential points;
- b) the provision of extracts from national regulations not be considered as sufficient to satisfy the obligation to notify differences; and
- c) general comments, unclear acronyms and references be avoided.

— — — — —

* This applies only when the notification is made under 3.1 a).

**IMPLEMENTATION TASK LIST AND OUTLINE OF GUIDANCE
MATERIAL IN RELATION TO AMENDMENT 39 TO ANNEX 15**

1. IMPLEMENTATION TASK LIST

**1.1 Essential steps to be followed by a State in order to
implement the proposed amendment**

***Publication of information on runway end safety area (RESA) and
arresting system in the aeronautical information publication (AIP)***

1.1.1 Essential steps to be followed by a State in order to implement the proposed amendment to Annex 15:

- a) identification of the rule-making process necessary to transpose the modified ICAO provisions into the national regulations;
- b) establishment of a national implementation plan that takes into account the modified ICAO provisions;
- c) drafting of the modification to the national regulations and means of compliance;
- d) official adoption of the national regulations and means of compliance;
- e) filing of State differences with ICAO, if necessary;
- f) publication of significant differences in the AIP;
- g) notification to effected aerodromes of the requirement for additional information;
- h) preparation of revised AIP templates by the State authorized AIS; and
- i) updating the formal arrangements between the aerodrome and the AIS (pursuant to Annex 15, paragraph 2.1.5).

En-route airway directional use restrictions

1.1.2 Essential steps to be followed by a State in order to implement the proposed amendment to Annex 15:

- a) identification of the rule-making process necessary to transpose the modified ICAO provisions into the national regulations;
- b) establishment of a national implementation plan that takes into account the modified ICAO provisions;

- c) drafting of the modification to the national regulations and means of compliance;
- d) official adoption of the national regulations and means of compliance;
- e) filing of State differences with ICAO, if necessary;
- f) publication of significant differences in the AIP;
- g) identification of the originator of the information to be included in the AIP and updating the formal arrangements between the aerodrome and the AIS (pursuant to Annex 15, paragraph 2.1.5); and
- h) preparation of revised AIP templates by the State authorized AIS.

Use of an enhanced global reporting format for assessing and reporting runway surface conditions

1.1.3 Essential steps to be followed by a State in order to implement the proposed amendment to Annex 15:

- a) identification of the rule-making process necessary to transpose the modified ICAO provisions into the national regulations;
- b) establishment of a national implementation plan that takes into account the modified ICAO provisions;
- c) drafting of the modification to the national regulations and means of compliance;
- d) official adoption of the national regulations and means of compliance;
- e) filing of State differences with ICAO, if necessary;
- f) publication of significant differences in the AIP;
- g) notification to effected aerodromes of the requirement for additional information;
- h) advanced notification to NOTAM users of an upcoming change in the reporting of runway surface conditions;
- i) revision of the software templates used to format SNOWTAM on the NOTAM circuit by the State authorized AIS; and
- j) updating the formal arrangements between the aerodrome and the AIS (pursuant to Annex 15, paragraph 2.1.5).

***Performance-based communication and surveillance (PBCS)
Satellite voice communications (SATVOICE)***

1.1.4 Essential steps to be followed by a State in order to implement the proposed amendment to Annex 15:

- a) identification of the rule-making process necessary to transpose the modified ICAO provisions into the national regulations;
- b) establishment of a national implementation plan that takes into account the modified ICAO provisions;
- c) drafting of the modification to the national regulations and means of compliance;
- d) official adoption of the national regulations and means of compliance;
- e) filing of State differences with ICAO, if necessary;
- f) publication of significant differences in the AIP;
- g) identification of the originator of the information to be included in the AIP and updating the formal arrangements between the aerodrome and the AIS (pursuant to Annex 15 paragraph 2.1.5); and
- h) preparation of revised AIP templates by the State authorized AIS.

2. STANDARDIZATION PROCESS

2.1 Effective date: 11 July 2016

2.2 Applicability dates: 10 November 2016 for elements concerning en-route direction use restrictions; performance-based communication and surveillance (PBCS); satellite voice communications (SATVOICE); and publication of information on runway end safety area (RESA) and arresting system in the aeronautical information publication (AIP); and 5 November 2020 for the element concerning the use of a global reporting format for assessing and reporting runway surface conditions.

2.3 Embedded applicability date(s): N/A

3. SUPPORTING DOCUMENTATION

3.1 ICAO documentation

Title	Type (PANS/TI/Manual/Cir)	Planned publication date
<i>Aeronautical Information Services Manual</i> (Doc 8126)	Manual	October 2016
<i>Performance-based Communication and Surveillance Manual</i> (Doc 9869)	Manual	November 2016
<i>Satellite Voice Operations Manual</i> (Doc 10038)	Manual	November 2016

3.2 External documentation

Title	External Organization	Publication date
None		

4. IMPLEMENTATION ASSISTANCE TASKS

Type	Regional
Regional workshop on implementation of global reporting format	ICAO Regional Offices

5. UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME (USOAP)

5.1 The content of this paper may require an amendment of the USOAP CMA protocol questions in the area of ANS to assess effective implementation by States. Existing protocol questions may need amendment or new protocol questions may be required. This will be assessed during the next amendment cycle of the protocol questions.

ATTACHMENT F to State letter AN 2/2.4-16/18

**IMPACT ASSESSMENT IN RELATION TO AMENDMENT 39 TO
ANNEX 15**

1. **INTRODUCTION**

1.1 Amendment 39 to Annex 15 is intended to:

- a) make available information with respect to the presence and dimensions of the runway end safety areas (RESA) including arresting system;
- b) clarify the publication of en-route airway directional use restrictions;
- c) implement revised runway condition reporting;
- d) make available information with respect to performance-based communication and surveillance; and
- e) make available information with respect to satellite voice communications.

2. **IMPACT ASSESSMENT**

Publication of information on runway end safety area (RESA) and arresting system in the aeronautical information publication (AIP)

2.1 *Safety impact:* Improved information on runway end safety area (RESA) and arresting system will enhance users' situational awareness.

2.2 *Financial impact:* The costs of implementing a change to the publication format of the AIP will be insignificant in the short term and is part of the normal maintenance of the document.

2.3 *Security impact:* No security impact is expected with this proposal.

2.4 *Environmental impact:* No environmental impact is expected with this proposal.

2.5 *Efficiency impact:* No efficiency impact is expected with this proposal.

2.6 *Expected implementation time:* Implementation time will normally be one publication cycle. Once AIS is receiving the information, some additional time may be necessary to adjust software templates used to compile the AIP.

En-route airway directional use restrictions

2.7 *Safety impact:* More transparency with respect to existing Annex 15 requirements will avoid misinterpretation by the users and support an effective implementation of the criteria, resulting in increased safety.

2.8 *Financial impact:* Negligible costs are expected as a result of updating the provisions for both States and industry.

2.9 *Security impact:* No security impact is expected with this proposal.

2.10 *Environmental impact:* No environmental impact is expected with this proposal.

2.11 *Efficiency impact:* No efficiency impact is expected with this proposal.

2.12 *Expected implementation time:* Implementation time will normally be one publication cycle. Once AIS is receiving the information, some additional time may be necessary to adjust software templates used to compile the AIP.

Use of an enhanced global reporting format for assessing and reporting runway surface conditions

2.13 *Safety impact:* Safety will be enhanced due to the improved information provided to support aircraft operations, in particular during inclement weather.

2.14 *Financial impact:* There will be a cost for AIS providers and information users to make changes to automated systems. The actual cost will vary with the nature and age of the systems currently implemented.

2.15 *Security impact:* No security impact is expected with this proposal

2.16 *Environmental impact:* No environmental impact is expected with this proposal.

2.17 *Efficiency impact:* No efficiency impact is expected with this proposal.

2.18 *Expected implementation time:* At least from one to two years.

Performance-based communication and surveillance (PBCS)

2.19 *Safety impact:* Safety will be enhanced due to the improved information provided to support ATM operations.

2.20 *Financial impact:* The costs of implementing a change to the publication format of the AIP will be insignificant in the short term and is part of the normal maintenance of the document.

2.21 *Security impact:* No security impact is expected with this proposal.

2.22 *Environmental impact:* No environmental impact is expected with this proposal.

2.23 *Efficiency impact:* The proposal will have a positive impact on efficiency as it supports the implementation of PBCS which enables more efficient use of the airspace, an increase in user preferred routes, and more efficient and coordinated airborne re-routing.

2.24 *Expected implementation time:* Implementation time will normally be one publication cycle. Once AIS is receiving the information, some additional time may be necessary to adjust software templates used to compile the AIP.

Satellite voice communications (SATVOICE)

2.25 *Safety impact:* Safety will be enhanced due to the improved information provided to support ATM operations.

2.26 *Financial impact:* The costs of implementing a change to the publication format of the AIP will be insignificant in the short term and is part of the normal maintenance of the document.

2.27 *Security impact:* No security impact is expected with this proposal.

2.28 *Environmental impact:* No environmental impact is expected with this proposal.

2.29 *Efficiency impact:* No efficiency impact is expected with this proposal.

2.30 *Expected implementation time:* Implementation time will normally be one publication cycle. Once AIS is receiving the information, some additional time may be necessary to adjust software templates used to compile the AIP.

— END —

AMENDMENT No. 39-A

TO THE

**INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES**

**AERONAUTICAL INFORMATION
SERVICES**

ANNEX 15

TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

The amendment to Annex 15 contained in this document was adopted by the Council of ICAO on **22 February 2016**. Such parts of this amendment as have not been disapproved by more than half of the total number of Contracting States on or before **11 July 2016** will become effective on that date and will become applicable on **10 November 2016** as specified in the Resolution of Adoption. (State letter AN 2/2.4-16/18 refers.)

FEBRUARY 2016

INTERNATIONAL CIVIL AVIATION ORGANIZATION

AMENDMENT 39 TO THE INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES

ANNEX 15 — AERONAUTICAL INFORMATION SERVICES

RESOLUTION OF ADOPTION

The Council

Acting in accordance with the Convention on International Civil Aviation, and particularly with the provisions of Articles 37, 54 and 90 thereof,

1. *Hereby adopts* on 22 February 2016 Amendment 39 to the International Standards and Recommended Practices contained in the document entitled *International Standards and Recommended Practices, Aeronautical Information Services* which for convenience is designated Annex 15 to the Convention;
2. *Prescribes* 11 July 2016 as the date upon which the said amendment shall become effective, except for any part thereof in respect of which a majority of the Contracting States have registered their disapproval with the Council before that date;
3. *Resolves* that the said amendment or such parts thereof as have become effective shall become applicable on 10 November 2016¹;
4. *Requests the Secretary General:*
 - a) to notify each Contracting State immediately of the above action and immediately after 11 July 2016 of those parts of the amendment which have become effective;
 - b) to request each Contracting State:
 - 1) to notify the Organization (in accordance with the obligation imposed by Article 38 of the Convention) of the differences that will exist on 10 November 2016¹ between its national regulations or practices and the provisions of the Standards in the Annex as hereby amended, such notification to be made before 10 October 2016², and thereafter to notify the Organization of any further differences that arise;
 - 2) to notify the Organization before 10 October 2016² of the date or dates by which it will have complied with the provisions of the Standards in the Annex as hereby amended;
 - c) to invite each Contracting State to notify additionally any differences between its own practices and those established by the Recommended Practices, following the procedure specified in subparagraph b) above with respect to differences from Standards.

¹ 5 November 2020 for paragraph 1.1 Definitions SNOWTAM; paragraphs 5.2.2, 5.2.3, 7.1.1.2; Appendix 2. SNOWTAM format, Instructions for the Completion of the SNOWTAM format and Example of Completed SNOWTAM Format

² 5 October 2020 for paragraph 1.1 Definitions SNOWTAM; paragraphs 5.2.2, 5.2.3, 7.1.1.2; Appendix 2. SNOWTAM format, Instructions for the Completion of the SNOWTAM format and Example of Completed SNOWTAM Format

NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT

The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

~~Text to be deleted is shown with a line through it.~~

text to be deleted

New text to be inserted is highlighted with grey shading.

new text to be inserted

~~Text to be deleted is shown with a line through it~~
followed by the replacement text which is highlighted
with grey shading.

new text to replace existing text

TEXT OF AMENDMENT 39-A TO THE
INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES
AERONAUTICAL INFORMATION
SERVICES
ANNEX 15
TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

CHAPTER 1. GENERAL

Note 1.— The object of the aeronautical information service (AIS) is to ensure the flow of aeronautical data and aeronautical information necessary for global air traffic management (ATM) system safety, regularity, economy and efficiency in an environmentally sustainable manner. The role and importance of aeronautical data and aeronautical information changed significantly with the implementation of area navigation (RNAV), performance-based navigation (PBN), airborne computer-based navigation systems, performance-based communication (PBC), performance-based surveillance (PBS), and data link systems and satellite voice communications (SATVOICE). Corrupt, erroneous, late, or missing aeronautical data and aeronautical information can potentially affect the safety of air navigation.

...

1.1 Definitions

When the following terms are used in the Standards and Recommended Practices for aeronautical information services, they have the following meanings:

...

Performance-based communication (PBC). Communication based on performance specifications applied to the provision of air traffic services.

Note.— An RCP specification includes communication performance requirements that are allocated to system components in terms of the communication to be provided and associated transaction time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace concept.

...

Performance-based surveillance (PBS). Surveillance based on performance specifications applied to the provision of air traffic services.

Note.— An RSP specification includes surveillance performance requirements that are allocated to system components in terms of the surveillance to be provided and associated data delivery time, continuity, availability, integrity, accuracy of the surveillance data, safety and functionality needed for the proposed operation in the context of a particular airspace concept.

...

Required communication performance (RCP) specification. A set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based communication.

Required surveillance performance (RSP) specification. A set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based surveillance.

...

APPENDIX 1. CONTENTS OF THE AERONAUTICAL INFORMATION PUBLICATION (AIP) *(see Chapter 4)*

...

PART 2 — EN-ROUTE (ENR)

...

ENR 2.1 FIR, UIR, TMA and CTA

Detailed description of flight information regions (FIR), upper flight information regions (UIR), and control areas (CTA) (including specific CTA such as TMA), including:

...

4) frequencies, and if applicable SATVOICE number, supplemented by indications for specific purposes; and

...

ENR 3. ATS ROUTES

Note 1.— Bearings, tracks and radials are normally magnetic. In areas of high latitude, where it is determined by the appropriate authority that reference to Magnetic North is impractical, another suitable reference, i.e. True North or Grid North, may be used.

Note 2.— Changeover points established at the midpoint between two radio navigation aids, or at the intersection of the two radials in the case of a route which changes direction between the navigation aids, need not be shown for each route segment if a general statement regarding their existence is made.

Note 3.— Guidance material on the organization of ATS Route publication is contained in the Aeronautical Information Services Manual (Doc 8126).

ENR 3.1 Lower ATS routes

Detailed description of lower ATS routes, including:

- 1) route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including “compulsory” or “on-request” reporting points;

...

- 7) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

...

ENR 3.2 Upper ATS routes

Detailed description of upper ATS routes, including:

- 1) route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including “compulsory” or “on-request” reporting points;

...

- 7) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

...

ENR 3.3 Area navigation routes

Detailed description of PBN (RNAV and RNP) routes, including:

- 1) route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including “compulsory” or “on-request” reporting points;

...

- 7) remarks, including an indication of the controlling unit, its operating channel and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

...

ENR 3.4 Helicopter routes

Detailed description of helicopter routes, including:

- 1) route designator, designation of the required communication performance (RCP) specification(s), navigation specification(s) and/or required surveillance performance (RSP) specification(s) applicable to a specified segment(s), names, coded designators or name-codes and the geographical coordinates in degrees, minutes and seconds of all significant points defining the route including “compulsory” or “on-request” reporting points;

...

- 6) remarks, including an indication of the controlling unit, and its operating channel; and, if applicable, its logon address, SATVOICE number, and any navigation, RCP and RSP specification(s) limitations.

...

PART 3 — AERODROMES (AD)

...

AD 2. AERODROMES

...

**** AD 2.12 Runway physical characteristics

Detailed description of runway physical characteristics, for each runway, including:

...

- 8) dimensions of stopway (if any) to the nearest metre or foot;
- 9) dimensions of clearway (if any) to the nearest metre or foot;
- 10) dimensions of strips;
- 11) dimensions of runway end safety areas;
- 12) location (which runway end) and description of arresting system (if any);
- 13) the existence of an obstacle-free zone; and
- 14) remarks.

...

**** AD 2.18 Air traffic services communication facilities

Detailed description of air traffic services communication facilities established at the aerodrome, including:

- 1) service designation;

8

- 2) call sign;
- 3) channel(s);
- 4) SATVOICE number(s), if available;
- 5) logon address, as appropriate;
- 6) hours of operation; and
- 7) remarks.

...

— END —

AMENDMENT No. 39-B

TO THE

**INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES**

**AERONAUTICAL INFORMATION
SERVICES**

ANNEX 15

TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

The amendment to Annex 15 contained in this document was adopted by the Council of ICAO on **22 February 2016**. Such parts of this amendment as have not been disapproved by more than half of the total number of Contracting States on or before **11 July 2016** will become effective on that date and will become applicable on **5 November 2020** as specified in the Resolution of Adoption. (State letter AN 2/2.4-16/18 refers.)

FEBRUARY 2016

INTERNATIONAL CIVIL AVIATION ORGANIZATION

AMENDMENT 39 TO THE INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES

ANNEX 15 — AERONAUTICAL INFORMATION SERVICES

RESOLUTION OF ADOPTION

The Council

Acting in accordance with the Convention on International Civil Aviation, and particularly with the provisions of Articles 37, 54 and 90 thereof,

1. *Hereby adopts* on 22 February 2016 Amendment 39 to the International Standards and Recommended Practices contained in the document entitled *International Standards and Recommended Practices, Aeronautical Information Services* which for convenience is designated Annex 15 to the Convention;
2. *Prescribes* 11 July 2016 as the date upon which the said amendment shall become effective, except for any part thereof in respect of which a majority of the Contracting States have registered their disapproval with the Council before that date;
3. *Resolves* that the said amendment or such parts thereof as have become effective shall become applicable on 10 November 2016¹;
4. *Requests the Secretary General:*
 - a) to notify each Contracting State immediately of the above action and immediately after 11 July 2016 of those parts of the amendment which have become effective;
 - b) to request each Contracting State:
 - 1) to notify the Organization (in accordance with the obligation imposed by Article 38 of the Convention) of the differences that will exist on 10 November 2016¹ between its national regulations or practices and the provisions of the Standards in the Annex as hereby amended, such notification to be made before 10 October 2016², and thereafter to notify the Organization of any further differences that arise;
 - 2) to notify the Organization before 10 October 2016² of the date or dates by which it will have complied with the provisions of the Standards in the Annex as hereby amended;
 - c) to invite each Contracting State to notify additionally any differences between its own practices and those established by the Recommended Practices, following the procedure specified in subparagraph b) above with respect to differences from Standards.

¹ 5 November 2020 for paragraph 1.1 Definitions SNOWTAM; paragraphs 5.2.2, 5.2.3, 7.1.1.2; Appendix 2. SNOWTAM format, Instructions for the Completion of the SNOWTAM format and Example of Completed SNOWTAM Format

² 5 October 2020 for paragraph 1.1 Definitions SNOWTAM; paragraphs 5.2.2, 5.2.3, 7.1.1.2; Appendix 2. SNOWTAM format, Instructions for the Completion of the SNOWTAM format and Example of Completed SNOWTAM Format

NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT

The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

~~Text to be deleted is shown with a line through it.~~

text to be deleted

New text to be inserted is highlighted with grey shading.

new text to be inserted

~~Text to be deleted is shown with a line through it~~
followed by the replacement text which is highlighted
with grey shading.

new text to replace existing text

**TEXT OF AMENDMENT 39-B TO THE
INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES
AERONAUTICAL INFORMATION SERVICES**

**ANNEX 15
TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION**

...

SNOWTAM. A special series NOTAM given in a standard format providing a surface condition report notifying the presence or removal cessation of hazardous conditions due to snow, ice, slush, frost, or standing water or water associated with snow, slush and ice, or frost on the movement area, by means of a specific format.

...

CHAPTER 5. NOTAM

...

5.2 General specifications

...

5.2.2 Text of NOTAM shall be composed of the significations/uniform abbreviated phraseology assigned to the ICAO NOTAM Code complemented by ICAO abbreviations, indicators, identifiers, designators, call signs, frequencies, figures and plain language.

Note 1.— Detailed guidance material covering NOTAM, SNOWTAM, ASHTAM and PIB production is contained in Doc 8126.

Note 2.— Additional procedures covering the reporting of runway surface conditions is contained in PANS-Aerodromes (Doc 9981).

...

5.2.3 Information concerning snow, slush, ice and standing water on aerodrome/heliport pavements shall, when reported, frost, standing water, or water associated with snow, slush, ice or frost on the movement area shall be disseminated by means of a SNOWTAM, and contain the information in the order shown in the SNOWTAM Format in Appendix 2.

Note.— The origin and order of the information is a result of assessment processes and procedures prescribed in PANS-Aerodromes (Doc 9981).

...

LOOSE SAND ON THE RUNWAY	O	K)
CHEMICAL TREATMENT ON RUNWAY	O	L)
(SNOWBANKS ON THE RUNWAY (If present, distance from runway centreline (m) followed by "L", "R" or "LR" as applicable))	O	M)
SNOWBANKS ADJACENT TO THE RUNWAY	O	N)
(SNOWBANKS ON A TAXIWAY (If present, distance from the edge of runway (m) followed by "L", "R" or "LR" as applicable))		O)
(TAXIWAY CONDITIONS)	O	P)
(APRON CONDITIONS)	O	R)
(MEASURED FRICTION COEFFICIENT)	O	S)
(PLAIN-LANGUAGE REMARKS)	O	T) <<≡
NOTES: 1. *Enter ICAO nationality letters as given in ICAO Doc 7910, Part 2 or otherwise applicable aerodrome identifier. 2. *Information on other runways, repeat from B to H. 3. *Information in the Situational Awareness section repeated for each runway, taxiway and apron repeat as applicable when reported. 4. *Words in brackets () not to be transmitted.		

SIGNATURE OF ORIGINATOR (not for transmission)

INSTRUCTIONS FOR THE COMPLETION OF THE SNOWTAM FORMAT

Note.— Origin of data, assessment process and the procedures linked to the surface conditions reporting system are prescribed in the PANS-Aerodromes (Doc 9981).

1. General

- a) When reporting on more than one runway, repeat Items B to P inclusive H (the Aeroplane performance section).
- b) ~~Items together with their indicator must be dropped completely, where no information is to be included.~~ The letters used to indicate items are only used for reference purpose and should not be included in the messages. The letters, M (mandatory) C (conditional) and O (optional) mark the usage and information shall be included as explained below.
- c) Metric units ~~must~~ shall be used and the unit of measurement not reported.
- d) The maximum validity of SNOWTAM is ~~24-8~~ hours. New SNOWTAM ~~must~~ shall be issued whenever ~~there is a significant change in conditions. The following changes relating to runway conditions are considered as significant:~~ a new runway condition report is received.
 - 1) ~~a change in the coefficient of friction of about 0.05;~~
 - 2) ~~changes in depth of deposit greater than the following: 20 mm for dry snow, 10 mm for wet snow, 3 mm for slush;~~
 - 3) ~~a change in the available length or width of a runway of 10 per cent or more;~~
 - 4) ~~any change in the type of deposit or extent of coverage which requires reclassification in Items F or T of the SNOWTAM;~~

~~5) when critical snow banks exist on one or both sides of the runway, any change in the height or distance from centre line;~~

~~6) any change in the conspicuity of runway lighting caused by obscuring of the lights;~~

~~7) any other conditions known to be significant according to experience or local circumstances.~~

e) A SNOWTAM cancels the previous SNOWTAM.

e-f) The abbreviated heading “TTAAiiii CCCC MMYGGg (BBB)” is included to facilitate the automatic processing of SNOWTAM messages in computer data banks. The explanation of these symbols is:

TT = data designator for SNOWTAM = SW;

AA = geographical designator for States, e.g. LF = FRANCE, EG = United Kingdom (see *Location Indicators* (Doc 7910), Part 2, Index to Nationality Letters for Location Indicators);

iiii = SNOWTAM serial number in a four-digit group;

CCCC = four-letter location indicator of the aerodrome to which the SNOWTAM refers (see *Location Indicators* (Doc 7910));

MMYYGGg = date/time of observation/measurement, whereby:

MM = month, e.g. January = 01, December = 12

YY = day of the month

GGg = time in hours (GG) and minutes (g) UTC;

(BBB) = optional group for:

Correction, in the case of an error, to SNOWTAM message previously disseminated with the same serial number = COR.

Note 1.— Brackets in (BBB) are used to indicate that this group is optional.

Note 2.— When reporting on more than one runway and individual dates/times of observation/measurement are indicated by repeated Item B, the latest date/time of observation/measuring is inserted in the abbreviated heading (MMYYGGg).

Example: Abbreviated heading of SNOWTAM No. 149 from Zurich, measurement/observation of 7 November at 0620 UTC:

SWLS0149 LSZH 11070620

Note.— The information groups are separated by a space, as illustrated above.

~~f) The text “SNOWTAM” in the SNOWTAM Format and the SNOWTAM serial number in a four digit group shall be separated by a space, for example: SNOWTAM 0124.~~

g) For readability purposes for the SNOWTAM message, include a line feed after the SNOWTAM serial number, after Item A, after the last item referring to the runway (e.g. Item P) and after Item S and after the aeroplane performance section.

h) When reporting on more than one runway, repeat the information in the Aeroplane performance calculation section from the Date and Time of Assessment for each runway before the information in the Situational awareness section.

i) Mandatory information is:

- i) AERODROME LOCATION INDICATOR
- ii) DATE AND TIME OF ASSESSMENT
- iii) LOWER RUNWAY DESIGNATOR NUMBER
- iv) RUNWAY CONDITION CODE FOR EACH RUNWAY THIRD
- v) CONDITION DESCRIPTION FOR EACH RUNWAY THIRD (when runway condition code is reported 1- 5)

~~2. Item A — Aerodrome location indicator (four letter location indicator).~~

~~3. Item B — Eight figure date/time group — giving time of observation as month, day, hour and minute in UTC; this item must always be completed.~~

~~4. Item C — Lower runway designator number.~~

~~5. Item D — Cleared runway length in metres, if less than published length (see Item T on reporting on part of runway not cleared).~~

~~6. Item E — Cleared runway width in metres, if less than published width; if offset left or right of centre line, add (without space) “L” or “R”, as viewed from the threshold having the lower runway designation number.~~

~~7. Item F — Deposit over total runway length as explained in SNOWTAM Format. Suitable combinations of these numbers may be used to indicate varying conditions over runway segments. If more than one deposit is present on the same portion of the runway, they should be reported in sequence from the top (closest to the sky) to the bottom (closest to the runway). Drifts, depths of deposit appreciably greater than the average values or other significant characteristics of the deposits may be reported under Item T in plain language. The values for each third of the runway shall be separated by an oblique stroke (/), without space between the deposit values and the oblique stroke, for example: 47/47/47.~~

~~— Note. — Definitions for the various types of snow are given at the end of this Appendix.~~

~~8. Item G — Mean depth in millimetres deposit for each third of total runway length, or “XX” if not measurable or operationally not significant; the assessment to be made to an accuracy of 20 mm for dry snow, 10 mm for wet snow and 3 mm for slush. The values for each third of the runway shall be separated by an oblique stroke (/), without space between the values and the oblique stroke, for example: 20/20/20.~~

~~9. Item H — Estimated surface friction on each third of the runway (single digit) in the order from the threshold having the lower runway designation number.~~

~~Friction measurement devices can be used as part of the overall runway surface assessment. Some States may have developed procedures for runway surface assessment which may include the use of information obtained from friction measuring devices and the reporting of quantitative values. In such~~

cases, these procedures should be published in the AIP and the reporting made in Item (T) of the SNOWTAM format.

The values for each third of the runway are separated by an oblique stroke (/), without space between the values and the oblique stroke, for example: 5/5/5.

10. *Item J* — Critical snow banks. If present insert height in centimetres and distance from edge of runway in metres, followed (without space) by left (“L”) or right (“R”) side or both sides (“LR”), as viewed from the threshold having the lower runway designation number.
11. *Item K* — If runway lights are obscured, insert “YES” followed (without space) by “L”, “R” or both “LR”, as viewed from the threshold having the lower runway designation number.
12. *Item L* — When further clearance will be undertaken, enter length and width of runway or “TOTAL” if runway will be cleared to full dimensions.
13. *Item M* — Enter the anticipated time of completion in UTC.
14. *Item N* — The code (and combination of codes) for Item F may be used to describe taxiway conditions; enter “NO” if no taxiways serving the associated runway are available.
15. *Item P* — If snow banks are higher than 60 cm, enter “YES” followed by the lateral distance parting the snow banks (the distance between) in metres.
16. *Item R* — The code (and combination of codes) for Item F may be used to describe apron conditions; enter “NO” if the apron is unusable.
17. *Item S* — Enter the anticipated time of next observation/measurement in UTC.
18. *Item T* — Describe in plain language any operationally significant information but always report on length of uncleared runway (Item D) and extent of runway contamination (Item F) for each third of the runway (if appropriate) in accordance with the following scale:

RWY CONTAMINATION 10 PER CENT — if 10% or less of runway contaminated
 RWY CONTAMINATION 25 PER CENT — if 11–25% of runway contaminated
 RWY CONTAMINATION 50 PER CENT — if 26–50% of runway contaminated
 RWY CONTAMINATION 100 PER CENT — if 51–100% of runway contaminated.

2. *Aeroplane performance calculation section*

Item A — Aerodrome location indicator (4-letter location indicator).

Item B — Date and time of assessment eight-figure date/time group giving time of observation as month, day, hour and minute in UTC.

Item C — Lower runway designator number (nn[L] or nn[C] or nn[R])

Note. — Only one runway designator is inserted for each runway and always the lowest number.

Item D — Runway condition code for each runway third — Only one digit (0, 1, 2, 3, 4, 5 or 6) is inserted for each runway third, separated by an oblique stroke (n/n/n)

Item E — Per cent coverage for each runway third . When provided, insert 25, 50, 75 or 100 for each runway third separated by an oblique stroke ([n]nn/[n]nn/[n]nn).

Note 1.— This information is provided only when the runway condition for each runway third (Item D) has been reported as other than 6 and there is a condition description for each runway third (Item G) that has been reported other than DRY.

Note 2.— When the conditions are not reported, this will be signified by the insertion of “NR” for the appropriate runway third.

Item F — Depth of loose contaminant for each runway third. When provided, insert in millimetres for each runway third separated by an oblique stroke (nn/nn/nn or nnn/nnn/nnn).

Note 1.— This information is only provided for the following contamination types:

Standing water, values to be reported 04, then assessed value. Significant changes 3 mm up to and including 15 mm.

Slush, values to be reported 03, then assessed value. Significant changes 3 mm up to and including 15 mm.

Wet snow, values to be reported 03, then assessed value. Significant changes 5 mm.

Dry snow, values to be reported 03, then assessed value. Significant changes 20 mm.

Note 2.— When the conditions are not reported, this will be signified by the insertion of “NR” for the appropriate runway third.

Item G — Condition description for each third. Insert any of the following condition descriptions for each runway third separated by an oblique stroke.

COMPACTED SNOW

DRY SNOW

DRY SNOW ON TOP OF COMPACTED SNOW

DRY SNOW ON TOP OF ICE

FROST

ICE

SLUSH

STANDING WATER

WATER ON TOP OF COMPACTED SNOW

WET ICE

WET SNOW

WET SNOW ON TOP OF COMPACTED SNOW

WET SNOW ON TOP OF ICE

DRY (only reported when there is no contaminant)

Note.— When the conditions are not reported, this will be signified by the insertion of “NR” for the appropriate runway third.

Item H — Width of RWY to which the RWYCCs apply. Insert the width in metres if less than the published runway width.

3. *Situational awareness section*

Note 1.— Elements in the situational awareness section end with a full stop.

Note 2.— Elements in the situational awareness section for which no information exists, or where the conditional circumstances for publication is not fulfilled, are left out completely.

Item I — Reduced runway length. Insert the applicable runway designator and available length in meters (example: RWY nn [L] or nn [C] or nn [R] REDUCED TO [n]nn).

Note.— This information is conditional when a NOTAM has been published with a new set of declared distances.

Item J — Drifting snow on the runway. When reported, insert DRIFTING SNOW.

Item K — Loose sand on the runway. When loose sand is reported on the runway, insert the lowest runway designator and with a space “LOOSE SAND” (example: RWY nn or RWY nn[L] or nn[C] or nn[R] LOOSE SAND).

Item L — Chemical treatment on RWY. When chemical treatment has been reported applied, insert the lowest runway designator and with a space “CHEMICALLY TREATED” (example: RWY nn or RWY nn[L] or nn[C] or nn[R] CHEMICALLY TREATED).

Item M — Snow banks on the runway. When critical snow banks are reported present on the runway, insert the runway designator and with a space “SNOWBANK” and with a space left “L” or right “R” or both sides “LR”, followed by the distance in metres from centreline separated by a space FM CL (example: RWY nn or RWY nn[L] or nn[C] or nn[R] SNOWBANK Lnn or Rnn or LRnn FM CL).

Item N — Snow banks on the taxiway. When critical snow banks are present on a taxiway, insert the taxiway designator and with a space “SNOWBANK” and with a space left “L” or right “R” or both sides “LR”, followed by the distance in metres from centreline separated by a space FM CL (example: TWY [nn]n SNOWBANK Lnn or Rnn or LRnn FM CL).

Item O — Snow banks adjacent to the runway. When snow banks are reported present penetrating the height profile in the aerodrome snow plan, insert lowest runway designator and “ADJ SNOWBANKS” (example: RWY nn or RWY nn[L] or nn[C] or nn[R] ADJ SNOWBANKS).

Item P — Taxiway conditions. When taxiway conditions are reported slippery or poor insert taxiway designator followed by a space “POOR”. (example: TWY [n or nn] POOR or ALL TWY POOR).

Item R — Apron conditions. When apron conditions are reported slippery or poor insert apron designator followed by a space “POOR” (example: APRON [nnnn] POOR or ALL APRONS POOR).

Item S — Measured friction coefficient. Where reported, insert the measured friction coefficient and friction measuring device.

Note.— This will only be reported for those States that have an established program of runway friction measurement using State approved friction measuring equipment.

Item T — Plain language remarks.

EXAMPLE OF COMPLETED SNOWTAM FORMAT

GG EHAMZQZX EDDFZQZX EKCHZQZX
 070645 LSZHNYX
 SWLS0149 LSZH 11070700
 (SNOWTAM 0149
 A) LSZH
 B) 11070620 ————— C) 02 ————— D) ...P)
 B) 11070600 ————— C) 09 ————— D) ...P)
 B) 11070700 ————— C) 12 ————— D) ...P)
 R) NO ————— S) 11070920
 T) DEICING

Example SNOWTAM 1

GG EADBZQZX EADNZQZX EADSZQZX
 070645 EADDYNYX
 SWEA0149 EADD 02170055
 (SNOWTAM 0149
 EADD 02170055 09L 5/5/5 100/100/100 NR/NR/NR WET/WET/WET
)

Example SNOWTAM 2

GG EADBZQZX EADNZQZX EADSZQZX
 070645 EADDYNYX
 SWEA0149 EADD 02170135
 (SNOWTAM 0150
 EADD 02170055 09L 5/5/5 100/100/100 NR/NR/NR WET/WET/WET
 EADD 02170135 09R 5/4/3 100/50/75 NR/06/06 WET/SLUSH/SLUSH
)

Example SNOWTAM 3

GG EADBZQZX EADNZQZX EADSZQZX
 070645 EADDYNYX
 SWEA0149 EADD 02170225
 (SNOWTAM 0151
 EADD 02170055 09L 5/5/5 100/100/100 NR/NR/NR WET/WET/WET
 EADD 02170135 09R 5/4/3 100/50/75 NR/06/06 WET/SLUSH/SLUSH
 EADD 02170225 09C 3/2/1 75/100/100 06/12/12 SLUSH/WET SNOW/WET SNOW
 RWY 09L SNOWBANK R20 FM CL. RWY 09R ADJ SNOWBANKS. TWY B POOR. APRON
 NORTH POOR)

Example SNOWTAM 4

GG EADBZQZX EADNZQZX EADSZQZX
 070645 EADDYNYX
 SWEA0149 EADD 02170345
 (SNOWTAM 0152
 EADD 02170345 09L 5/5/5 100/100/100 NR/NR/NR WET/WET/WET
 EADD 02170134 09R 5/4/3 100/50/75 NR/06/06 WET/SLUSH/SLUSH
 EADD 02170225 09C 3/2/1 75/100/100 06/12/12 SLUSH/WET SNOW/WET SNOW 35
 DRIFTING SNOW. RWY 09L LOOSE SAND. RWY 09R CHEMICALLY TREATED. RWY 09C
 CHEMICALLY TREATED.)

Note.— See the Aeronautical Information Services Manual (Doc 8126) for additional SNOWTAM examples incorporating different runway conditions.

Definitions of the various types of snow

~~**Slush.** Water saturated snow which with a heel and toe slap down motion against the ground will be displaced with a splatter; specific gravity: 0.5 up to 0.8.~~

~~—— *Note.*— Combinations of ice, snow and/or standing water may, especially when rain, rain and snow, or snow is falling, produce substances with specific gravities in excess of 0.8. These substances, due to their high water/ice content, will have a transparent rather than a cloudy appearance and, at the higher specific gravities, will be readily distinguishable from slush.~~

Snow (on the ground).

- ~~a) **Dry snow.** Snow which can be blown if loose or, if compacted by hand, will fall apart again upon release; specific gravity: up to but not including 0.35.~~
- ~~b) **Wet snow.** Snow which, if compacted by hand, will stick together and tend to or form a snowball; specific gravity: 0.35 up to but not including 0.5.~~
- ~~c) **Compacted snow.** Snow which has been compressed into a solid mass that resists further compression and will hold together or break up into lumps if picked up; specific gravity: 0.5 and over.~~

— END —



International
Civil Aviation
Organization

Organisation
de l'aviation civile
internationale

Organización
de Aviación Civil
Internacional

Международная
организация
гражданской
авиации

منظمة الطيران
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国际民用
航空组织

Tel.: +1 514-954-8219 ext. 6717

Ref.: AN 9/1.3-16/38

11 April 2016

Subject: Adoption of Amendment 59 to Annex 4

Action required: a) Notify any disapproval before 11 July 2016; b) Notify any differences and compliance before 10 October 2016; and c) Consider the use of the Electronic Filing of Differences (EFOD) System for notification of differences and compliance

Sir/Madam,

1. I have the honour to inform you that Amendment 59 to the *International Standards and Recommended Practices, Aeronautical Charts* (Annex 4 to the Convention on International Civil Aviation) was adopted by the Council at the fourth meeting of its 207th Session on 22 February 2016. Copies of the Amendment and the Resolution of Adoption are available as attachments to the electronic version of this State letter on the ICAO-NET (<http://portal.icao.int>) where you can access all other relevant documentation.

2. When adopting the amendment, the Council prescribed 11 July 2016 as the date on which it will become effective, except for any part concerning which a majority of Contracting States have registered their disapproval before that date. In addition, the Council resolved that Amendment 59, to the extent it becomes effective, will become applicable on 10 November 2016.

3. Amendment 59 arises from:

- a) the second meeting of the Operational Data Link Panel (OPLINKP/2); and
- b) the twelfth meeting of the Instrument Flight Procedures Panel (IFPP/12).

4. The amendment concerning satellite voice communications (SATVOICE) is part of a major revision to several Annexes and PANS and introduces a provision on the aeronautical charts for SATVOICE number(s). The readily available information on SATVOICE number(s) assists the flight crew in contacting air traffic services (ATS) units in a more efficient manner, which will have a positive impact on operational safety, particularly during emergency situation.

5. The amendment concerning visual segment surface (VSS) addresses the identification of penetrations of the VSS on aeronautical charts to contribute to improved safety through enhanced situational awareness of potential safety hazards. The update of the provisions relating to publication depiction and functionality requirements of fly-by and fly-over significant points, area minimum altitude (AMA), CAT H procedures and en-route airway directional use restrictions is intended to provide clarity and transparency to existing Annex 4 requirements to avoid misinterpretation by the users and support an effective implementation of the criteria, resulting in increased safety. This amendment to Annex 4 complements revisions to the *Procedures for Air Navigation Services — Aircraft Operations*, Volume II — *Construction of Visual and Instrument Flight Procedures* (Doc 8168, PANS-OPS) and guidance material.

6. The subjects are given in the amendment to the Foreword of Annex 4, a copy of which is in Attachment A.

7. In conformity with the Resolution of Adoption, may I request:

- a) that before 11 July 2016 you inform me if there is any part of the adopted Standards and Recommended Practices (SARPs) amendments in Amendment 59 concerning which your Government wishes to register disapproval, using the form in Attachment B for this purpose. Please note that only statements of disapproval need be registered and if you do not reply it will be assumed that you do not disapprove of the amendment;
- b) that before 10 October 2016 you inform me of the following, using the form in Attachment C for this purpose:
 - 1) any differences that will exist on 10 November 2016 between the national regulations or practices of your Government and the provisions of the whole of Annex 4, as amended by all amendments up to and including Amendment 59, and thereafter of any further differences that may arise; and
 - 2) the date or dates by which your Government will have complied with the provisions of the whole of Annex 4, as amended by all amendments up to and including Amendment 59.

8. With reference to the request in paragraph 7 a) above, it should be noted that a registration of disapproval of Amendment 59 or any part of it in accordance with Article 90 of the Convention does not constitute a notification of differences under Article 38 of the Convention. To comply with the latter provision, a separate statement is necessary if any differences do exist, as requested in paragraph 7 b) 1). It is recalled in this respect that international Standards in Annexes have a conditional binding force, to the extent that the State or States concerned have not notified any difference thereto under Article 38 of the Convention.

9. With reference to the request in paragraph 7 b) above, it should be also noted that the ICAO Assembly, at its 38th Session (24 September to 4 October 2013) resolved that Member States should be encouraged to use the Electronic Filing of Differences (EFOD) System when notifying differences (Resolution A38-11 refers). EFOD is currently available on the Universal Safety Oversight Audit Programme (USOAP) restricted website (<http://www.icao.int/usoap>) which is accessible by all Member States. You are invited to consider using this for notification of compliance and differences.

10. Guidance on the determination and reporting of differences is given in the Note on the Notification of Differences in Attachment D. Please note that a detailed repetition of previously notified differences, if they continue to apply, may be avoided by stating the current validity of such differences.

11. I would appreciate it if you would also send a copy of your notifications, referred to in paragraph 7 b) above, to the ICAO Regional Office accredited to your Government.

12. As soon as practicable after the amendment becomes effective, on 11 July 2016, replacement pages incorporating Amendment 59 will be forwarded to you.

13. At the fifth meeting of its 204th Session, the Council requested that States, when being advised of the adoption of an Annex amendment, be provided with information on implementation and available guidance material, as well as an impact assessment. This is presented for your information in Attachments E and F, respectively.

Accept, Sir/Madam, the assurances of my highest consideration.



Fang Liu
Secretary General

Enclosures:

- A — Amendment to the Foreword of Annex 4
- B — Form on notification of disapproval of all or part of Amendment 59 to Annex 4
- C — Form on notification of compliance with or differences from Annex 4, Amendment 59
- D — Note on the Notification of Differences
- E — Implementation task list and outline of guidance material in relation to Amendment 59 to Annex 4
- F — Impact assessment in relation to Amendment 59 to Annex 4

ATTACHMENT A to State letter AN 9/1.3-16/38

AMENDMENT TO THE FOREWORD OF ANNEX 4

Add the following elements at the end of Table A:

<i>Amendment</i>	<i>Source(s)</i>	<i>Subjects</i>	<i>Adopted/Approved Effective Applicable</i>
59	The second meeting of the Operational Data Link Panel (OPLINKP/2); and the twelfth meeting of the Instrument Flight Procedures Panel (IFPP/12)	Provisions concerning satellite voice communications (SATVOICE); visual segment surface (VSS) penetrations charting requirements; and update of the provisions relating to publication depiction and functionality requirements of fly-by and fly-over significant points, area minimum altitude (AMA), CAT H procedures and en-route airway directional use restrictions.	22 February 2016 11 July 2016 10 November 2016

ATTACHMENT B to State letter AN 9/1.3-16/38

**NOTIFICATION OF DISAPPROVAL OF ALL OR PART OF
AMENDMENT 59 TO ANNEX 4**

To: The Secretary General
International Civil Aviation Organization
999 Robert-Bourassa Boulevard
Montreal, Quebec
Canada H3C 5H7

(State) _____ hereby wishes to disapprove the following parts of
Amendment 59 to Annex 4:

Signature _____

Date _____

NOTES

- 1) If you wish to disapprove all or part of Amendment 59 to Annex 4, please dispatch this notification of disapproval to reach ICAO Headquarters by 11 July 2016. If it has not been received by that date it will be assumed that you do not disapprove of the amendment. **If you approve of all parts of Amendment 59, it is not necessary to return this notification of disapproval.**
- 2) This notification should not be considered a notification of compliance with or differences from Annex 4. Separate notifications on this are necessary. (See Attachment C.)
- 3) Please use extra sheets as required.

ATTACHMENT C to State letter AN 9/1.3-16/38

NOTIFICATION OF COMPLIANCE WITH OR DIFFERENCES FROM ANNEX 4

(including all amendments up to and including Amendment 59)

To: The Secretary General
International Civil Aviation Organization
999 Robert-Bourassa Boulevard
Montreal, Quebec
Canada H3C 5H7

1. No differences will exist on _____ between the national regulations and/or practices of **(State)** _____ and the provisions of Annex 4, including all amendments up to and including Amendment 59.

2. The following differences will exist on _____ between the regulations and/or practices of **(State)** _____ and the provisions of Annex 4, including Amendment 59 (Please see Note 2) below.)

a) Annex Provision	b) Details of Difference	c) Remarks
(Please give exact paragraph reference)	(Please describe the difference clearly and concisely)	(Please indicate reasons for the difference)

(Please use extra sheets as required)

3. By the dates indicated below, **(State)** _____ will have complied with the provisions of Annex 4 , including all amendments up to and including Amendment 59 for which differences have been notified in 2 above.

a) Annex Provision (Please give exact paragraph reference)	b) Date	c) Comments
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(Please use extra sheets as required)

Signature _____

Date _____

NOTES

- 1) If paragraph 1 above is applicable to your State, please complete paragraph 1 and return this form to ICAO Headquarters. If paragraph 2 is applicable to you, please complete paragraphs 2 and 3 and return the form to ICAO Headquarters.
- 2) A detailed repetition of previously notified differences, if they continue to apply, may be avoided by stating the current validity of such differences.
- 3) Guidance on the notification of differences is provided in the Note on the Notification of Differences and in the *Manual on Notification and Publication of Differences* (Doc 10055).
- 4) Please send a copy of this notification to the ICAO Regional Office accredited to your Government.

ATTACHMENT D to State letter AN 9/1.3-16/38

NOTE ON THE NOTIFICATION OF DIFFERENCES
(Prepared and issued in accordance with instructions of the Council)

1. *Introduction*

1.1 Article 38 of the *Convention on International Civil Aviation* (“Convention”) requires that a Contracting State notify ICAO any time it does not comply with a Standard in all respects, it does not bring its regulations or practices into full accord with any Standard, or it adopts regulations or practices differing in any particular respect from the Standard.

1.2 The Assembly and the Council, when reviewing the notification of differences by Contracting States in compliance with Article 38 of the Convention, have repeatedly noted that the timeliness and currency of such notifications is not entirely satisfactory. Therefore, this note is issued to reiterate the primary purpose of Article 38 of the Convention and to facilitate the determination and notification of differences.

1.3 The primary purpose of the notification of differences is to promote safety, regularity and efficiency in air navigation by ensuring that governmental and other agencies, including operators and service providers, concerned with international civil aviation are made aware of all national regulations and practices in so far as they differ from those prescribed in the Standards contained in Annexes to the Convention.

1.4 Contracting States are, therefore, requested to give particular attention to the notification of differences with respect to Standards in all Annexes, as described in paragraph 4 b) 1) of the Resolution of Adoption.

1.5 Although differences from Recommended Practices are not notifiable under Article 38 of the Convention, the Assembly has urged Contracting States to extend the above considerations to Recommended Practices contained in Annexes to the Convention, as well.

2. *Notification of differences from Standards and Recommended Practices (SARPs)*

2.1 Guidance to Contracting States in the notification of differences to Standards and Recommended Practices (SARPs) can only be given in very general terms. Contracting States are further reminded that compliance with SARPs generally extends beyond the issuance of national regulations and requires establishment of practical arrangements for implementation, such as the provision of facilities, personnel and equipment and effective enforcement mechanisms. Contracting States should take those elements into account when determining their compliance and differences. The following categories of differences are provided as a guide in determining whether a notifiable difference exists:

- a) ***A Contracting State’s requirement is more exacting or exceeds a SARP (Category A).*** This category applies when the national regulation and practices are more demanding than the corresponding SARP, or impose an obligation within the scope of the Annex which is not covered by the SARP. This is of particular importance where a Contracting State requires a higher standard which affects the operation of aircraft of other Contracting States in and above its territory;

- b) *A Contracting State's requirement is different in character or the Contracting State has established other means of compliance (Category B)**. This category applies, in particular, when the national regulation and practices are different in character from the corresponding SARP, or when the national regulation and practices differ in principle, type or system from the corresponding SARP, without necessarily imposing an additional obligation; and
- c) *A Contracting State's requirement is less protective, partially implemented or not implemented (Category C)*. This category applies when the national regulation and practices are less protective than the corresponding SARP; when no national regulation has been promulgated to address the corresponding SARP, in whole or in part; or when the Contracting State has not brought its practices into full accord with the corresponding SARP.

These categories do not apply to Not Applicable SARP. Please see the paragraph below.

2.2 **Not Applicable SARP.** When a Contracting State deems a SARP concerning aircraft, operations, equipment, personnel, or air navigation facilities or services to be not applicable to the existing aviation activities of the State, notification of a difference is not required. For example, a Contracting State that is not a State of Design or Manufacture and that does not have any national regulations on the subject, would not be required to notify differences from Annex 8 provisions related to the design and construction of an aircraft.

2.3 **Differences from appendices, tables and figures.** The material comprising a SARP includes not only the SARP itself, but also the appendices, tables and figures associated with the SARP. Therefore, differences from appendices, tables and figures are notifiable under Article 38. In order to file a difference against an appendix, table or figure, States should file a difference against the SARP that makes reference to the appendix, table or figure.

2.4 **Differences from definitions.** Contracting States should notify differences from definitions. The definition of a term used in a SARP does not have independent status but is an essential part of each SARP in which the term is used. Therefore, a difference from the definition of the term may result in there being a difference from any SARP in which the term is used. To this end, Contracting States should take into consideration differences from definitions when determining compliance or differences to SARPs in which the terms are used.

2.5 The notification of differences should be not only to the latest amendment but to the whole Annex, including the amendment. In other words, Contracting States that have already notified differences are requested to provide regular updates of the differences previously notified until the difference no longer exists.

2.6 Further guidance on the identification and notification of differences, examples of well-defined differences and examples of model processes and procedures for management of the notification of differences can be found in the *Manual on Notification and Publication of Differences* (Doc 10055).

* The expression "different in character or other means of compliance" in b) would be applied to a national regulation and practice which achieve, by other means, the same objective as that of the corresponding SARPs or for other substantive reasons so cannot be classified under a) or c).

3. *Form of notification of differences*

3.1 Differences can be notified:

- a) by sending to ICAO Headquarters a form on notification of compliance or differences;
or
- b) through the Electronic Filing of Differences (EFOD) System at www.icao.int/usoap.

3.2 When notifying differences, the following information should be provided:

- a) the number of the paragraph or subparagraph which contains the SARP to which the difference relates*;
- b) the reasons why the State does not comply with the SARP, or considers it necessary to adopt different regulations or practices;
- c) a clear and concise description of the difference; and
- d) intentions for future compliance and any date by which your Government plans to confirm compliance with and remove its difference from the SARP for which the difference has been notified.

3.3 The differences notified will be made available to other Contracting States, normally in the terms used by the Contracting State when making the notification. In the interest of making the information as useful as possible, Contracting States are requested to ensure that:

- a) statements be as clear and concise as possible and be confined to essential points;
- b) the provision of extracts from national regulations not be considered as sufficient to satisfy the obligation to notify differences; and
- c) general comments, unclear acronyms and references be avoided.

— — — — —

* This applies only when the notification is made under 3.1 a).

**IMPLEMENTATION TASK LIST AND OUTLINE OF GUIDANCE
MATERIAL IN RELATION TO AMENDMENT 59 TO ANNEX 4**

1. IMPLEMENTATION TASK LIST

1.1 Essential steps to be followed by a State in order to implement the proposed amendment to Annex 4:

- a) identification of the rule-making process necessary to transpose the modified ICAO provisions into the national regulations;
- b) establishment of a national implementation plan that takes into account the modified ICAO provisions;
- c) drafting of the modification to the national regulations and means of compliance;
- d) official adoption of the national regulations and means of compliance;
- e) filing of State differences with ICAO, if necessary; and
- f) training of operational staff in the use of new provisions.

2. STANDARDIZATION PROCESS

2.1 Effective date: 11 July 2016

2.2 Applicability date: 10 November 2016

2.3 Embedded applicability date(s): N/A

3. SUPPORTING DOCUMENTATION

3.1 ICAO documentation

Title	Type (PANS/TI/Manual/Circ)	Planned publication date
<i>Procedures for Air Navigation Services — Aircraft Operations (PANS-OPS, Doc 8168)</i>	PANS	November 2016
<i>Aeronautical Charting Manual (Doc 8697)</i>	Manual	November 2016
<i>Aeronautical Information Services Manual (Doc 8126)</i>	Manual	November 2016

3.2 **External documentation**

Title	External Organization	Publication date
Nil		

4. **IMPLEMENTATION ASSISTANCE TASKS**

Type	Global	Regional
Broader distribution of the proposed amendment to Annex 4.	Training Centers	Flight Procedures Programme Offices

5. **UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME (USOAP)**

5.1 No changes are envisaged in the Protocol Questions (PQs).

IMPACT ASSESSMENT IN RELATION TO AMENDMENT 59 TO ANNEX 4

1. INTRODUCTION

1.1 Amendment 59 to Annex 4 introduces a provision on the aeronautical charts for SATVOICE number(s), addresses the identification of penetrations of the VSS on aeronautical charts to contribute to improved safety through enhanced situational awareness and is intended to provide clarity to existing requirements so they are easily interpreted by the users.

2. IMPACT ASSESSMENT

2.1 *Safety impact:* The proposed amendment to Annex 4 provides various opportunities for the improvement of operational safety. The readily available information on SATVOICE number(s) assists the flight crew in contacting air traffic services (ATS) units in a more efficient manner, which will have a positive impact on operational safety, particularly during emergency situation. Identifying penetrations of the VSS on aeronautical charts improves operational safety by increasing pilots' situational awareness of a potential safety hazard. More transparency with respect to existing Annex 4 requirements will avoid misinterpretation by the users` and support an effective implementation of the criteria, resulting in increased safety.

2.2 *Financial impact:* The changes to Annex 4 provisions, which include the new requirements for SATVOICE number(s) and for flight procedures with VSS penetrations, will imply costs for both States and industry that stem from the need to update aeronautical charts. However, the costs are considered minimal. Negligible cost is expected as a result of updating the provisions for both States and industry.

2.3 *Security impact:* No security impact is expected with this proposal.

2.4 *Environmental impact:* No environmental impact is expected with this proposal.

2.5 *Efficiency impact:* No efficiency impact is expected with this proposal.

2.6 *Expected implementation time:* The expected implementation time varies depending on the States` status of implementation. Some States have already implemented part of the requirements and taken actions accordingly. For States that have not implemented the requirements, the implementation time will depend on the number of charts that need to be updated.

AMENDMENT No. 59

TO THE

**INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES**

AERONAUTICAL CHARTS

ANNEX 4

TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

The amendment to Annex 4 contained in this document was adopted by the Council of ICAO on **22 February 2016**. Such parts of this amendment as have not been disapproved by more than half of the total number of Contracting States on or before **11 July 2016** will become effective on that date and will become applicable on **10 November 2016** as specified in the Resolution of Adoption. (State letter AN 9/1.3-16/38 refers.)

FEBRUARY 2016

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**AMENDMENT 59 TO THE INTERNATIONAL STANDARDS AND
RECOMMENDED PRACTICES**

ANNEX 4 — AERONAUTICAL CHARTS

RESOLUTION OF ADOPTION

The Council

Acting in accordance with the Convention on International Civil Aviation, and particularly with the provisions of Articles 37, 54 and 90 thereof,

1. *Hereby adopts* on 22 February 2016 Amendment 59 to the International Standards and Recommended Practices contained in the document entitled *International Standards and Recommended Practices, Aeronautical Charts* which for convenience is designated Annex 4 to the Convention;
2. *Prescribes* 11 July 2016 as the date upon which the said amendment shall become effective, except for any part thereof in respect of which a majority of the Contracting States have registered their disapproval with the Council before that date;
3. *Resolves* that the said amendment or such parts thereof as have become effective shall become applicable on 10 November 2016;
4. *Requests the Secretary General:*
 - a) to notify each Contracting State immediately of the above action and immediately after 11 July 2016 of those parts of the amendment which have become effective;
 - b) to request each Contracting State:
 - 1) to notify the Organization (in accordance with the obligation imposed by Article 38 of the Convention) of the differences that will exist on 10 November 2016 between its national regulations or practices and the provisions of the Standards in the Annex as hereby amended, such notification to be made before 10 October 2016, and thereafter to notify the Organization of any further differences that arise;
 - 2) to notify the Organization before 10 October 2016 of the date or dates by which it will have complied with the provisions of the Standards in the Annex as hereby amended;
 - c) to invite each Contracting State to notify additionally any differences between its own practices and those established by the Recommended Practices, following the procedure specified in subparagraph b) above with respect to differences from Standards.

**NOTES ON THE PRESENTATION OF THE
AMENDMENT 59 TO ANNEX 4**

The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

1. ~~Text to be deleted is shown with a line through it.~~ text to be deleted
2. **New text to be inserted is highlighted with grey shading.** new text to be inserted
3. ~~Text to be deleted is shown with a line through it~~ followed by the **replacement text which is highlighted with grey shading.** new text to replace existing text

TEXT OF AMENDMENT 59

TO THE

INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES

AERONAUTICAL CHARTS

ANNEX 4

TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

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CHAPTER 7. ENROUTE CHART — ICAO

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7.6 Culture and topography

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7.6.2 Within each quadrilateral formed by the parallels and meridians, the area minimum altitude shall be shown, except as provided for in 7.6.3.

Note 1.— Quadrilaterals formed by the parallels and meridians normally correspond to the whole degree of latitude and longitude. Regardless of the chart scale being used, the area minimum altitude relates to the consequent quadrilateral.

Note 2. — Refer to the Procedures for Air Navigation — Aircraft Operations (PANS-OPS, Doc 8168), Volume II, Part I, Section 2, Chapter 1, paragraph 1.8 for method for determination of area minimum altitude.

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7.9 Aeronautical data

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7.9.3 Air traffic services system

7.9.3.1 Where appropriate, the components of the established air traffic services system shall be shown.

7.9.3.1.1 The components shall include the following:

...

- d) All ATS routes for en-route flight including route designators, the track to the nearest degree in both directions along each segment of the routes and, where established, the designation of the navigation specification(s) including any limitations and the direction of traffic flow;

Note.— Guidance material on the organization of ATS routes for en-route flight publication which may be used to facilitate charting is contained in the Aeronautical Information Services Manual (Doc 8126).

...

- k) communication facilities listed with their channels and, if applicable, logon address and satellite voice communications (SATVOICE) number;

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CHAPTER 8. AREA CHART — ICAO

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8.9.3 Area minimum altitudes

Area minimum altitudes shall be shown within quadrilaterals formed by the parallels and meridians.

Note.— Depending on the selected chart scale, quadrilaterals formed by the parallels and meridians normally correspond to the whole degree of latitude and longitude.

Note 1.— Quadrilaterals formed by the parallels and meridians normally correspond to the whole degree of latitude and longitude. Regardless of the chart scale being used, the area minimum altitude relates to the consequent quadrilateral.

Note 2.— Refer to the Procedures for Air Navigation — Aircraft Operations (PANS-OPS, Doc 8168), Volume II, Part I, Section 2, Chapter 1, paragraph 1.8 for method for determination of area minimum altitude.

...

8.9.4 Air traffic services system

8.9.4.1 The components of the established relevant air traffic services system shall be shown.

8.9.4.1.1 The components shall include the following:

...

- o) communication facilities listed with their channels and, if applicable, logon address and SATVOICE number; and

...

CHAPTER 9. STANDARD DEPARTURE CHART — INSTRUMENT (SID) — ICAO

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9.9.3 Minimum sector altitude

9.9.3.1 The established minimum sector altitude shall be shown with a clear indication of the sector to which it applies.

9.9.3.2 Where the minimum sector altitude has not been established, the chart shall be drawn to scale and area minimum altitudes shall be shown within quadrilaterals formed by the parallels and meridians. Area minimum altitudes shall also be shown in those parts of the chart not covered by the minimum sector altitude.

Note.— Depending on the selected chart scale, quadrilaterals formed by the parallels and meridians normally correspond to the half-degree of latitude and longitude.

Note 1.— Quadrilaterals formed by the parallels and meridians normally correspond to the half degree of latitude and longitude. Regardless of the chart scale being used, the area minimum altitude relates to the consequent quadrilateral.

Note 2.— Refer to the Procedures for Air Navigation — Aircraft Operations (PANS-OPS, Doc 8168), Volume II, Part I, Section 2, Chapter 1, paragraph 1.8 for method for determination of area minimum altitude.

...

9.9.4 Air traffic services system

9.9.4.1 The components of the established relevant air traffic services system shall be shown.

9.9.4.1.1 The components shall comprise the following:

- a) a graphic portrayal of each standard departure route — instrument, including:
 - 1) for departure procedures designed specifically for helicopters the term “CAT H” shall be depicted in the departure chart plan view;
 - 1-2) route designator;

Editorial note.— Renumber subsequent paragraphs accordingly.

...

- j) radio communication procedures, including:
 - 1) call sign(s) of ATS unit(s);
 - 2) frequency and, if applicable, SATVOICE number;

- 3) transponder setting, where appropriate;

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CHAPTER 10. STANDARD ARRIVAL CHART — INSTRUMENT (STAR) — ICAO

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10.9.3 Minimum sector altitude

10.9.3.1 The established minimum sector altitude shall be shown with a clear indication of the sector to which it applies.

10.9.3.2 Where the minimum sector altitude has not been established, the chart shall be drawn to scale and area minimum altitudes shall be shown within quadrilaterals formed by the parallels and meridians. Area minimum altitudes shall also be shown in those parts of the chart not covered by the minimum sector altitude.

~~*Note.— Depending on the selected chart scale, quadrilaterals formed by the parallels and meridians normally correspond to the half degree of latitude and longitude.*~~

Note 1.— Quadrilaterals formed by the parallels and meridians normally correspond to the half degree of latitude and longitude. Regardless of the chart scale being used, the area minimum altitude relates to the consequent quadrilateral.

Note 2.— Refer to the Procedures for Air Navigation — Aircraft Operations (PANS-OPS, Doc 8168), Volume II, Part I, Section 2, Chapter 1, paragraph 1.8 for method for determination of area minimum altitude.

...

10.9.4 Air traffic services system

10.9.4.1 The components of the established relevant air traffic services system shall be shown.

10.9.4.1.1 The components shall comprise the following:

...

- i) radio communication procedures, including:
 - 1) call sign(s) of ATS unit(s);
 - 2) frequency and, if applicable, SATVOICE number;
 - 3) transponder setting, where appropriate;

...

- j) an indication of “flyover” significant waypoints; and

- k) for arrival procedures to an instrument approach designed specifically for helicopters the term “CAT H” shall be depicted in the arrival chart plan view.

...

CHAPTER 11. INSTRUMENT APPROACH CHART — ICAO

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11.10 Aeronautical data

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11.10.2 Obstacles

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11.10.2.7 Where an obstacle free zone has not been established for a precision approach runway Category I, this shall be indicated.

11.10.2.8 Obstacles that penetrate the visual segment surface shall be identified on the chart.

Note.— Guidance on the charting of VSS penetrations can be found in the Aeronautical Chart Manual (Doc 8697).

...

11.10.8 Supplementary information

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11.10.8.8 If the final approach descent gradient/angle for any type of instrument approach procedure exceeds the maximum value specified in the *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS, Doc 8168), Volume II, ~~Part I, Section 4, Chapter 5~~, a cautionary note shall be included.

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CHAPTER 13. AERODROME/HELIPORT CHART — ICAO

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13.6 Aerodrome/heliport data

13.6.1 This chart shall show:

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- o) relevant communication facilities listed with their channels and, if applicable, logon address and SATVOICE number;

...

APPENDIX 2. ICAO CHART SYMBOLS

...

AIR TRAFFIC SERVICES

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Editorial note.— Replace the section below by the new section as follows:

		On request fly-by	Compulsory fly-by	On request flyover	Compulsory flyover
121	Reporting and fly-by/flyover functionality				
	VFR reporting point				
	Intersection INT				
	VOR/MC				
	TACAN				
	VOR				
	VOR/DME				
	NDB				
Waypoint WPT					

Note.— See 2.4.4 and 2.4.5.

Significant Point Functionality

		Significant Point Depiction for Conventional Navigation		Significant Point Depiction for Area Navigation				
REPORTING FLY-BY/FLY-OVER		On request (N/A)	Compulsory (N/A)	On request fly-by	Compulsory fly-by	On request flyover	Compulsory flyover	
121	Basic Symbols with functionality	VFR reporting point						
	Intersection INT							
	VORTAC							
	TACAN							
	VOR							
	VOR/DME							
	NDB							
	Waypoint WPT	Not Used	Not Used					

For detail on use and meaning of these symbols, refer to paragraph 2.4

...

— END —