



International Civil Aviation Organization

AERODROME DESIGN AND OPERATIONS PANEL (ADOP)

FIRST MEETING

Montréal, 9 – 13 February 2015

REPORT FOLDER

The material in this report has not been considered by the Air Navigation Commission. The views expressed therein should be taken as advice of a panel of experts to the Air Navigation Commission but not as representing the views of the Organization. After the Air Navigation Commission has reviewed this report, a supplement setting forth the action taken by the Air Navigation Commission thereon will be issued to this report.

**REPORT OF THE FIRST MEETING OF THE
AERODROME DESIGN AND OPERATIONS PANEL (ADOP) (2015)**

LETTER OF TRANSMITTAL

To: President, Air Navigation Commission

From: Chairman, Aerodrome Design and Operations Panel (ADOP) (2015)

I have the honour to submit the report of Aerodrome Design and Operations Panel which was held in Montréal from 9 to 13 February 2015.

A handwritten signature in black ink, consisting of a large, stylized loop followed by a vertical line and a horizontal stroke, with the letters 'JL' visible in the middle.

Jean-Louis Pirat
Chairman

Montreal, 13 February 2015

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* Recommendations annotated "RSPP" relate to proposals for amendment of Standards, Recommended Practices and Procedures for Air Navigation Services or guidance material in an Annex.

AERODROME DESIGN AND OPERATIONS PANEL (ADOP)

FIRST MEETING

Montréal, 9 to 13 February 2015

HISTORY OF THE MEETING

1. DURATION

1.1 The first meeting of the Aerodrome Design and Operations Panel (ADOP) in Montréal was opened by Mr. Farid Zizi, President of the Air Navigation Commission (ANC), at 1000 hours on 9 February 2015. The meeting ended on 13 February 2015.

2. ATTENDANCE

2.1 The meeting was attended by fifty two members nominated by seventeen Contracting States and seven international organizations, including advisers and others as shown in the list below:

Members	Advisers	Nominated by
JONES, Kim		Australia
CLARYSSE, Kris	GEUKENS, Dirk	Belgium
EURICH, Marcos Roberto	PECANHA DOS SANTOS, Marcos Roberto	Brazil
HENEAULT, Guy		Canada
Dr. ZHAO Hong Yuan	MA, Zhigang JIANG, Changshan NG, Chee On YIP, Mui-Ling	China
PIRAT, Jean-Louis	BERNADAC, Aude	France
KOESTER, Marina	MAYER, Thomas ZANTOUT, Ibrahim	Germany
PANDOLFI, Costantino		Italy

MATSUNAGA, Hirohide	OKA, Jun NIIYA, Mitsuyuki TAMURA, Noriyasu	Japan
JAGER, Sietse	MEERMAN, Dick	Netherlands
SELJEAS, Jorn	NORHEIM, Armann	Norway
LOO, Chee Beng	WONG, Tseng Lee Alan, FOO	Singapore
SANCHO DE SALAS, Pablo		Spain
OLSSON, Tomas		Sweden
AL DOSSARI, Mohammad		United Arab Emirates
BADHAM, Andrew		United Kingdom
DERMODY, John	BONANNI, Robert LEGARRETA, George	United States
GAMPER, David	MAINGON, Bruno REDHEAD, Ian John, KIM	ACI
	PORALLA, Sarah	EASA
ADAMSON, Paul		EUROCONTROL
NEKRASOV, Valery		IAC
RENNER, Jurgén	GROUT, Jean-Francois MORIN, Joel PRICE, Andrew HOF, Joe	IATA
BACHTEL, Brad	DUPONT, Willy-Pierre	ICCAIA
SALAZAR, Heriberto	BEGIN, David	IFALPA

2. OFFICERS AND SECRETARIAT

2.1 Mr. Jean-Louis PIRAT (France) and Mr. Guy HENEALT (Canada) were elected Chairperson and Vice-Chairperson, respectively, of the meeting.

2.2 The Secretary of the meeting was Mr. Joseph CHEONG, Technical Officer, Airport Operations and Interoperability Section (AOI). He was assisted by Mr. Yong WANG, Chief/AOI, Mr. Avner SHILO, Technical Officer/AOI, Ms. Mary MARGIOTTIELLO, Technical Clerk/AOI, Ms. Vivian LOCH, Secretary/AOI and Mr. Huseyin AKDOGAN, seconded from Turkey.

2.3 Ms. Roberta LUCCIOLI (AOI), Ms. Elizabeth Gnehm and Messrs Henry DEFALQUE (Operational Safety, OPS), Neil HALSEY (AOI), Mike BOYD, Nicolas HINCHLIFFE, Michael HOHM and Miguel MARIN (Airspace Management and Optimization, AMO) assisted in the discussions as needed.

2.4 The following members of the ANC attended at least the opening sessions of the meeting, some attending various other sessions: Ms. Kirsten RIENSEMA, Messrs Simon ALLOTEY, Jeffrey BOLLARD, Aleksander A. KORSAKOV, Rolf MONNING and Hajime YOSHIRMURA.

3. AGENDA OF THE MEETING

3.1 The agenda for the meeting shown hereunder was approved by the ANC on 5 December 2014.

Agenda Item 1: Opening of the meeting

- 1.2: Introduction
- 1.3: Election of Chairperson and Vice-Chairperson
- 1.4: Briefing on ANB restructuring and Implementation Kits (iKits)

Agenda Item 2: Working Methods of the Panel

- 2.1: Review the agenda and approve the timetable
- 2.2: Review the Terms of Reference
- 2.3: Establishment of working groups
- 2.4: Panel coordination activities

Agenda Item 3: Consideration of approved work programme items

- 3.1: Global reporting format for runway surface condition assessment and reporting
- 3.2: Visual aids for navigation
- 3.3: Others

Agenda Item 4: ADOP Work Programme

- 4.1: Restructure of Annex 14, Volume I
- 4.2: ADOP vis-a-vis PANS-AERODROMES
- 4.3: New and emerging tasks
- 4.4: Proposed schedule of meetings for 2015 and beyond

Agenda Item 5: Any other business

4. **WORKING ARRANGEMENTS**

4.1 The panel met as a single body, with *ad hoc* drafting groups as required. Discussions in the meeting were conducted in English. Working and information papers were presented in English only with specific proposals related to Annex and PANS amendments translated into all ICAO working languages for the working papers submitted by the deadline.



ADOP/1-WP/15
13/02/15

AERODROME DESIGN AND OPERATIONS PANEL (ADOP)

FIRST MEETING

Headquarters, 9 to 13 February 2015

AGENDA ITEM 1

The attached constitutes the report on Agenda Item 1 and should be inserted at the appropriate place in the yellow folder.

Agenda Item 1: Opening of the meeting**1.1 REMARKS BY THE PRESIDENT OF THE AIR NAVIGATION COMMISSION (ANC)**

1.1.1 The first meeting of the Aerodrome Design and Operations Panel (ADOP) was opened by Mr. Farid Zizi, President of the ANC.

1.1.2 Mr. Zizi welcomed the members and advisers of the ADOP to the meeting. After according due recognition to the good work done by the panel to date, he apprised the meeting that the ANC, at the ninth meeting of its 196th Session on 19 June 2014, agreed to rename the Aerodromes Panel (AP) as the Aerodrome Design and Operations Panel (ADOP). The new panel would continue the tasks of the former AP with greater emphasis on efficiency and capacity issues through enhanced aerodrome operations. The President reminded the meeting on the importance for continuity of work as the AP transitioned to the new ADOP. He drew attention to the inclusion of the word “operations” in the newly christened ADOP which came about as a result of the 12th Air Navigation Conference that had placed greater importance to aerodrome operations. This did not, however, meant that design *per se* was not important, rather that the message from the Conference was that it was “design for an operational purpose”.

1.1.3 The following points were highlighted by Mr. Zizi:

- State letter SL 97 (2014) issued 19 Dec 2014 contained proposed amendments to Annex 14, Vols I & II arising from the work of AP/3 concerning aerodrome design, visual aids, operations and heliports emergency response and frangibility requirements;
- ANWP paper on autonomous runway incursion warning system would be discussed when the ANC resumed the following week;
- ANWP paper on global reporting format for runway surface condition assessment and reporting would be discussed when the ANC resumed the following week. This was an important paper containing proposed amendments across 5 Annexes and 2 PANS. The President congratulated the Friction Task Force (FTF) and the AP on this endeavour;
- ANC completed work on modernization of Panels. AP to be renamed ADOP with defined TORs. ANC had specified establishment of two major working groups ie. Design WG and Ops WG. ADOP chair may establish additional working groups as necessary to progress the work;
- happy to note that the ADOP would convert all legacy tasks into job cards and assigned them to the two ADOP WGs. Noted that these tasks were related to GANP, GASP and ASBU;
- ADOP had been tasked to engage in the next GANP update cycle. Some particular modules and thread had been decided to be looked at but this did not mean that ADOP cannot comment on other parts of the GANP. Idea was first to get ADOP contribution but also get ADOP involvement as from other Panels since GANP realization was highly dependent on the work of panels;

- in respect of PANS-AERODROMES, happy to announce Doc 9981 PANS-AERODROMES had been approved by ANC in June 2014 and by the President of the Council in October 2014. Separately, the associated Annex 14 SARPs on PANS-AERODROMES would be taken up for adoption by the Council the following month;
- the PANS-AERODROMES Study Group would be subsumed into the ADOP at a later date when the task of completing the PANS-AERODROMES was achieved. In the meantime, it is suggested that PANS-AERODROMES amendment be submitted to ANC through ADOP in order to ensure consistency;
- during HLSC/2015, no significant new subjects came in the field of aerodromes but runway safety as well as ground handling were touched upon; and
- new and emerging tasks :
 - o Strategic view of Annex 14 Vol I and PANS-AERODROMES
 - o Ground Handling at aerodromes
 - o Obstacle Limitation Surfaces/aeronautical study
 - o CDM
 - o Bird/wildlife strike hazard management

1.1.4 The President encouraged the meeting to think about implementation during SARPs development which had been reinforced by the ICAO policy of “No Country Left Behind”. In this regard, the emergence of the impact assessment template which could, for sure, be improved but was already creating the expected attention to the impact of a proposal for amendment. He emphasised that in the near future every amendment to the Council would be accompanied with an Implementation Task List which would identify the necessary steps a State shall consider in order to initiate an amendment. A plan and description of the guidance to accompany a SARP and support implementation should also be available at the date of adoption.

1.1.5 In order to assist States and other stakeholders, proposals for SARPs should therefore be complemented with guidance materials at the same time. It was important that this guidance be consistent and up-to-date. The President alluded to a number of manuals in the aerodrome domain which had not been updated for a long time and that this might be the reason of the increasing volume of Attachment material (green pages) in the Annex 14, a trend that should be assessed and inverted.

1.1.6 In closing, the President wished the meeting all success and declared open the first meeting of the ADOP. He looked forward to the debrief from the panel Chairperson which should highlight the work accomplished and any major difficulties identified to progress work.

1.2 INTRODUCTION

1.2.1 The participants of the meeting were invited to introduce themselves. The list of attendees can be found in the general section of this report under History of the Meeting, page ii-1, paragraph 2.

1.3 ELECTION OF CHAIRPERSON AND VICE-CHAIRPERSON

1.3.1 The Secretary opened the floor to nomination for chairperson. The very capable leadership of Mr. Jean-Louis PIRAT, upon whom the Panel had relied on up until now, was gratefully acknowledged by the meeting. Mr. PIRAT was nominated by a panel member, including a proposal for a term of office of 3 years. There were no other nominations. Mr. PIRAT's nomination was seconded by various members and confirmed. Mr. PIRAT graciously accepted the nomination.

1.3.2 The floor was then opened to nomination for vice-chair. Mr. Guy HENEAULT was nominated by a panel member, also for a term of 3 years, based on his active participation and contribution to the work of the panel. There were no other nomination. Mr. HENEAULT's nomination was also seconded, confirmed and accepted.

1.3.3 Mr. PIRAT addressed the meeting and thanked everyone for their confidence and expressed very complimentary words for the strengths and roles played by the ADOP and the former AP and for the Secretary.

1.4 ADMINISTRATIVE NOTES

1.4.1 Being the first meeting of the panel, the Secretary introduced Doc 7984, *Directives for Panels of the Air Navigation Commission, 5th Edition* that was approved by the ICAO Council on 10 March 2014 (201/7).

1.4.2 Salient features of Doc 7984 were presented such as the duties of the Chairperson (including the duration of the term of office), panel members, Secretary and Rapporteurs of working groups; the conduct and operations of a panel and the decision making process.

1.4.3 The Secretary emphasised the point that panel members were participating in their personal expert capacity and not acting as representatives of their nominators. In this regard, members should express their professional opinions and not established policies or points of view of a State or an international organizations. By the same corollary, States and international organizations were not committed to the views expressed by their nominees.

1.4.4 Concerning the participation of a panel member who failed to attend two consecutive meetings, a question was raised if "attendance" was taken to mean only physical attendance or that virtual participation by other means such as teleconference, skype, webex was accepted in lieu of physical attendance, Secretariat clarified that para 7.1 of Doc 7984 was silent on this issue and that further clarification would be obtained from the Air Navigation Commission (ANC).

1.4.5 The Secretary next presented working paper WP/2 concerning the provision of language services and other administrative issues regarding the conduct of the meeting.

1.5 BRIEFING ON ANB RESTRUCTURE AND IMPLEMENTATION KITS (iKits)

1.5.1 C/AOI made a presentation on the recent restructuring of the Air Navigation Bureau (ANB) as a result of the integrated approach in planning, delivering and implementing the ICAO air navigation work programme. He briefed the meeting on the concept of implementation kits (iKits) that had been adopted by ANB to facilitate the implementation of ICAO provisions in the air navigation field in order to achieve certain operational improvements. The meeting was also presented with information on the various iKits planned to be delivered by 2016.



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AERODROME DESIGN AND OPERATIONS PANEL (ADOP)

FIRST MEETING

Headquarters, 9 to 13 February 2015

AGENDA ITEM 2

The attached constitutes the report on Agenda Item 2 and should be inserted at the appropriate place in the yellow folder.

Agenda Item 2: Working methods of the Panel**2.1 REVIEW OF THE AGENDA AND TIMETABLE**

2.1.1 The Secretary presented WP/1 *Terms of Reference, Agenda and Proposed Timeline for ADOP/1*.

2.1.2 The panel reviewed and adopted the agenda and timetable without additional changes.

2.2 REVIEW THE TERMS OF REFERENCE

2.2.1 The panel reviewed the Terms of Reference (TOR) established for the ADOP contained in WP/9.

2.2.2 The panel was informed that the ADOP was established based on the decision of ANC (196-9) and continues the tasks of the former Aerodromes Panel (AP) with greater emphasis on efficiency and capacity issues through enhanced aerodrome operations.

2.2.3 The panel recalled the remark made by the President of ANC reminding the meeting on the importance for continuity of the work as the AP transitioned to the new ADOP. The panel also noted the inclusion of the word “operations” in the newly christened ADOP which came about as a result of the 12th Air Navigation Conference that had placed greater importance to aerodrome operations.

2.2.4 With respect to the need for multi-disciplinary expertise, the panel observed that there had been, of late, an increasing number of tasks requiring competencies across various aviation fields. One notable task was the development of provisions for a global reporting format for runway surface condition assessment and reporting which required expertise in aerodrome operations, meteorology, aircraft operations, airworthiness, aeronautical information system and air traffic control. The meeting appreciated that provisions had been proposed in five Annexes and two PANS document. Another example was the development of provisions concerning autonomous runway incursion warning system (ARIWS). In this regard, the meeting endorsed the need for multi-disciplinary expertise as reflected in the TORs.

2.2.5 The TOR were accepted without additional comments.

2.3 ESTABLISHMENT OF WORKING GROUPS

2.3.1 In order to progress the work of ADOP, the panel noted that the ANC had specified the establishment of two major working groups under the auspices of the ADOP i.e. Design WG and Ops WG. There were differences in opinion concerning the establishment of the two WGs. A panel member from the MID region shared his experience concerning his involvement in the regional PIRG and RASG mechanism as well as in the Safety Management Panel (SMP). In conclusion, he favoured a more parallel approach with the establishment of lesser working groups. On the other hand, there were views that the two WGs might not be adequate in view of the diversity and complexity of the tasks that had all along been addressed by the five WGs of the mega-AP. (*Secretariat note: Rescue and Fire Fighting Working Group, Visual Aids Working Group and Aerodrome Reference Code Working Group were previously individual and separate Panels.*) Irrespective of the number of working groups that will be established,

the meeting agreed that the current momentum should not be diminished as it was often difficult to regain them once lost.

2.3.2 There were considerable discussions on the merits and demerits of having fewer or more working groups. Some States such as the United States had expended a great deal of resources in participating in the work of Panels established by the ANC. Taking the example of the former Aerodromes Panel, there were at least twelve experts from FAA contributing to the Panel and its various working groups, in addition to providing the rapporteurship of at least two working groups of the Panel. The meeting recalled that within the structure of the AP (including five working groups and numerous sub-groups and task forces) and the PASG, there had been a total of not less than 150 experts contributed by States and international organizations. Other issues included getting suitable replacement for the rapporteurs of several working groups of the Panel, most of whom had either retired or would soon be stepping down such as, but not limited to, the rapporteurs of the Aerodrome Operations and Services WG, Heliports WG and Rescue and Fire Fighting WG. Furthermore, the meeting observed that the total number of job cards proposed at ADOP/1 (see Report on Agenda Item 4, paragraph 4.4) represented, in the view of the Chairperson, a 50% increase in workload. Consideration therefore had to be given to budget constraints within member States and organizations as concerns had been raised that members might not be able to commit to provide the level of resources for the execution of those technical tasks. The meeting expressed the view that resource issues were significant issues that would most certainly have an impact on the efficiency of the panel, a situation which was further compounded by a reduction in the resources of the Secretariat.

2.3.3 With regards to the formation of working groups, the meeting took note of the provision in Doc 7984, paragraph 3.4.5.2 which permitted the Chairperson to establish working groups as necessary to develop proposals on draft material for consideration by the panel.

2.3.4 In view of the foregoing, the meeting agreed with a proposal by the Chairperson to defer making a decision on the establishment of working groups in addition to those mandated by the ANC. The meeting, however, agreed that existing working groups, including their subsidiary bodies, continue to work on the tasks as detailed in the job cards until a formal decision can be made at the next ADOP meeting (Q3/Q4 2015). (*Post-meeting note: EASA reiterated its preparedness to offer Mr. Vasileios Stefanioros as the Rapporteur of the Ops WG of the ADOP*).

2.3.5 Notwithstanding the above, the Panel member from PR China volunteered to be the rapporteur of a WG of the ADOP when the WG is established. There were no other nominations/volunteers. The meeting noted with appreciation the gesture from PR China and will take this into consideration when finalising the working groups at a later date.

2.4 PANEL COORDINATION ACTIVITIES

Obstacle Limitation Surfaces – a report by ADOP/IFPP Joint Task Force

2.4.1 The panel was briefed with respect to the activities of the Obstacle Limitation Surfaces Task Force (OLSTF), a joint Task Force composed of ADOP and IFPP members and advisors. The OLS Task Force was currently working on the review of Annex 14 SARPs on Obstacle Limitation Surfaces and on Doc 9137, *Airport Services Manual*, Part 6 — *Control of Obstacles*. The first meeting of OLSTF was held at ICAO from 26 to 30 January 2015.

2.4.2 The Rapporteur of OLSTF explained that the first and most urgent task the group had to fulfil was to expand the description of Job Card AP005 and identify the issues to be addressed by the Task Force before initiating any review of the SARPS. The problem statements had been a fundamental outcome of the first OLSTF meeting; they outline what was essential about the project and enabled the Task Force to identify the scope of the work, the tasks to be assigned to the members of the group and the timescale that will help the group to meet the deadline (applicability date: November 2018).

2.4.3 The meeting was informed that the whole work would consist of three phases; the first phase will focus on reviewing the current Annex 14 OLS and their specific purposes and applications; the second phase will identify the purpose and the application of the revised OLS. This phase will include the preparation of an operational concept that will describe the characteristics of the proposed system; the third phase will consist in defining a revised set of surfaces that bound all the aircraft operations intended at an aerodrome take into consideration modern flight operations and operations required for such an aerodrome.

2.4.4 Further the meeting was presented with the “initial thoughts” the OLS Task Force had drafted during the first meeting. These thoughts aim at laying the foundation for developing the operational concept that will drive the revision process. The Rapporteur underlined the need to create a distinction between obstacle limitation surfaces (OLS) and obstacle evaluation surfaces (OES); the first being a set of surfaces whose purpose is to define the boundary of airspace to be maintained free of obstacles, the second being surfaces that, if penetrated, trigger an aeronautical study to determine whether there is an impact to the operations. The Rapporteur also mentioned the need to redefine the OLS and to expand the notion of the OES to account for and ensure safety while allowing greater flexibility at and around aerodromes. The panel was also informed that the dimensions of Annex 14 surfaces should be disconnected from the reference code of the runway, while taking into account more operational aspects.

2.4.5 The meeting questioned whether linking Annex 14 OLS surfaces to operational requirements would be appropriate unless more detailed explanation were provided. The Rapporteur explained that the main need is to define a series of revised Annex 14 surfaces that would properly bound all aircraft operations. This is particularly evident when looking at the approach surface as described in the existing SARPS: the approach surface is in fact too narrow and reaches distances that are too far-out (15000 m) to provide a complete bound to any instrument procedure. At the same time the approach surface, at those far-out distances, does not necessarily provide the information that there may be obstacles which could be significant to the operations. Besides that the need to review the variables on which the current Annex 14 surfaces are based is essential; Annex 14 OLS dimensions should be less rigid and not based on the runway code, but take into considerations the intended operations, the modern flight techniques and the aircraft performances.

2.4.6 A debate ensued whether the group can address the review of the OLS to be provided at heliports, as specified in Annex 14, Vol. II. The Rapporteur underlined that the Task Force, as of today, does not have the proper expertise to address the issue and deferred the decision to the panel as to how to address the scope of the Job Card. The meeting recommended to defer work on Annex 14, Volume II until initial conclusions on an operational concept is proposed. The meeting also recommended not to change the substance of the Job Card but to postpone the delivery of Annex 14, Volume II provisions to 2018 and to request the appropriate bodies, such as the existing HDWG and the IFP panel to review the OLS provisions in Annex 14, Vol. II.

2.4.7 The Rapporteur underlined the need to expand the representation within the Task Force in order to include various type of stakeholders. It was agreed that it would be advisable to have

members/advisors from various organizations such as ACI, IFALPA, IATA, ICCAIA, etc. The Secretariat asked that people be identified and appointed as members of the joint task force. The ACI member suggested his advisor, Thomas Mayer to be part of the task force. IFALPA was also asked to offer a resource to contribute to the activity of the group; IFALPA accepted but the name of the person to be provided on a later course.



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AERODROME DESIGN AND OPERATIONS PANEL (ADOP)

FIRST MEETING

Headquarters, 9 to 13 February 2015

AGENDA ITEM 3

The attached constitutes the report on Agenda Item 3 and should be inserted at the appropriate place in the yellow folder.

Agenda Item 3: Consideration of approved work programme items**3.1 GLOBAL REPORTING FORMAT FOR RUNWAY SURFACE CONDITION ASSESSMENT AND REPORTING**

3.1.1 The meeting was presented with a package of comprehensive proposals concerning a global reporting format for runway surface condition assessment and reporting in IP/3 which was presented by the Rapporteur of the Friction Task Force.

3.1.2 It was cognizant that runway surface conditions had contributed to many safety events and investigations had revealed shortfalls in the accuracy and timeliness of assessment and reporting methods currently provided for in ICAO provisions and guidance material.

3.1.3 The meeting appreciated that a globally-harmonized methodology for runway surface condition assessment and reporting was required in order to provide reports that were directly related to the performance of aeroplanes. The methodology included the potential to communicate actual runway surface conditions to flight crew in real time and in terms that directly relate to aeroplane performance data.

3.1.4 The meeting noted that the proposed amendments related to Annexes 3 and 14, Volume I and PANS-AERODROMES had been previously presented, extensively discussed and agreed at AP/3. Furthermore, it was recalled that AP/3 developed the following recommendation:

Recommendation 4/3 – ANC to consider proposed amendments for a global reporting format for runway surface condition in one complete package

The ANC defer preliminary review on Recommendations 4/1 and 4/2 on the proposed amendments for a global reporting format until such time when all proposals across the relevant Annexes become available in one complete package, tentatively scheduled for 198th session.

3.1.5 The complete package in AN-WP/8956 now included proposed amendment to Annexes 6 Parts I and II, 8, 15, PANS-Aerodromes and PANS-ATM that will be taken up by the ANC on 5 March 2015. The meeting was informed that the complete amendment proposal across the required domains had been developed in consultation with the PANS-AERODROMES Study Group (PASG), Operations Panel (OPSP), Airworthiness Panel (AIRP), Aeronautical Information Service – Aeronautical Information Management Study Group (AIS-AIMSG) and the Air Traffic Management Operations Panel (ATMOPSP) as well as the required coordination with the relevant sections in the Air Navigation Bureau.

3.1.6 The meeting concluded the discussion by thanking the Friction Task Force for the good work in developing a global reporting format that would go a long way in reducing global runway excursion incidents/accidents related to aircraft operations on contaminated runways and look forward to the discussions in, and approval of the ANWP by, the ANC.

3.2 VISUAL AIDS FOR NAVIGATION**3.2.1 PROPOSED AMENDMENT TO ANNEX 14, VOLUME I CONCERNING RUNWAY HOLDING POSITION MARKING, TAXIWAY INTERSECTION MARKING, REMOVAL OF T-VASI AND LOWER CASE “m”****Runway Holding Position Marking**

3.2.1.1 The meeting reviewed the proposal in IP/4 that was presented by the Rapporteur of the Visual Aids Working Group (VAWG) of the Aerodromes Panel. The proposed amendment refers to the subject of runway holding position marking.

3.2.1.2 Annex 14, Volume I, described in paragraph 5.2.10 two sets of mandatory patterns of runway-holding position marking, A and B, to be used at an intersection of a taxiway and a runway. Paragraph 5.2.10.5 recommends, where increased conspicuity is required, that larger patterns be used.

3.2.1.3 The meeting agreed with the proposal in IP/4 to keep only the largest set of patterns after 2026 which would remove the confusion between the two figures (Fig 5-6 and Fig 5-8, Annex 14, Volume I). The meeting also recommended the development of appropriate guidance on painting practices.

Taxiway Intersection Marking

3.2.1.4 The meeting reviewed the amendment proposal in IP/5, concerning the subject of intermediate holding position marking.

3.2.1.5 An editorial error appeared in Annex 14 Volume I, paragraph 5.4.3.15 and Appendix 5, where the wording “*taxiway intersection marking*” was used. There was currently no description for “*taxiway intersection marking*” in Annex 14 Volume I.

3.2.1.6 The paper proposed to replace “*taxiway intersection marking*” with the proper wording of “*intermediate holding position marking*”.

Removal of T-VASI from Annex 14 Volume I

3.2.1.7 The meeting was presented with IP/6, that proposed to remove T-VASI and AT-VASI systems from Annex 14 Volume I.

3.2.1.8 The meeting was informed that the last T-VASI had been installed around 1988 and that since the late 1980s, T-VASI had been progressively removed and replaced with PAPI.

3.2.1.9 In comparison to PAPI, the T-VASI had a substantially larger footprint on the airfield, and with much higher operating and maintenance costs. Most importantly, there were no current suppliers of T-VASI light units.

3.2.1.10 The paper proposed a sunset date of 2020 for the removal of T-VASI and AT-VASI systems specifications from Annex 14 Volume I.

Lower case “m”

3.2.1.11 The meeting was presented with IP/7, concerning proposed specifications regarding the small letter “m”.

3.2.1.12 The sign character specification in Annex 14, Vol. I originated from FAA AC 150/5345-44, which in turn was derived from the Federal Highways Administration (FHWA) Standard Alphabets, Series D font. All of the characters are upper case CAPITALS;

3.2.1.13 However, the intersection takeoff sign, for example [2500 m] has a lower-case “m”. Also, there is no specification for spacing.

3.2.1.14 Based on the FHWA updated Standard Alphabets, the paper proposed that the lower-case “m” should be adopted as 0.75 of the preceding numeral, and spaced at code 1 for the character height of the numerals.

3.2.2 The meeting reviewed and agreed with the amendment proposals in IP/4, 5, 6 and 7 described in paragraphs 3.2.1.1 to 3.2.1.14. The meeting also agreed that the amendment proposals were sufficiently mature and should be presented to the Air Navigation Commission as soon as possible without delay.

RECOMMENDATION

In light of the above discussions, the following recommendation was developed:

**RSPP Recommendation 3/1 – Amendment to Annex 14, Volume I:
Visual Aids**

That Annex 14, Volume I be amended as shown in Appendix A to the report of this agenda item.

3.3 OTHERS**PROPOSED AMENDMENT TO ANNEX 14, VOLUME I CONCERNING
BLAST PADS, CLEARWAYS AND OPEN-AIR WATER CONVEYANCES**

3.3.1 The meeting reviewed the proposals in WP/3 that was presented by the Rapporteur of the Aerodrome Design Working Group (ADWG) of the Aerodromes Panel. The proposed amendment covered the subjects of blast pads, clearways and open-air water conveyances. Further information on the proposed amendment was available in IP/1 and IP/2.

Blast Pads

3.3.2 The existing Recommended Practice, Annex 14, Volume I paragraph 3.4.11 stated that a certain area before a “threshold” should be prepared against blast erosion. As a “threshold” may be displaced inside of a runway, it was therefore felt expedient to have blast pad before the “ends of a runway”, not just before a “threshold” and consequently a change to the existing Recommended Practice was proposed.

3.3.3 The proposed amendment was agreed to by the meeting with a change of the term “adjacent to the start of a runway” with the term “before the start of a runway”.

Width of clearway

3.3.4 Annex 14, Volume I current provisions defined the width of a clearway irrespective of the runway type and code number of the associated runway. To avoid a disparity between the runway strip width, the width of the inner edge of the corresponding take-off climb surface and the width of a potential clearway, the effective clearway width should correspond to the width of the associated runway strip where the runway is a non-instrument one. With such an amendment, the discrepancy between the width of the runway strip, the inner edge of the take-off climb surface and the clearway itself could be effectively mitigated without a significant decrease in safety.

3.3.5 The meeting was apprised that the Obstacle Surface Limitation Task Force was currently reviewing the obstacle surfaces that directly related to the width of the clearway and that this task would be completed by 2016. Consideration was also to be given to the absence of visual reference provided by the end of the runway when taking-off with a clearway. It was therefore considered prudent at this time to wait for a year to see if any changes to these tables would impact the proposal. Accordingly, the meeting agreed to postpone the proposal for revising the inner width of clearway for Code 1 and Code 2 aerodromes having non-instrumented runways until the on-going revision to Table 4-1 and Table 4-2 in Annex 14, Volume I was completed.

Water Conveyances

3.3.6 The meeting recognized the need to review the Annex 14 Volume I provisions concerning open-air storm water conveyances in non-graded portions of both runway strips and taxiway strips and RESA. It was recalled that the ADWG submitted to AP/3 proposed notes which augmented existing recommended practices that allowed the use of open-air water conveyances in the non-graded portions of the runway strip and the taxiway strip. The proposal now under consideration harmonized the notes in sections 3.4 and 3.11 of Annex 14, Volume I.

3.3.7 The meeting reviewed the proposal on the addition of a note concerning open-air storm water conveyances within the RESA in paragraph 3.5.9 of Annex 14, Volume I. The meeting did not agree with the proposal in terms of its location in the Annex. It was also felt that the note should be upgraded to a recommendation. Additionally, it was pointed out that a note gave factual information bearing on the Standards or Recommended Practices in question but in this instance, the note seems to impose additional requirements. The meeting agreed to refer the proposal for a note under paragraph 3.5.9 for further review to the appropriate working group of the ADOP. The meeting, however, agreed with the amendment proposal for water conveyances in other paragraphs with modifications.

3.3.8 The meeting reviewed and agreed with the amendment proposal in WP/3, as modified by subsequent discussions. The meeting also agreed that the amendment proposals were sufficiently mature and should be presented to the Air Navigation Commission as soon as possible without delay.

RECOMMENDATION

In light of the above discussions, the following recommendation was developed:

RSPP Recommendation 3/2 – Amendment to Annex 14, Volume I: Aerodrome Design

That Annex 14, Volume I be amended as shown in Appendix B to the report of this agenda item.

3.4 RVR LIMITS IN ANNEX 14 VOLUME I

3.4.1 WP/14 discussed the lack of correlation between RVR lower limits in the definition of precision approach runway Cat II and Annex 14, Vol. I technical requirements that might result in problems with aerodrome equippage and development programs, as well as in aerodrome operation.

3.4.2 Amendment 10 to Annex 14 Volume I reduced the RVR limit of 350 m to 300 m in the definition of precision approach runway Cat II. At the same time, in the Annex requirements, the RVR lower limit of 350 m had been kept unchanged. When introducing the change from RVR 350 m to RVR 300 m, certain visual aid requirements became necessary for Cat II operations for RVR below 350 m and above 300 m. To perform all this would require the reconstruction of surface movement lighting equipment of exiting aerodromes or its updating in aerodrome development programs. Therefore, maintaining the RVR 350 m lower limit in Annex 14 Vol. I for surface movement lighting made it impossible to gain effect of transition to the RVR lower limit of 300 m in Cat II minimum.

3.4.3 WP/14 proposed amendments to the RVR values in Annex 14, Volume I, Chapter 5, section 5.3, section 10.5 and Appendix 2.

3.4.4 The meeting recalled that the proposed Amendment 33A arose from amendment to Annex 6 Part 1 concerning the range of values for the RVR. The Visual Aids Working Group (VAWG) of the Aerodromes Panel considered the issue and concluded that further work was required since the change in the RVR values could potentially impact other systems. The meeting acknowledged the amendments proposed in WP/14 but agreed that the proposed amendment be referred to the appropriate working group of the ADOP for further study. It was also agreed that a job card be created to formalise the task (see new job card ADOP 019).

3.5 RESCUE AND FIRE FIGHTING LEVEL OF PROTECTION TO BE PROVIDED

3.5.1 The ICCAIA presented WP/4 concerning operational applications of RFF level to be provided at aerodromes.

3.5.2 Annex 14 Volume I, section 9.2 specifies that “The principal objective of a rescue and fire fighting service is to save lives in the event of an aeroplane accident or incident occurring at, or in the immediate vicinity of, an aerodrome.” However, according to WP/4, Annex 14 Volume I does not state what level of RFF protection is required for what type of operation (destination, alternate, enroute,

enroute alternate, etc.), and there is therefore a need for a formal connection between the RFF level provided by the aerodrome and the RFF level needed by the aeroplane.

3.5.3 Furthermore, the paper stated that while the Annex 14 Volume I SARPS are applicable to aerodromes and Annex 6 SARPS to aeroplane operators, there is little or no coordination as to the operational application of RFF level of protection needed for the operation.

3.5.4 In addition, the paper called for a distinction between passenger and cargo operations.

The working paper proposed amendments to Annex 14 Volume I, chapter 9, sections 9.2.1, 9.2.3, 9.2.5, 9.2.6, and 9.2.7.

3.5.5 The meeting noted the content of the working paper and the proposed amendments, and agreed that the working paper be referred to the appropriate working group of the ADOP, for further study and if necessary, coordination with FLTOPSP. It was also agreed that a job card be created to formalise the task (see new job card ADOP 009).

3.6 **PROPOSAL TO REVIEW SOME ANNEX 14 CRITERIA BASED ON AIRCRAFT DESIGN FEATURES**

3.6.1 WP/5, presented by the ICCAIA, discussed the need to review some Annex 14 Volume I rationales for the purpose of relating aircraft design characteristics with aerodrome design criteria, such as runway and taxiway width, runway shoulders, and reference field lengths. The paper proposed to review these rationales in light of current aircraft features and future aircraft innovation trends.

3.6.2 According to the paper, overbuilding of runway and taxiway widths to meet an aeroplane design code is burdensome for both initial construction and annual maintenance. The paper proposes to bring more flexibility into the design standards in Annex 14 Volume I, rather than relying on aerodromes to accommodate using PANS-Aerodrome.

3.6.3 The meeting noted the content of the working paper, and agreed that the working paper be referred to the appropriate working group of the ADOP, for further study. It was also agreed that a job card be created to formalise the task (see new job card ADOP 005).

3.7 **CONSIDERATION FOR AEROPLANES THAT DO NOT HAVE FIXED CHARACTERISTICS**

3.7.1 WP/6 presented by ICCAIA introduced the concept of folding wingtips (FWT) in which aerodromes will accommodate aeroplanes that do not remain within one aerodrome reference code during their ground operations.

3.7.2 New designs for commercial aeroplanes are considering the adoption of folding wingtips/wings. These aeroplanes will have the benefit of aerodrome compatibility of the lower aerodrome reference code once off the runway, a feature that relates, among other aspects, to critical taxiway separations, runway-to-taxiway separations, aircraft stands, de-icing facilities and gates.

3.7.3 This new generation of aeroplanes is planned to enter into service during late 2019.

3.7.4 The working paper seeks ICAO guidance on how to accommodate these new airplane designs, based on the understanding that these aircrafts are not to be treated as the higher reference code in all areas of the aerodrome.

3.7.5 The meeting noted the content of the working paper and agreed that the paper be referred to the appropriate working group of the ADOP for further study. It was also agreed that the subject will be included in one of the job cards (ADOP 005) pertaining to physical characteristics.

APPENDIX A**PROPOSED AMENDMENT TO
INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES****AERODROMES****ANNEX 14
TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION****VOLUME I
(AERODROME DESIGN AND OPERATIONS)****NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT TO
ANNEX 14, VOLUME I**

he 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

Origin

VAWG/11-DP/11, APWGs/2-DP/02, VAWG/12-DP/10

Rationale

Two patterns, A and B, are used for runway-holding position markings. Their descriptions and dimensions are in Figure 5-6 *Taxiway markings*. An alternate set of markings, recommended for increased conspicuity (5.2.10.5) and mandatory in the case of runway/runway holding position (5.2.10.7), are detailed in Figure 5-8 *Runway-holding position markings*. It is proposed to put both sets of runway holding position markings in the figure named *Runway-holding position markings*.

For further simplification of the markings in Annex 14, a sunset date of 2026 is proposed for the smaller set of pattern. Until then, all new repainting should use the larger set of patterns. A note below new Figure 5-8 also draws the attention to that change.

The increased conspicuity and simplification of the markings will compensate the small cost in the painting.

5.2.10 Runway-holding position marking

...

5.2.10.4 The runway-holding position marking displayed at a runway-holding position established in accordance with 3.12.3 shall be as shown in Figure 5-6, pattern A.

5.2.10.5 The dimensions of runway-holding position markings shall be as shown in figure 5-8, pattern A1 or pattern B1, as appropriate.

5.2.10.6 As of November 2016, the dimensions of runway-holding position marking shall be as shown in Figure 5-8, pattern A2 or pattern B2, as appropriate.

5.2.10.57 **Recommendation.**—Where increased conspicuity of the runway-holding position or repainting of the markings is required, the dimensions of runway-holding position marking should be as shown in Figure 5-8, pattern A2 or pattern B2, as appropriate.

...

Editorial Note.— Renumber subsequent paragraphs accordingly.

[Existing Figure 5-6]

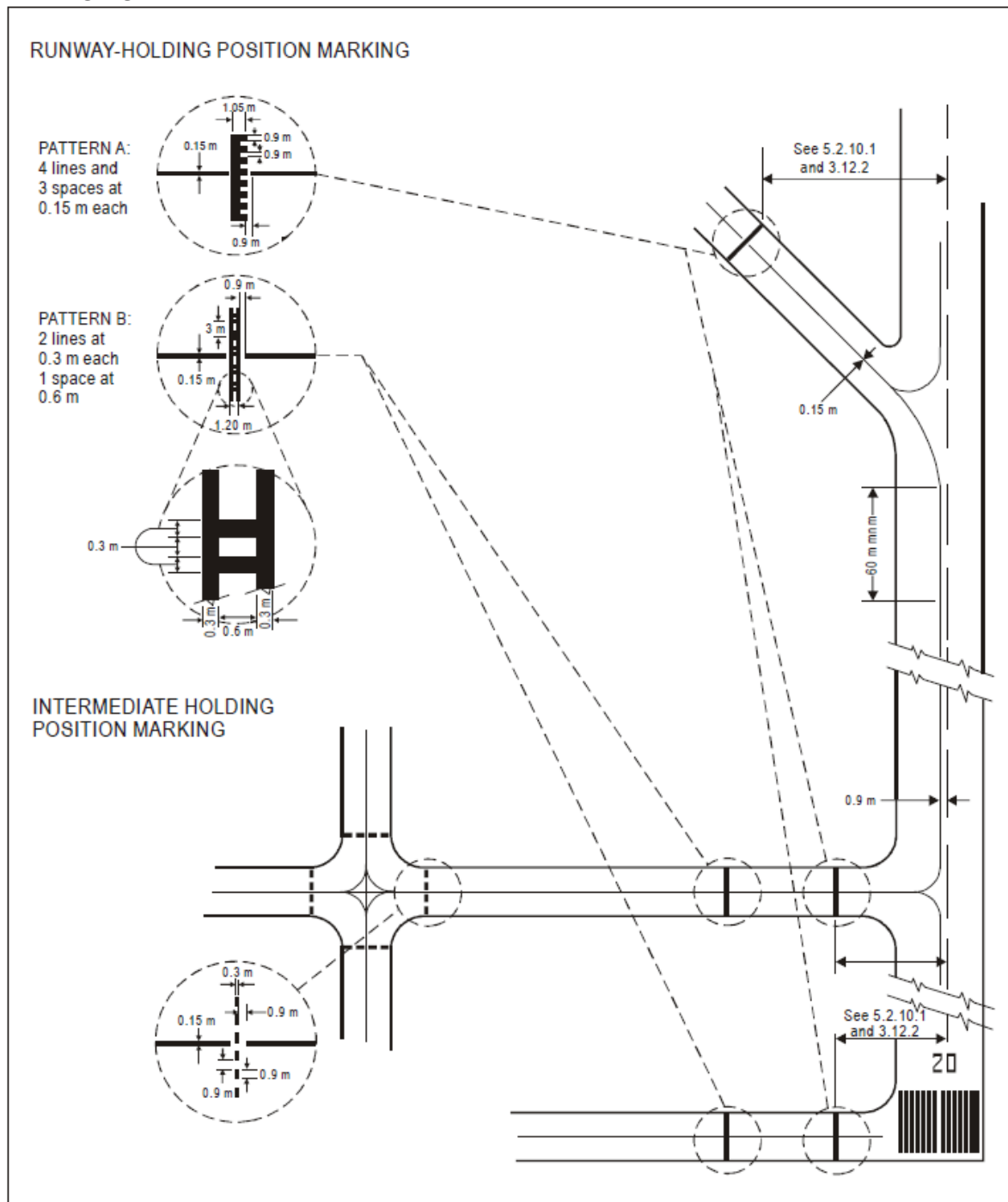
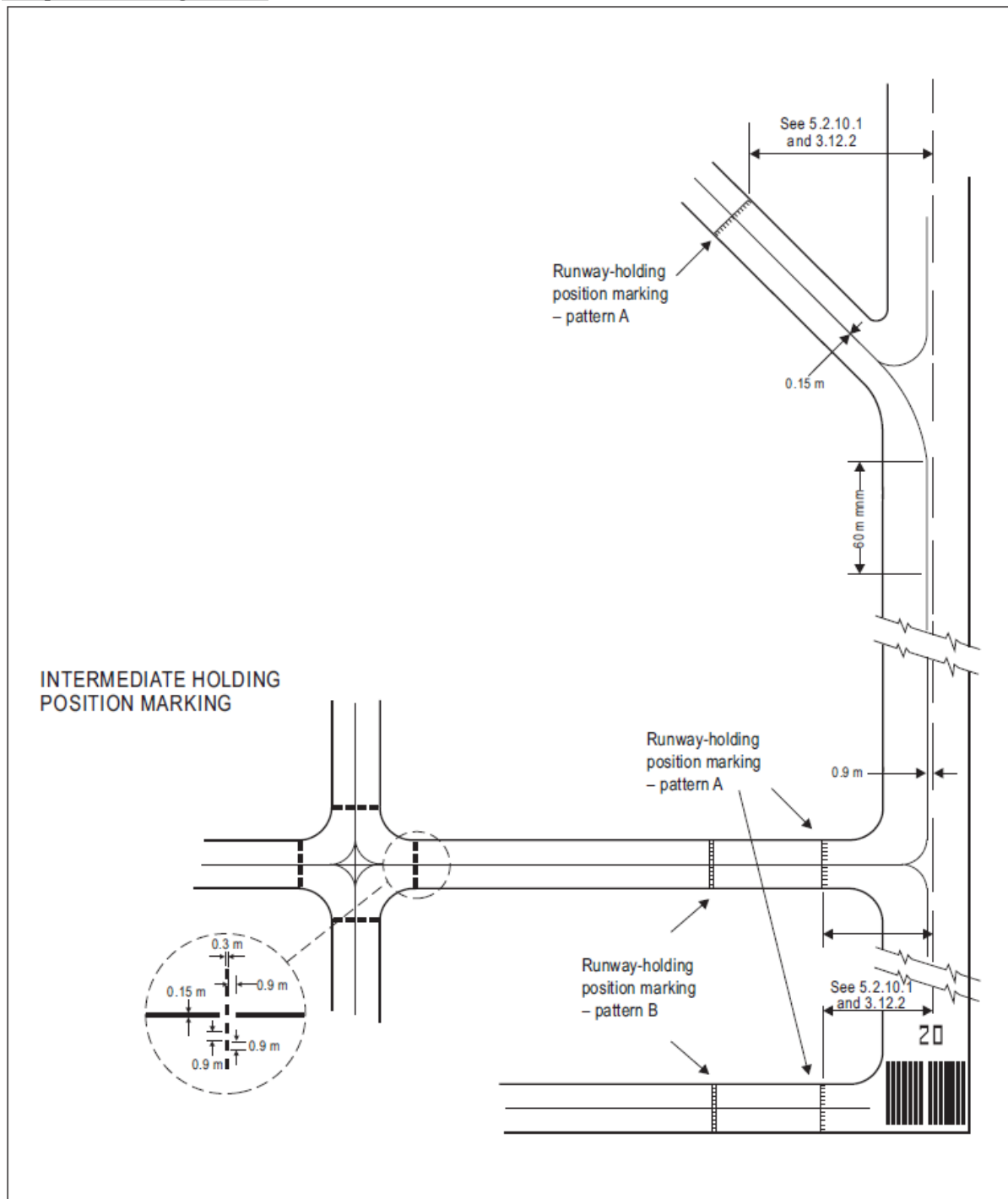
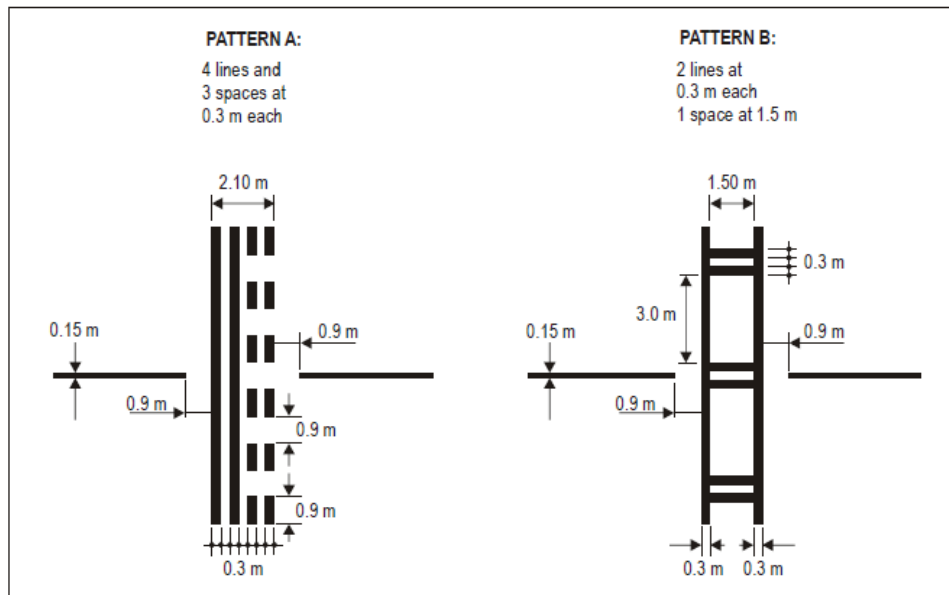


Figure 5-6. Taxiway markings
(shown with basic runway markings)

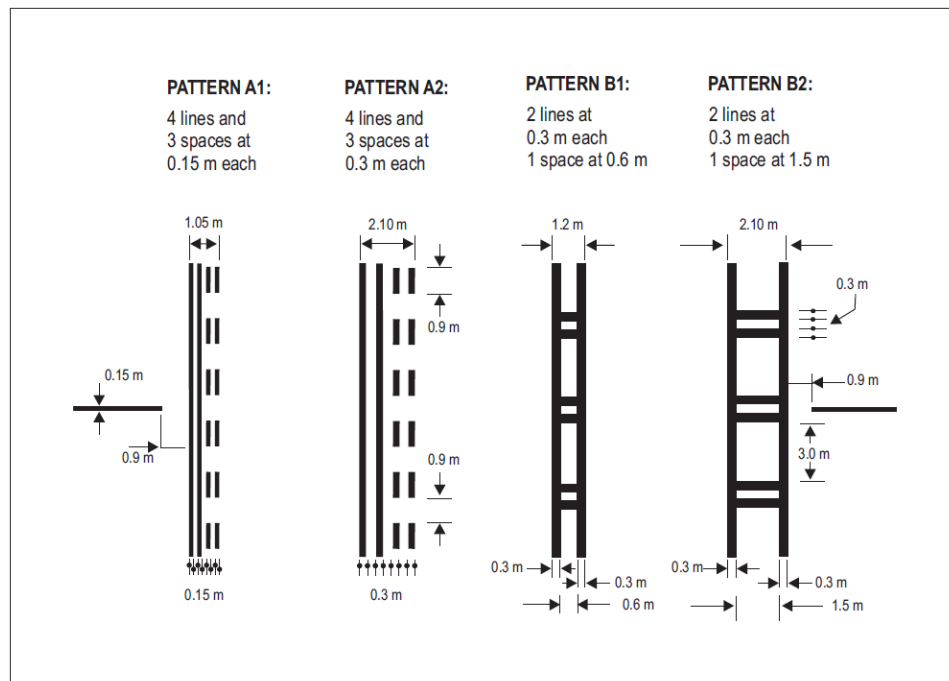
[Proposed new Figure 5-6]

**Figure 5-6. Taxiway markings**

[Existing Figure 5-8 Runway-holding position markings]



[Proposed new Figure 5-8 Runway-holding position markings]



Note. Pattern A1 and B1 are no longer valid after 2026.

Origin

VAWG/12-DP/01

Rationale

As part of the review of existing lighting systems, proposal is made to remove T-VASI and AT-VASI systems from Annex 14 Volume I.

As of 1990, a number of approach slope indicator systems were contained in Annex 14: TVASI, ATVASI, VASI, AVASI (4 configurations), 3-Bar VASI, 3-Bar AVASI, PAPI and APAPI. As of 1995, this was reduced to only T-VASI, AT-VASI, PAPI and APAPI. It is considered that there should be further reduction to only PAPI and APAPI in Annex 14.

This issue is not a safety issue. The Annex 14 should not continue to maintain standards for a system which is no longer available and is progressively being replaced by PAPI at sites where it is presently installed.

The sunset date of January 2020 should allow all the States to replace their current systems. The removal of relevant parts of the Annex 14 will happen after that date.

...

5.3.5 Visual approach slope indicator systems

Note.— It is intended that the specifications for T-VASI and AT-VASI will cease to be standard visual approach slope indicator systems on 1 January 2020. Consequently, and taking into account the average service life of lighting systems, aerodrome operators are encouraged to install only systems conforming to the specifications for PAPI and APAPI contained in 5.3.5.23 to 5.3.5.40 inclusive.

...

5.4.3 Information sign

...

5.4.3.15 At a taxiway intersection, information signs shall be located prior to the intersection and in line with the ~~taxiway intersection~~ intermediate holding position marking. Where there is no ~~taxiway intersection~~ intermediate holding position marking, the signs shall be installed at least 60 m from the centre line of the intersecting taxiway where the code number is 3 or 4, and at least 40 m where the code number is 1 or 2.

Origin

AP/2-WP/20, AP/3-WP/29 and flimsy 6, VAWG/12-DP/14

Rationale

There is no such a definition for “*taxiway intersection marking*”, it should be referring to the “*intermediate holding position marking*”.

There is no impact to aerodrome operators.

...

APPENDIX 5. AERONAUTICAL DATA QUALITY REQUIREMENTS

Table A5-1. Latitude and longitude

Latitude and longitude	Accuracy Data type	Integrity Classification
Aerodrome reference point	30 m surveyed/calculated	routine
Nav aids located at the aerodrome	3 m surveyed	essential
Obstacles in Area 3	0.5 m surveyed	essential
Obstacles in Area 2 (the part within the aerodrome boundary)	5 m surveyed	essential
Runway thresholds	1 m surveyed	critical
Runway end (flight path alignment point)	1 m surveyed	critical
Runway centre line points	1 m surveyed	critical
Runway-holding position	0.5 m surveyed	critical
Taxiway centre line/parking guidance line points	0.5 m surveyed	essential
Taxiway intersection-Intermediate holding position marking line	0.5 m surveyed	essential
Exit guidance line	0.5 m surveyed	essential
Apron boundaries (polygon)	1 m surveyed	routine
De-icing/anti-icing facility (polygon)	1 m surveyed	routine
Aircraft stand points/INS checkpoints	0.5 m surveyed	routine

...

...

Table A4-1. Letter and numeral widths and space between letters of numerals

...

INSTRUCTIONS

1. To determine the proper SPACE between letters or numerals, obtain the code number from table a) or b) and enter table c) for that code number to the desired letter or numeral height.
2. The space between words or groups of characters forming an abbreviation or symbol should be equal to 0.5 to 0.75 of the height of the characters used except that where an arrow is located with a single character such as 'A →', the space may be reduced to not less than one quarter of the height of the character in order to provide a good visual balance.
3. Where the numeral follows a letter or vice versa use Code 1.
4. Where a hyphen, dot, or diagonal stroke follows a character or vice versa use Code 1.
5. For the intersection take-off sign, the lower case "m" is 0.75 of the preceding "0" (zero) and spaced at code 1 for the character height of the numerals.-

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APPENDIX B**PROPOSED AMENDMENT TO
INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES****AERODROMES****ANNEX 14
TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION****VOLUME I
(AERODROME DESIGN AND OPERATIONS)****NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT TO
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1.1 Definitions

...

Barrette. Three or more aeronautical ground lights closely spaced in a transverse line so that from a distance they appear as a short bar of light.

Blast Pad. A ground area before the start of a runway provided to reduce the erosive effects of jetblast and propeller wash.

Calendar. Discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108*).

...

3.4 Runway Strips

...

Objects on runway strips

Note.— See 9.9 for information regarding siting of equipment and installations on runway strips.

3.4.6 **Recommendation.**— *An object situated on a runway strip which may endanger aeroplanes should be regarded as an obstacle and should, as far as practicable, be removed.*

Note 1. — *Consideration will have to be given to the location and design of drains on a runway strip to prevent damage to an aeroplane accidentally running off a runway. Suitably designed drain covers may be required.*

Note 2.— *Where open-air or covered storm water conveyances are installed, consideration will have to be given to ensure that their structure do not extend above the surrounding ground so as not to be considered an obstacle.*

Note 3.—*Particular attention needs to be given to the design and maintenance of an open-air storm water conveyance in order to prevent bird migration. If needed it can be topped by a net. Guidance on Wildlife Control and Reduction can be found in the Airport Services Manual (Doc 9137), Part 3.*

...

Origin	Rationale
GREPECAS AGA/AOP/SG	The ICAO CAR and SAM Regional Offices under GREPECAS AGA/AOP/ Study Group requested
AP Work Programme ADWG task (a) Aerodrome	former criterion in ANNEX 14, Volume I that
Design Specifications: Review of Chapter 3,	would permit the use of open-air water

* ISO Standard 19108, *Geographic information — Temporal schema*

Annex14, Volume I ADWG/10 through ADWG/14	conveyances in the outer portions of the runway strip for the removal of tropical storm water from the runway environment. The need for this criterion was confirmed by ICAO USOAP in which removal of water from the runway environment ranked as the number 1 non-compliant recommended practice (PANS-AGA/1). This amendment permits the use of such conveyances beyond the graded portion of the runway strip and the taxiway strip.
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3.4.10 The surface of that portion of a strip that abuts a runway, shoulder or stopway shall be flush with the surface of the runway, shoulder or stopway.

3.4.11 **Recommendation.**— *Where deemed necessary, tThat portion of a strip to at least 30 m before the start of a runway a threshold should be prepared against blast erosion in order to protect a landing aeroplane from the danger of an exposed edge.*

...

Origin	Rationale
AP Work Programme ADWG task (a) Aerodrome Design Specifications: Review of Chapter 3, Annex14, Volume I ADWG/11 through ADWG/14	Annex 14, Volume I prescribes an undefined prepared area under paragraphs 3.4.11 and 3.4.12 to mitigate the effects of blast erosion off the ends of the runways. This amendment formerly classifies the prepared area as the <i>blast pad</i> .

...

3.4.15 Transverse slopes

...

3.4.16 **Recommendation.**— *The transverse slopes of any portion of a strip beyond that to be graded should not exceed an upward slope of 5 per cent as measured in the direction away from the runway.*

Note 1.— Where deemed necessary for proper drainage, an open-air storm water conveyance may be allowed in the non-graded portion of a runway strip and would be placed as far as practicable from the runway.

Note 2. — The aerodrome RFF procedure would need to take into account the location of open-air water conveyances that are located within the non-graded portion of a runway strip.

...

...

3.11 Taxiway strips

Objects on taxiway strips

Note.— See 9.9 for information regarding siting of equipment and installations on taxiway strips.

3.11.3 Recommendation.— *The taxiway strip should provide an area clear of objects which may endanger taxiing aeroplanes.*

Note 1. — *Consideration will have to be given to the location and design of drains on a taxiway strip to prevent damage to an aeroplane accidentally running off a taxiway. Suitably designed drain covers may be required.*

Note 2.— *Where open-air or covered storm water conveyances are installed, consideration will have to be given to ensure that their structure do not extend above the surrounding ground so as not to be considered an obstacle.*

Note 3.—*Particular attention needs to be given to the design and maintenance of an open-air storm water conveyance in order to prevent bird migration. If needed it can be topped by a net. Guidance on Wildlife Control and Reduction can be found in the Airport Services Manual (Doc 9137), Part 3.*

...

Slopes on taxiway strips

3.11.6 Recommendation.— *The transverse slopes on any portion of a taxiway strip beyond that to be graded should not exceed an upward or downward slope of 5 per cent as measured in the direction away from the taxiway.*

Note 1.— *Where deemed necessary for proper drainage, an open-air storm water conveyance may be allowed in the non-graded portion of a taxiway strip and would be placed as far as practicable from the taxiway.*

Note 2. — *The aerodrome RFF procedure would need to take into account the location of open-air water conveyances that are located within the non-graded portion of a taxiway strip.*

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ADOP/1-WP/15
13/02/15

AERODROME DESIGN AND OPERATIONS PANEL (ADOP)

FIRST MEETING

Headquarters, 9 to 13 February 2015

AGENDA ITEM 4

The attached constitutes the report on Agenda Item 4 and should be inserted at the appropriate place in the yellow folder.

Agenda Item 4: ADOP Work Programme**4.1 RESTRUCTURE OF ANNEX 14 VOLUME I**

4.1.1 The Chairperson provided a power point presentation concerning the strategic review of Annex 14, Volume I, a task described in the former job card AP006. The presentation touched on the objectives of the review, current situation, review tasks and methods, new and emerging tasks as well as the relationship between Annex 14 Volume I and PANS-AERODROMES.

4.1.2 It was recognized that the performance-based approach was unclear for the development of aerodrome related provisions due to the variety and complexity of the technical areas involved. In this regard, the presentation offered an operationally-based and risk-based approach where the principle was to define the objectives in terms of operation and of acceptable risks. Such an approach would allow for more flexibility in the Annex 14 provisions and that flexibility was needed as no two aerodromes were alike. There should also be a proper balance between operationally- or risk-based standards and prescriptive standards. In this regard, consideration should be given to the PANS-OPS approach which sets the objective as a standard and then develop one or several recommended means to meet the objective.

4.1.3 The presentation proposed a generic method for the review of each specification as follows:

- a) identify an operational objective, the acceptable risk and relevant factors and parameters;
- b) establish as standards the objective and acceptability criteria;
- c) existing SARPs would be preferred means of compliance and would be reviewed in the future as to their content; and
- d) PANS-AERODROMES provide other means of compliance and how to implement them.

4.1.4 In respect of the review of the aerodrome reference code, the meeting noted that the reference code was a planning and design (prescriptive) method. However, aircraft no longer operate quite the same as they did when the aerodrome reference code was first conceived, and more facilities and services, both in the aircraft and on the ground, are now provided that allow for more precise operations. The length of the runway and the size of the aircraft should no longer be the sole basis for the design of the movement area. Almost all aerodromes experienced severe constraints on development and changes to the physical shape and size of the movement area, if permitted, were often expensive and disruptive to operations. Aerodromes therefore needed to be able to design and provide infrastructure that best fits the space available and the type of operations it wished to attract. All of these would imply that Annex 14 standards needed to allow design flexibility.

4.1.5 The presentation included a possibility to use approach speed instead of reference field length; other parameters being considered include the length and tail height of aeroplanes as well as a consideration on the need for Code letter G provisions.

4.1.6 In terms of facilities and services, several areas were mentioned as examples that either need revision or inclusion into the regulatory material: rescue and fire fighting and their level of protection, obstacle limitation surfaces, A-SMGCS and A-CDM. In this context, Annex 14 and PANS-Aerodromes should be complementary documents. Both documents needed to be structured in an appropriate way, contain provisions written in a suitable manner, and allowed for simple future amendment. The Annex needed to contain SARPs written in a style that allows aerodrome design to apply best practice and development that were constraint-free but safe. The Annex also had to allow certification to take into consideration the infrastructure provided and also any associated procedures or other measures that combine to provide safe surface movement of aircraft. The PANS therefore needed to focus on operational procedures, the day-to-day management of aerodrome operations that facilitate air traffic and aircraft operations.

4.1.7 The meeting was presented with a draft proposal for the restructure of Annex 14, Volume I as follows:

Part 1 – Regulatory Standards

- Certification
- SMS
- Development/Planning
 - Including security and environmental constraints

Part 2 – Design Standards

- Physical Characteristics
- Obstacle limitation surfaces

Part 3 – Facilities/Services Standards

- Navigational aids
- Visual Aids including performance criteria
- Emergency response (including RFF)
- System: surveillance, control, guidance etc (instead of SMGCS)

Part 4 – Operational Standards (detailed procedures in PANS-AERODROMES)

- Notification – services and facilities available, restrictions, AIP
- Use of facilities - visual aids/AWO, including on-board equipment
- CDM
- Maintenance

4.1.8 The meeting recognized that the task of restructuring the 64-year old Annex 14, Volume I which was currently the bestselling Annex, was a huge and complex undertaking and would require a not inconsiderable amount of expertise and resources. In view of the global impact of such a change, there were views that the restructure should be done in an evolutionary manner rather than a “big-bang” process. The meeting agreed that existing job card AP006 should be split into two job cards, with one job card looking into the development of regulatory and guidance material for the design and operation of existing and future aerodromes and the other job card concentrating on the review of the aerodrome reference code design method and governing parameters (see new job cards ADOP 004 and 005).

4.1.9 In order to progress the enormous task, which was expected to be a time-consuming endeavor, the meeting agreed to the development of a White Paper which will provide guidance on:

- a) the principles to be used for the development of SARPs in Annex and procedures in the PANS-Aerodromes;
- b) the contents of a restructures Annex 14, Vol. I and PANS-Aerodromes;
- c) the development of operationally- and risk based objectives SARPs and PANS including the supporting guidance material for each subject area; and
- d) the ADOP work programme.

The White Paper was expected to be a living document which would be coordinated with the ANC.

4.2 **ADOP vis-a-vis PANS-AERODROMES**

4.2.1 WP/11 presented the work programme of the PANS-Aerodromes Study Group (PASG) and its relationship with the newly established ADOP. The paper traces the history regarding the formation of the PASG in 2009 and the work that had been accomplished in developing the first edition of the PANS-AERODROMES.

4.2.2 The meeting appreciated the problem faced by the PASG in that given the wide range of aerodromes, defined procedures applicable to all airports would be rare but that the development of some basic principles would be possible. It became clear while developing the material that flexibility was needed to allow aerodromes operators and States to adopt and implement the “how to do it” processes and procedures described in the PANS-AERODROMES. In developing this material, PASG was cognisant of the statement made by a Commissioner prior to the formation of the PASG that “given the wide range of aerodromes, defined procedures applicable to all aerodromes would be rare but that the development of some basic principles would be possible.” However, the meeting was of the consensus that it was vital to ensure that the second edition contain procedures that were truly global in nature that should be used by aerodrome operators such as those procedures developed by the Friction Task Force for a global reporting format and not materials which can be considered as only guidance.

4.2.3 While the first edition was being progressed, the PASG had continued to develop material for the remaining chapters. It was therefore felt appropriate to develop a structure to be applied during the development of further material. The meeting was apprised that the PASG discussed two options of presenting the new material to support the new framework i.e. splitting into: a) two different Volumes or b) two Parts within the same document. It was eventually agreed to adopt option b) with the PANS-Aerodromes remaining one document but sub-divided into parts. The first part contains the first edition with the original four chapters and the second part with materials concerning day-to-day aerodrome operational matters. A further benefit of splitting the document into parts within the same Volume is the ability to begin the second part with Chapter 1 and add to the part without disruption to the first part. This is generally in line with the current practice in *Procedures for Air Navigation Services — Aircraft Operations* (Doc 8168). Option a) was rejected as a PANS-AERODROMES Volume II might be misconstrued as procedures associated with Annex 14 — *Aerodromes*, Volume II — *Heliports*.

4.2.4 The meeting agreed that the PASG continues its task to develop procedures in the PANS-AERODROMES but to report through ADOP. It was also agreed that the PASG will coordinate directly with the new working groups of the ADOP, following their formation, but eventually when its task was completed, PASG should be subsumed into the ADOP.

4.3 NEW AND EMERGING TASKS

AIRPORT COLLABORATIVE DECISION-MAKING (A-CDM)

4.3.1 The Secretariat presented WP7 providing an update of the work being undertaken by a group of experts convened to advance the drafting of an ICAO A-CDM manual. The panel was informed that the expert group had established draft terms of reference, and outlined the envisaged main chapters for the envisaged manual. It would describe A-CDM, the roles and responsibilities of the various stakeholders, as well as the principles underscoring the decision making. In keeping with the strong operational focus intended for that document, the manual would also be expected to contain implementation guidance.

4.3.2 The panel welcomed the initiative and outlined the importance of simplicity and of maintaining a strong focus on implementation. Discussions outlined that the full scope of A-CDM could be as wide as to encompass issues pertaining to Annex 17 — Security — Safeguarding International Civil Aviation against Acts of Unlawful Interference and Annex 19 — Safety Management. The panel supported the suggestion of a step-wise approach, to ensure that the task would remain manageable with clearly identified implementation focussed objectives. The expert from ACI outlined that A-CDM should eventually include terminal operations, though not be so for the first step. This was subsequently supported by the expert from IATA. The experts from UAE, Japan and France confirmed that they would provide volunteers to participate to the A-CDM group of experts.

4.3.3 The panel noted the content of the working paper and conducted a detailed review of the proposed terms of reference for the A-CDM expert group. The terms of reference were adopted with a slight amendment to Article 1 of the Terms of Reference to reflect that the work of the expert group would be managed by ICAO secretariat. The meeting agreed that a new job card (ADOP 017) be created to formalize the task.

REGULATORY AND SAFETY OVERSIGHT OF HELIPORTS

4.3.4 United Arab Emirates presented WP/10 which introduced recently developed framework for heliports certification and safety oversight. The paper described a comprehensive framework for implementation and safety oversight, through regulations, guidance publications and safety promotion. The paper outlined, inter alia, the implementation process for full certification of heliports (applicable to facilities which are open to the public and accommodate transport of passengers, mail or cargo for remuneration), as opposed to “landing area acceptance” which applied to private use facilities. The various stages and actions required, both from the regulator and the operator, for the certification/acceptance of each type of heliport ie. off-shore oil/gas helidecks, elevated or surface levelled heliports and private use facilities, were described.

4.3.5 The panel noted the contents of the working paper which gained much support. The Chairperson proposed, and agreed by the meeting, to forward the paper to the Heliports Design Working Group (HDWG) for further discussions and elaboration.

GROUND HANDLING

4.3.6 WP/12 highlighted the challenges faced by UAE in the area of station ground operations safety oversight in UAE air carrier's destinations around the globe. Among these challenges were the absence of comprehensive ICAO SARPs and guidance materials pertaining to this area, the number of stations to be inspected and their geographical distribution, the availability of only a single ground operations service provider in many airports, and the restrictions that impede free access and movements for the UAE inspectors.

4.3.7 The paper outlined measures that had been taken by UAE to enhance safety in ground operations, including, inter alia, an amendment to ground operations regulations that covered topics such as management accountability, sub-contracting, and documentation; a detailed amendment to the UAE advisory publication on ground operations; and a comprehensive cooperation with IATA, including the implementation of IATA Safety Audit for Ground Operations (ISAGO).

4.3.8 The panel noted the contents of WP/12, and concluded that many of the issues detailed in the paper were already included in the ICAO GHTF work plan. It was decided that the GHTF will review and consider issues covered by this paper that are not yet included in its work plan.

4.3.9 WP/13, presented by the Rapporteur of the Ground Handling Task Force (GHTF), reviewed the GHTF work progress and draft recommendations to date. The SMP and OPSP Secretaries participated in the discussions related to this subject.

4.3.10 The GHTF was established at AP/3 following a request by the ANC to the AP (as detailed in former job card AP007).

4.3.11 The task force is chaired by Mr. Andrew Badham (U.K CAA) and comprised members from French DGAC, EASA, IBAC, IATA, ACI, Airport Services Association (ASA), and ICCAIA.

4.3.12 GHTF/1 was held on 3-4 November 2014. Prior to that meeting, initial investigations were carried out into existing ICAO, industry and other international organisations documentation. Several ground damage databases were analysed in order to identify primary areas of safety concern, and a series of existing provisions and best practices were reviewed – including ICAO documentation (Annex 6, 9, 13, 14, 17, 18 and 19, PANS-Aerodromes and Doc 9774), ACI Airside Safety Handbook, IATA Safety Audit for Ground Operations (ISAGO), IATA Ground Operations Manual (IGOM) and Airport Handling Manual (AHM), UK CAA CAP 642 Airside Safety Management, and IBAC - International Standard for Business Aviation Handling (IBAC IS-BAH).

4.3.13 The meeting then reviewed the GHTF key draft recommendations, including:

- expanding the applicability of SMS in Annex 19 to ground handling service providers (appropriate to the scale and nature of their operation);
- implementation of provisions in Annex 6 regarding, inter alia, reporting of ground collision events to aircraft operators or the flight crews;
- development of related provisions in PANS-OPS regarding training of ground handling service providers personnel;
- development of a safety culture among ground operations personnel;
- identification and promulgation of existing regulatory and industry operational standards and recommended practices

4.3.14 It was recognized that some of the recommendations in 4.3.13 can be fulfilled through the implementation of the first recommendation – the requirement to have a suitable SMS.

4.3.15 The secretary of the SMP briefed the meeting on the discussions relating to ground handling that took place at the latest meeting of the SMP (November 2014) which concluded that it was premature to require ground handling service providers to implement a SMS for the following reasons:

- there were currently no ICAO SARPs specifically addressing this category of service providers nor were there any SARPs requiring an organizational approval for such activities. Mandating SMS would first require the inclusion of SARPs addressing how these services were to be provided and controlled and possibly also mandating some form of organizational authorisation or approval, which would have an impact on States and service providers;
- the need for guidance material related to scalability in implementing SMS to cater for the variety of size and complexity of activities performed by all service providers;
- the priority which should be given to the implementation of SMS with the existing agreed service providers which already placed a high burden on States and service providers.

4.3.16 The SMP clarified that the SMP does recognize that ground handling services have the potential to introduce hazards into the aviation system that may have an impact on the safe operation of aircraft. As such, they have proposed a new note at the beginning of the SMS Framework found in Annex 19, Appendix 2, to indicate that a service provider's interfaces can have a significant contribution to the safety of its products or services with guidance on interface management as it relates to SMS to be provided in the Safety Management Manual (SMM) (Doc 9859).

4.3.17 The Chairperson thanked the Rapporteur of the GHTF and summarized the discussions with the following conclusions:

- GHTF is invited to continue its work, identify global best practices and procedures that could be made available, and explore the specific responsibilities to be addressed;
- GHTF is requested to further its coordination with the SMP and OPSP and consider at future meetings whether new members from these panels should be added to the GHTF;
- further discussions with the SMP needed to better understand the concerns of the Panel members with regard to extending SMS to GHSP;
- there is a need to co-ordinate with the OPSP and identify which areas will need amendment to take into account further requirements for ground handling, particularly the issue of safety performance oversight of third party ground handling contractors. Both IATA and IFALPA echoed this need for co-ordination; and
- although it is too early to determine where the “hook” of the work in the ICAO documentation will be, it is recommended to consider publication of guidance material as a first step.

4.4 **STATUS OF LEGACY TASKS INTO JOB CARDS**

4.4.1 Working paper WP/8 was presented by the Secretariat and contained an update on the status of legacy tasks stemming from AP/3.

4.4.2 The meeting recalled that AP/3 reviewed the various tasks related to aerodrome design, visual aids, rescue and firefighting, aerodrome operation and services, and heliports as contained in the legacy work program and the seven job cards issued by ANC. It was also agreed at AP/3 to undertake a

review of all legacy tasks and to convert them into a series of job cards at ADOP/1 to be presented to the ANC.

4.4.3 The meeting spent a considerable amount of time reviewing the legacy tasks contained in Appendix B to the Report on Agenda Item 7 of the AP/3 report. A number of the legacy tasks were agreed to be either deleted or subsumed into existing or new job cards. The meeting also took note of the job card AP008 *Update of the ASBUs for the 5th Edition of the GANP* that was issued by the President of ANC prior to the ADOP/1 meeting. Appendix A to this report contained two tranches of job cards: a) existing job cards issued by ANC (AP001 to AP008, with additional texts in red proposed by ADOP/1) and b) new job cards proposed by ADOP/1 arising from a review of the AP/3 legacy tasks and the discussions during the meeting. A new numbering system had been assigned to these job cards in line with the renaming of AP to ADOP, as indicated.

4.4.4 Despite clarification by the Secretariat, the meeting did not, however, agree to the task of developing a job card for aviation jet fuel quality. The meeting agreed that provisions for proper receipt, storage and distribution of fuel at aerodromes, including certification of the fuel supplier, were not the entire responsibility of the aerodrome operator. There were also legal issues associated with liability and accountability on the part of the airlines and with the fuel supplier having a prominent role too.

4.4.5 A total of 19 job cards were developed as contained in Appendix A to this Report on Agenda Item 4. The meeting also agreed that these job cards be submitted to the ANC for approval.

4.4.6 **RECOMMENDATION**

In light of the above discussions, the following recommendation was developed:

RECOMMENDATION 4/1 — Approval of job cards

That the Air Navigation Commission approve the job cards on the work programme of the ADOP contained in Appendix A to the report of this Agenda Item.

4.5 **PROPOSED SCHEDULE OF MEETINGS FOR 2015 AND BEYOND**

4.5.1 As a result of the decision taken by the meeting in paragraph 2.3.4 in the Report on Agenda Item 2, the meeting agreed to allow the existing working groups (of the Aerodromes Panel) to continue its present work. At ADOP/2, a formal decision will be made regarding the structure of ADOP including its various subsidiary bodies, confirmation of Rapporteurs and Co-Rapporteurs of the working groups as well as leaders for job card or groups of job cards.

4.5.2 A schedule of proposed meetings is included as Appendix B to this Report on Agenda Item 4.

4.5.3 The Chairperson proposed, and agreed by the meeting, that ADOP/2 be convened around the time of September/October 2015 with final dates to be confirmed. The Secretariat was tasked to undertake the formalities required to convene this meeting in Montreal, Canada.

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	TITLE	REMARK	NEW JOB CARD NUMBER
Existing job cards (JC) issued by ANC			
AP 001	Assessment and reporting of runway surface conditions		ADOP 001
AP 002	Aircraft arresting systems		ADOP 002
AP 003	Runway guard lights	Subsumed in new job card ADOP 012	
AP 004	Marking of heliports	Subsumed in new job card ADOP 010	
AP 005	OLS at aerodromes and heliports/helidecks		ADOP 003
AP 006	Strategic view of ICAO provisions for aerodromes	Tasks to be divided into two job cards	ADOP 004 (retaining task of AP 006 less ARC) ADOP 005 (ARC)
AP 007	International provisions addressing ground handling at aerodromes		ADOP 006
AP 008	Update of the ASBUs for the 5th edition of the GANP		ADOP 007
New JCs proposed at ADOP/1			
	Review of Aerodrome Reference Code (ARC) design method and governing parameter		ADOP 005
	Airfield pavement management		ADOP 008
	Aerodrome emergency response planning including rescue and fire fighting		ADOP 009
	Heliport design and operations	Includes tasks in AP 004	ADOP 010
	Visual aids for day/night and all weather operations		ADOP 011
	Surface management including prevention of RI	Includes tasks in AP 003	ADOP 012
	Standardized taxiway naming convention		ADOP 013
	Airport planning		ADOP 014
	Reduce bird/wildlife strike hazard by applying new methods and technologies		ADOP 015
	Prevention of FOD ingestion		ADOP 016
	Enhance airport capacity by promoting-CDM		ADOP 017
	Use of LED technology in visual aids		ADOP 018
	Review Annex 14 (and if relevant Annex 15) specifications regarding visibility criteria following Amendment 10 and 11b for INST and PA runways		ADOP 019

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP001
Title	Assessment and reporting of runway surface conditions			
Proposed by	Secretariat/WG-PDP			
Problem Statement	Runway surface conditions have contributed to many safety events and investigations have revealed shortfalls in the accuracy and timeliness of assessment and reporting methods currently provided for in ICAO provisions and guidance material			
Specific Details (including impact statements)	While techniques for the measurement of runway friction provide useful information for runway surface friction maintenance purposes, they are not suitable in all weather conditions when the runway is contaminated and the information when used in reports could be misleading to pilots. Reports used by pilots need to be reviewed for adequacy, completeness and relevance. Pilots of modern aircraft also need reports that are directly related to the performance of the aircraft. Aerodrome operators need clear guidelines on maintaining runway friction and assessing conditions for reports. In addition, both airport operators and pilots need to understand the meaning of the report contents, including the terms “damp” and “slippery when wet”, and how to use it effectively. New techniques for the assessment of braking action on contaminated surfaces are now available or under development, and need to be incorporated in ICAO provisions. Developments have also taken place in runway pavement design and construction that aid friction and drainage. The current guidance on measuring and maintaining runway friction, accounting for the entire runway surface, should also be reviewed and updated as necessary.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress	Current work programme of AP Friction Task Force and Pavement Sub-Group. Development of first edition of PANS-Aerodromes			
Interdependencies/References	AN-WP/8571.PDP , SL AN 4/1.152-11/41 , Airport Services Manual, (Doc 9137), Part 2			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1	Develop provisions for the reporting of runway surface conditions	ADOP/PASG	Proposed amendments to Annex 14 Volume 1 and other related Annexes Proposed amendments to PANS-Aerodromes and PANS-ATM	Q2/2014 Q2/2015
2	Develop guidance material for the assessment of runway surface conditions, including friction level and where contamination exists	ADOP/PASG	Proposed amendments to PANS-Aerodromes Proposed updated Cir 329	Q2/2015 Q1/2016
3	Develop guidance material for the measurement and maintenance of runway friction	ADOP/PASG	Proposed amendments to PANS-Aerodromes Proposed updated Cir 329	Q2/2015 Q1/2016
4	Review new technology for the assessment and reporting of runway surface condition, develop guidance and identify need for SARPs and other provisions	ADOP	Review report Proposed updated Cir 329	Q4/2018

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP002
Title	Aircraft arresting systems			
Proposed by	Secretariat/WG-PDP			
Problem Statement	Provisions need to be developed for the installation of an arresting system			
Specific Details (including impact statements)	Amendment 11 to Annex 14 Volume 1 establishes the installation of an arresting system in lieu of part or all of a runway end safety area (RESA) subject to acceptance by the State. Some guidance material is developed on the parameters that should be considered in the design of an arresting system. Further work is needed to develop a definition of arresting system, provisions for the promulgation (in Annex 15) and to address some operational issues, including undershoots and access by emergency services. There may be a need to review existing guidance material for RESA.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References	AN-WP/8571.PDP , SL AN 4/1.1.52-11/41 , Aerodrome Design Manual (Doc 9157) Part 1, Manual on Certification of Aerodromes (Doc 9774)			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1 Explore development of performance based provisions for runway end safety areas that takes into account: i) a risk-based approach for determining runway end safety requirements ii) a risk-based approach for determining requirements for a combined RESA and arresting system iii) defining an arresting system and its requirements		ADOP	Proposed amendments to Annex 14 Volume 1, PANS-Aerodromes and guidance material in manuals, as necessary	Q4/2017
2 Develop further provisions for the installation of an arresting system in lieu of part or all of a RESA to address operational issues, including undershoots and access by emergency services		ADOP	Proposed amendments to Annex 14 Volume 1, Annex 15, PANS-Aerodromes and guidance material in manuals, as necessary	Q2/2014
3 Develop further provisions on the criteria for the design specification, installation and acceptance by a State of an arresting system in lieu of part or all of a RESA		ADOP	Proposed amendment to Annex 14, Volume I, PANS-Aerodromes and guidance material in manuals, as necessary	Q4/2017
Issue Date: 5 February 2013	Date Assessed by SRP: 19 February 2013	Date Approved by ANC: 12 March 2013	Next Review Date	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP0035-rev1
Title	Obstacle limitation surfaces at aerodromes and heliports/helidecks			
Proposed by	Secretariat/WG-PDP/ANConf/12			
Problem Statement	A review of the obstacle limitation surfaces (OLS) applied at aerodromes and heliports/helidecks and guidance on a penetration of any OLS is required			
Specific Details (including impact statements)	Recommendation 6/14 of the 12 th Air Navigation Conference and the 38 th ICAO Assembly (WP/143) called for a review of obstacle limitation surfaces and for guidelines to be developed for conducting aeronautical studies to assess permissible penetrations. The present dimensions of Annex 14 obstacle limitation surfaces depend on the aerodrome reference code, thus independent of the operational use of the runway, and do not take account that aircraft and systems performances have evolved and significantly reduced aircraft deviations. In addition, the recent review of the amendment 5 to Annex 14 Volume II revealed several areas where the provisions for the obstacle limitation surfaces were insufficient or could be improved. Relevant references are contained in pages B-64, B-69 and B-76 of AN-WP/8572.PDP. The guidance material would nominally apply to any OLS at an aerodromes or heliport/helideck.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References	A38-WP/143 ; AN-WP/8572.PDP , SL AN 4/1.1.52-11/41 , Airport Services Manual (Doc 9137) part 6 <i>Obstacles</i> ; Heliport Manual (Doc 9261), ANConf/12 Final Report			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1	Develop provisions for the obstacle limitation surfaces of aerodromes	ADOP (supported by IFPP and OPSP)	Proposed amendments to Annex 14 Volume I	Q1/2016
2	Develop provisions for the obstacle limitation surfaces of heliports/helidecks	ADOP (supported by IFPP and OPSP)	Proposed amendments to Annex 14 Volume II	Q1/2018
3	Develop guidelines for conducting aeronautical studies to assess permissible penetrations of obstacle limitation surfaces	ADOP (supported by IFPP and OPSP)	Proposed guidance material (Doc 9261 and new version of Doc 9137 part 6)	Q1 2016
Issue Date: 5 February 2013	Date Assessed by SRP: 21 November 2013	Date Approved by ANC: 27 November 2013	Next Review Date: November 2014	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP0046
Title	Strategic review of ICAO provisions for aerodromes			
Proposed by	ANC (193-12)			
Problem Statement	Regulatory material and guidance material is needed suitable for the design and operation of all airports - existing, developing and future			
Specific Details (including impact statements)	Annex 14 Volume I specifies SARPs and guidance material (green pages) for aerodrome design and operations. The introduction of the B747-400 and then the A380 aircraft highlighted that, as the basis for the design, the aerodrome reference code placed limitations on developing airports and the length of runway no longer had the same relevance as it did when the code was introduced in the early 1980's. The same situation applied in many cases to regional airports wanting to capitalise on the emergence of low-cost carrier operations. While the existing runway proved suitable, the physical characteristics of the taxiways and aprons did not always meet the Annex 14 specifications for the size of aircraft; however, the lack of compliance was rarely an operational impediment or resulted in an increase in safety risk. Solutions for the A380 were provided in Circ 305, while on a wider scale the development of PANS-Aerodromes has, in its first incarnation, focussed on providing a means to overcome the limitations of Annex 14. The publication of PANS-Aerodromes would therefore reveal the deficiencies of the Annex. The airport design aspects are one such deficiency; there are others. Guidance material should also be reviewed and, where necessary updated, or developed to support the regulatory provisions. This work item should, where relevant, encompass existing approved work programme items. In some cases, an approved work programme item may need to be cancelled or modified.			
 AN.2013.WP.8669.D P4.EN.docx  AN.2013.WP.8669.P DP.DP1.FL1.en.pdf				
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress	AP Work Programme. Development of PANS-Aerodromes (Doc 9981)			
Interdependencies/References	Doc 9157, <i>Aerodrome Design Manual</i> ; Doc 9137, <i>Aerodrome Services Manual</i> ; Doc 9774, <i>Manual on Certification of Aerodromes</i> ; Circular 305, <i>Operation of New Larger Aeroplanes at Existing Aerodromes</i>			
Required Action	By Whom/Resources	Deliverables	Timescales (for deliverable)	
1 Restructure and develop Annex 14 Vol. I to provide provisions suitable for the design and development of airport infrastructure, facilities and services provided, and airport operations.	AP	Proposed amendment to Annex 14 Volume I	Q4 2017	
Review the Aerodrome Reference Code design method and governing parameters to provide provisions suitable for the design and development of aerodrome infrastructure and facilities; amend the relating detailed design specifications as required	AP	Proposed amendment to Annex 14 Volume I	Q4 2017	
2 Develop a PANS-Aerodromes outlining procedures for the operation of the airport, to support and maintain operations, complementary to Annex 14 Vol. I	AP	Draft first edition of PANS-Aerodromes	Q4 2015	
3 Review, update and develop guidance material to support the regulatory	AP	Draft guidance material	Q4 2017	

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provisions.				
Issue Date: 4 June 2013	Date Assessed by SRP: 21 November 2013	Date Approved by ANC: 27 November 2013	Next Review Date: November 2014	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP005
Title	Review of Aerodrome Reference Code design method and governing parameters			
Proposed by	ANC (193-12)			
Problem Statement	Review the basis and the adoption of an operationally-based approach for the development of aerodrome design SARPs on physical characteristics, review the aerodrome reference code design method and the consequential development of revised SARPs as deemed necessary			
Specific Details (including impact statements)	Annex 14 Volume I specifies SARPs and guidance material (green pages) for aerodrome design and operations. Runway and taxiway widths relationship, including separations, with aircraft wingspan codes and assumed associated maximum landing gear widths are no longer linked as when the ARC was introduced. Landing gear widths are mostly related to fuselage width, not to wingspan, hence some inconsistencies for some aircraft, including the Dash 8-400, 757, 747-8, 777-8/9, AN124 and A380. Use of a reference field length that is not adjusted to either actual conditions (elevation, temp, etc.) or actual flight profiles planned for the aerodrome is no longer valid. Consideration must be made to separate the reference field length from aeroplane design code. Further, flight profile (arrival / departure) and associated minima must be introduced to support designs that will enable future development of the GANP. Overbuilding of runway and taxiway widths to meet an aeroplane design code is burdensome for both initial construction and annual maintenance. Design allowance needed for aeroplanes that have been certified to operate on runway widths that are one reference code lower than would otherwise be specified by wingspan or maximum gear span. New designs for commercial airplanes are considering the adoption of folding wingtips / wings in order to gain the aero-performance benefit of the larger span on the runway and after takeoff, yet have the benefit of aerodrome compatibility of the lower aeroplane design code once off the runway. This work item should, where relevant, encompass existing approved work programme items. In some cases, an approved work programme item may need to be cancelled or modified.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress	ADOP Work Programme. Development of PANS-Aerodromes (Doc 9981)			
Interdependencies/References	Doc 9157, <i>Aerodrome Design Manual</i> ; Doc 9137, <i>Aerodrome Services Manual</i> ; Doc 9774, <i>Manual on Certification of Aerodromes</i> ; PANS-Aerodromes, Doc 9981			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1 Review the Aerodrome Reference Code design method and governing parameters to provide provisions suitable for the design and development of aerodrome infrastructure and facilities; amend the relating detailed design specifications as required using an operationally-based approach.		ADOP	Proposed amendments to Annex 14 Volume 1 and Doc 9157 and PANS-Aerodromes	Q4 2016
2 Review and develop provisions, as suitable, in Annex 14 Volume I determining that the reference code to be assigned to the aircraft is relative to the location of the aircraft on the aerodrome, and identify designated transition areas adjacent to the runway where the higher reference code may need to be maintained in order to maintain the runway capacity.		ADOP/PASG	Proposed amendments to Annex 14 Volume 1 and PANS-Aerodromes	Q4 2016

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Issue Date: 12 February 2015	Date Assessed by SRP: TBD	Date Approved by ANC: TBD	Next Review Date: TBD
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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP0067
Title	International provisions addressing ground handling at aerodromes			
Proposed by	ANC			
Problem Statement	There is a need to look at safety, efficiency and standardisation issues associated with ground handling and determine the status and future needs of ICAO provisions in relation to ground handling at aerodromes.			
Specific Details (including impact statements)	The Air Navigation Commission (ANC) needs to determine the status and future needs of international provisions for airport ground handling at aerodromes. Within ICAO there is, <i>inter alia</i> , development of a new Chapter 5: Aerodrome Operational Management to PANS-Aerodromes. Within industry there are additional undertakings, e.g. the IATA Safety Audit for Ground Operations (ISAGO) and its complementary ISAGO Standards Manual, and IATA Ground Operations Manual (IGOM) and other industry documentation such as produced by ACI and IBAC. A gap analysis needs to be done to determine what is needed in the way of ICAO provisions that will complement and complete an international package of needed provisions and best practices.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References	AN-WP/8669.DP4 , PANS-Aerodromes (Doc 9981), Doc 9137, <i>Aerodrome Services Manual</i> ; IATA IGOM			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1 Perform gap analysis of current and planned ICAO/industry provisions and programmes for ground handling at aerodromes.		ADOP (liaison with SMP and OPSP)	Gap analysis	Q1/2015
2 Provide recommendation on what ICAO should consider for its future work programme that would complement and complete a regulatory package for the safety, efficiency and standardisation of ground handling operations.		ADOP (liaison with SMP and OPSP)	Proposed work programme	Q1/2015
3 Develop guidance and/or best practices		ADOP (liaison with SMP and OPSP)	Manual/Circular	Q2/2017
4 Consider development of SARPs/PANS		ADOP (liaison with SMP and OPSP)	SARPs in Annexes 6/9/14/19 and/or PANS	Q4/2018

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Issue Date: 11 October 2013	Date Assessed by SRP: 21 November 2013	Date Approved by ANC: 27 November 2013	Next Review Date: November 2014	Completed Date:
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ADOP/1 – WP/15
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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

Title	Update of the ASBUs for the 5th Edition of the GANP	Reference: ADOP0078-01
Source	A38, ANC12	
Problem Statement	The Global Air Navigation Plan is an overarching planning document relying on the Aviation System Block Upgrades. The next edition of the GANP has to be endorsed by the 39th Assembly in 2016. The different modules, threads and roadmaps have to be updated for that matter.	
Specific Details (including impact statements)	The Aviation System Block Upgrades have been developed by a technical team and included in the 4th edition of the Global Air Navigation Plan, approved by the Council and endorsed by the 38th Assembly as a strategic direction for technical work programme. According to the level of maturity of each module and technical enabler, the Standards and recommended Practices need to be developed and the description of the modules refined. The panels are the proper framework to handle these tasks hereafter. The ANB and ANC have agreed on the Lead panel for each block/module. For the next edition of the GANP, the lead panel will particularly focus on Block 0 and Block 1 modules, update/amend as necessary and validate the list of SARPs that have to be produced. These SARPs will become part of their work programme. The Lead panel will also update the operational threads or the technology roadmaps when applicable. All the modifications will be further reviewed by the ATMRPP panel to ensure consistency among all modules.	
Expected Benefit	Updated version of the ASBUs, planning of documents delivery for better implementation of the modules, validated information for endorsement of next edition of the GANP by A39.	
References	Global Air Navigation Plan (Doc 9750, 4th edition), ASBU document (version mars 2013 revised), table defining the lead and supporting panel for each module.	Attachments?

WPI No.	Work Programme Item (WPI) Description	Expert Group		Deliverable Document	Delivery Timeline
		Lead	Supporting		
1369	Review and indicate potential concerns on ASBU module ACDM or related Technical enabler objectives and timelines	ADOP	ATMOPS	Updated ASBU block 0 and 1 sections	February 2015
1401	Review and update/amend the module ACDM description for Block 0 and 1, including the SARPs to be delivered.	ADOP	ATMOPS	Updated ASBU block 0 and 1 sections	April 2015
1130	Review and update the operational thread(s) or technology roadmap(s) when applicable.	ADOP	ATMOPS	Updated technology roadmap(s)	April 2015

Issue Date: Xx December 2014	Date Assessed by WG/SRP: XX December 2014	Date Approved by ANC: 22 December 2014	Session/Meeting	Assigned to CG:	CG Review Date:	Completion Date:
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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP008
Title	Airfield Pavement Management			
Proposed by	ADOP			
Problem Statement	The introduction of new and heavier aircraft require current ICAO provisions for permitting overloading operations on runways and movement areas to be reviewed. Similarly, the 30-year old ACN/PCN pavement reporting system needs to be redeveloped in light of new and emerging technologies in pavement engineering. Other aircraft pavement related issues include inspection and maintenance of airfield pavements and effects of magnetic anomalies at aerodromes arising from a State accident/incident report.			
Specific Details (including impact statements)	Aircraft pavement issues are related to both safety and capacity. Updated criteria on pavement overloading permits increased frequency of heavy aircraft without adverse impact on airfield pavements. There is a need to revise the current ACN/PCN pavement reporting system using new and emerging technology in pavement design that will result in better and efficient use of existing pavements. New provisions concerning effects of magnetic anomalies on safe aircraft operations at aerodromes need to be developed.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References	PANS-Aerodromes (Doc 9981), Doc 9157 <i>Airport Design Manual</i> Part 3			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1 Develop/update existing Annex 14 Vol I provisions concerning safe and efficient use of airfield pavements.		ADOP	Amendment to Annex 14 Vol I	Q4/2016
2 Develop procedures in PANS-AERODROMES for the safe and efficient use of airfield pavement.		ADOP/PASG	Procedures in PANS-AERODROMES (Doc 9981)	Q4/2016
3 Develop/update guidance on airfield pavement management.		ADOP	Updated Doc 9157 ADM Part 3	Q4/2016
Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP009
Title	Aerodrome Emergency Response Planning including RFF			
Proposed by	ADOP			
Problem Statement	Annex 14 Vol I contains requirements related to the coordination of emergency response and provision of rescue and firefighting services at the level of an aerodrome. Nonetheless, there is a need to develop performance-based provisions with regard to evolution of existing provisions and taking into account the tasks involved and applicable risk. There is a need to develop generic procedures and/or guidance on the development of procedures for the emergency response including RFF at or in the vicinity of an aerodrome for incorporation in PANS-Aerodromes. Aerodromes lack direction on RFF requirements when the aerodrome is used for other than destination operations. Current language causes confusion among air carriers and has limited the operational flexibility of air carriers to identify suitable alternate airports with appropriate RFF capability.			
Specific Details (including impact statements)	With an evolution of existing provisions in mind and taking account of the tasks involved and applicable risk, develop new performance-based provisions for the response to an emergency at or in the vicinity of an aerodrome, with regard to: i. the type and frequency of operations, including general aviation; ii. the size, construction and use of the aircraft; iii. typical emergency response scenarios, including details addressing accidents occurring at specific locations such as on or near the extended runway centreline; iv. the availability and suitability of emergency response resources when needed; and v. the development of risk and task analysis criteria and methodologies Increase post-accident survival rates by using new/updated performance-based provisions for aerodrome emergency response. Current provisions have limited the operational flexibility of air carriers to identify suitable alternate airports with appropriate RFF capability to meet their Annex 6 obligations. There is no connection between the RFF level provided by the aerodrome for normal destination operations in Annex 14 and the RFF level needed by the aeroplane to support the flight operation for which the aerodrome was identified in Annex 6. Use of an aerodrome as an alternate does not require full RFF category due to the low potential of actual diversion. As such, an aeroplane in a category higher than the RFF category published by the aerodrome may be able to use the aerodrome as an alternate, providing greater operational flexibility and reducing cost (fuel / time) of the flight.			
PART II	Rating	High	Medium	Low
	Rationale for acceptance/rejection			
	Action already in progress			

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Interdependencies/References	PANS-Aerodromes (Doc 9981), Doc 9137 <i>Aerodrome Services Manual</i> Part 1 and 7			
Required Action	By Whom/Resources	Deliverables	Timescales (for deliverable)	
a) With an evolution of existing provisions in mind and taking account of the tasks involved and applicable risk, develop new performance-based provisions for the response to an emergency at or in the vicinity of an aerodrome, with regard to the criteria described above	ADOP	Amendment to Annex 14 Vol I and Doc 9137 ASM Part 1	Q4/2016	
b) On the basis of a) above, develop generic procedures and/or guidance on the development of procedures for the emergency response at or in the vicinity of an aerodrome for incorporation in PANS-Aerodromes	ADOP/PASG	Procedures in PANS-AERODROMES	Q4/2016	
c) Determine the operational application of the RFF level to be provided at aerodromes for other than destination use operations	ADOP/FLTOPSP	Amendment to Annex 14 Vol I and Doc 9137 ASM Part 1	Q4/2016	
Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP010
Title	Heliport Design and Operations			
Proposed by	ADOP			
Problem Statement	a) The applicability of Annex 14 Vol II, certification of heliports and the implementation of SM need further development of provision. b) Annex 14 Vol II section 5.3 concerning lights needs to be reviewed due to technological advance in helicopters and heliports. c) Based on the review of proposed amendment arising from AP/2 by ANC, FATO surface characteristics, including slopes, need to be reviewed. d) Review the criteria used for categorization of heliports for RFF including a study of the D-values and corresponding fuselage length/width values and where appropriate, develop RFF provisions at heliports; f) Several areas where the provisions for the marking of FATOs and TLOFs were non-existent, insufficient or could be improved; and g) Doc 9261 Heliport Manual (1995) requires updating			
Specific Details (including impact statements)	Improve safety at heliports by strengthening Annex 14 Vol II provisions in the respective areas described above. Current provisions in Heliport Manual are well out of date compared with Annex 14 Vol II provisions			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References				
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1 Provisions on the certification of heliports including implementation of SMS		ADOP/SMP/PASG	Amendments to Annex 14 Vol II and Annex 19, PANS-Aerodromes	Q4/2016
2 Review of Annex 14 Vol II section 5.3 provisions concerning lightings at heliports		ADOP	Amendments to Annex 14 Vol II	Q4/2016
3 Review of FATO surface characteristics including slopes		ADOP	Amendments to Annex 14 Vol II	Q4/2016

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4	Reviewing the criteria used for categorization of heliports for RFF including a study of the D-values and corresponding fuselage length/width values and develop provisions accordingly	ADOP	Amendments to Annex 14 Vol II	Q4/2016
5	Review the marking of FATOs and TLOFs	ADOP	Amendments to Annex 14 Vol II	Q4/2016
6	Updating of Doc 9261 Heliport Manual	ADOP	Updated guidance in Doc 9261	Q4/2016 (certification, SMS) Q4/2018 (lights, markings)
Issue Date:		Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:
				Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP011
Title	Visual aids for day/night and all weather operations			
Proposed by	ADOP			
Problem Statement	a) The ANC is concerned that recent and proposed future additions to Annex 14 for visual aids might, in the context of proliferation, have a detrimental impact on aerodrome safety and operational efficiency; hence, review the appropriateness and effectiveness of current and emerging aerodrome visual aid systems for day/night and all weather operations and runway safety taking into account human factors and aircraft performance, navigation capabilities and operations, and develop new or amended provisions as necessary b) In consideration of a), review the adequacy of existing provisions in the following areas and develop new or amended: i) PAPI harmonization with ILS ii) VASI glide slope obstacle clearance c) Review the appropriateness and effectiveness of current obstacle lighting and marking provisions, including wind turbines, and develop new provisions taking into account the objectives, human factors and aircraft operations			
Specific Details (including impact statements)	a) No new system but possible modifications or removal of existing ones. Raising the safety level by reducing the number of visual aids. b) i) Interoperability between the various visual aids designed for safe approach and landing of aircraft and the reduction of runway incursions. ii) Possible modification of PAPI location. Better positioning of PAPI regarding the ILS. iii) Possible modification of VASI location. Correct protection of final approach slope. c) Maintain level of safety. Reduce environmental impact and economic costs.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References				
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
d) Develop appropriate provisions for visual aids for day/night and all weather operations		ADOP (supported by FLTOPSP and ATMOPSP)	Amendments to Annex 14/procedures in PANS-AERODROMES/manuals	Q4/2018
e) Review adequacy of PAPI and VASI locations regarding ILS and final approach slope protection		ADOP	Amendments to Annex 14/procedures in PANS-AERODROMES/manuals	Q4/2016

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f) Review provisions for obstacle marking and lighting, notably regarding windfarms and new obstacles of considerable height	ADOP	Amendments to Annex 14/procedures in PANS-AERODROMES/manuals	Q4/2018
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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP012
Title	Surface management including prevention of runway incursions.			
Proposed by	ADOP			
Problem Statement	Airport safety and capacity are more and more dependent of the surface management processes and tools. Issues to be addressed include how to diminish the number of runway incursions or to improve surface movement to increase capacity. This job card specifically consider how A-SMGCS including visual aids contribute to solving those issues.			
Specific Details (including impact statements)	Reduce RI by the development of provisions for visual aids associated with A-SMGCS addressing: • The management of traffic (aircraft and vehicles) on or in the vicinity of a runway; • The management of traffic (aircraft and vehicles) on the remainder of the manoeuvring area and aprons.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References	A-SMGCS Manual (Doc. 9830); <i>Annex 14</i>			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
a) Develop provisions (including procedures) for A-SMGCS visual aids for management of traffic on or in the vicinity of a runway.		ADOP (supported by FLTOPSP)	Proposed amendments to Annex 14 and Doc 9830	Q4 2017
b) Develop provisions (including procedures) for A-SMGCS visual aids for management of traffic on the remainder of the manoeuvring area and aprons.		ADOP (supported by FLTOPSP)	Proposed amendments to Annex 14 and Doc 9830	Q4 2017
c) <i>Develop guidance for the deployment and use of A-SMGCS visual aids.</i>		AP (supported by FLTOPSP)	<i>Guidance in Doc 9830</i>	<i>Q4 2016</i>

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP013
Title	Standardized taxiway naming convention			
Proposed by	ADOP			
Problem Statement	Runway safety and the prevention of runway incursion remains a high priority for all States and continues to be an area where incidents and accidents occur. A standardized taxiway naming convention is intended to eliminate confusion regarding proximity to a runway, and to ensure that an extra level of awareness is available to aircraft crews or vehicle operators.			
Specific Details (including impact statements)	Changing the names of existing taxiways and holding positions on several aerodromes, publishing of all new maps, training of all tower controllers. Standardized naming convention is expected to reduce runway incursions.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References				
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
a) Develop/review new and existing Annex 14 Vol I provisions concerning taxiway naming convention		ADOP/ATMOPSP	Amendment to Annex 14 Vol I	Q4/2016
b) Develop new or update existing guidance material on taxiway naming convention		ADOP/ATMOPSP	Guidance in Doc 9157 ADM Part 2 and Part 4	Q4/2016
Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP014
Title	Airport planning			
Proposed by	Secretariat			
Problem Statement	ICAO guidance material on Airport Master Planning (Doc. 9184, Part 1) has not been updated since 1987. This guidance material needs a complete review to include the most up-to-date airport planning tools and techniques. In addition, SARPs on airport planning requirements may be needed in Annex 14, Volume I to support airport capacity enhancements in a timely manner to avoid airport congestion and delays.			
Specific Details (including impact statements)	Good airport planning, including master planning, is vital in building the airport capacity timely in a phased approach, thus avoiding significant delays in the future due to capacity constraints. Airport capacity will be increased; and airport delays will be reduced through more precise and up-to-date airport planning.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References	Traffic forecasting			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
a) Review, and if necessary develop, provisions on airport planning requirements to support airport capacity enhancements		ADOP	Possible amendments in Annex 14 Vol I and PANS	Q4 2017
b) Update guidance in Doc 9184 Airport Planning Manual		ADOP/CAEP	Updated Doc 9184 APM	Q4 2017
Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP015
Title	Reduce bird/wildlife strike hazard by applying new methodologies and technologies			
Proposed by	ADOP			
Problem Statement	Bird/wildlife strike hazard pose a persistent threat to aviation safety. While Annex 14 Vol I contains high-level SARPs and Doc 9137 ASM Part 3 provides guidance , there is a need to evaluate emerging technologies, such as avian radar, conduct in-depth specialist analysis of bird/wildlife strike data and develop further material, eg. bird/wildlife strike hazard reduction toolkit, to strengthen the effort on a global basis.			
Specific Details (including impact statements)	Bird/wildlife strike is an increasing safety and economic concern, which has resulted in hundreds of fatalities and an annual loss of over one billion USD to the aviation industry. 96% of bird/wildlife strikes occurred on or near airports, among which 39% occurred during the take-off run or climb phases and 57% occurred during the decent, approach or landing roll phases. The future trend in bird/wildlife strike hazard control is to combine the traditional methods with new technologies (e.g. avian radar) providing real or near-real time information on birds and helping with habitat management, etc.. The new provisions are expected to reduce bird/wildlife strike accidents/incidents; and reduce economic loss due to bird/wildlife strikes.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References				
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
a) Procedures for bird/wildlife strike hazard in PANS-AERODROMES		ADOP/PASG	Procedures in Doc 9981 PANS-AERODROMES	Q4/2016
b) Update guidance in Doc 9137 ASM Part 3		ADOP	Updated Doc 9137 ASM Part 3	Q4 2018
Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP016
Title	Prevention of FODs ingestion			
Proposed by	ADOP			
Problem Statement	Lack of international regulation on the prevention of FOD, including a globally agreed definition and taxonomy have resulted in fatal accidents as well as posing significant economic, capacity and environmental issues. New and emerging technologies on the use and installation of automated FOD detection devices need to be reviewed.			
Specific Details (including impact statements)	The presence of unexpected and inappropriate objects on runways (called foreign objects and debris, FOD) is a source of aircraft accidents or incident notably during aircraft landing and take-off operations. Such objects also cause damage to aircraft estimated to cost several billions of dollars besides causing delays. There is therefore a need to look for new methods which offer better possibilities to improve runway safety. Automated FOD detection offers a potential solution for FOD prevention. Such systems had been installed at several airports.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References	PANS-Aerodromes (Doc 9981), Doc 9137, <i>Aerodrome Services Manual</i> Part 8			
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1 Develop new/updated provisions in Annex 14 Vol I for the prevention, and the installation of devices for the detection, of FOD		ADOP	Amendments to Annex 14 Vol I	Q4/2014
2 Develop procedures for the use of devices for the detection of FODs		ADOP/PASG	Procedures in PANS-AERODROMES (Doc 9981)	Q4/2016
3 Develop updated guidance on the use of FODs		ADOP	Guidance in Doc 9137 ASM Part 8	Q4/2016
Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I			
Category	Safety	Sustainability	Implementation
Reference: ADOP017			
Title	Enhance airport capacity by promoting A-CDM		
Proposed by	ADOP		
Problem Statement	As growth in air traffic increases, airport capacity will be a significant constraining factor and such initiatives as A-CDM will play an important part in helping to utilize current capacity more effectively.		
Specific Details (including impact statements)	The use of airport collaborative decision making (A-CDM) between different partners in aviation (airports, ANSPs, aircraft operators and ground handlers, etc.) ensures coordinated effort to increase efficiency and capacity at airports. The end result of this “punctuality management” enables the turnaround process of a flight at an aerodrome to be as efficient and predictable as possible through the sharing of operations data and coordination of various service activities at airports including those in the terminal buildings (facilitation/security). Some airports at certain parts of the world are already fully or partly implementing A-CDM. Provisions need to be developed on a global basis to harmonize different approaches. .		
PART II	Expected benefits include maximization of existing airport capacity; reduction in apron and taxiway congestion and delays at airports; and reduced cost for airlines. Environmental gains in terms of reduction in emissions. Passenger experience improved through more accurate and timely information delivered to passenger displays and service desks.		
Rating	High	Medium	Low
Rationale for acceptance/rejection			
Action already in progress			
Interdependencies/References	ATMOPSP, FLTOPSP		
Required Action	By Whom/Resources	Deliverables	Timescales (for deliverable)
a) Develop provisions to support A-CDM in PANS-ATM/OPS/AERODROMES	ADOP/ATMOPSP/FLTOPSP	Procedures in PANS-ATM/OPS/AERODROMES	Q4/2016
b) Develop guidance material to support A-CDM	ADOP/ATMOPSP/FLTOPSP	New/updated guidance in appropriate manuals	Q4/2016
c) Take into consideration facilitation and security procedures for better integration of airside/landside	ADOP/ATB (FALP/AVSECP)	Possible provisions in Annexes 9, 17 and/or related documents	Q4/2018

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Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:
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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
Category	Safety	Sustainability	Implementation	Reference: ADOP 018
Title	Use of light emitting diode (LED) technology in visual aids			
Proposed by	ADOP			
Problem Statement	With the introduction of LEDs in large quantities on aerodromes worldwide, issues related to interlacing, perceived intensity, acquisition by EVS/HUD systems are becoming an ever increasing challenges.			
Specific Details (including impact statements)	Review the existing specifications for visual aids and, where necessary, develop new provisions to allow for the use of LED technology. To include but not limited to the following: • Review the stability of colour point with dimming compared to traditional light sources. • Review Pulse Width Modulation for flashers and the effect on perception • Failure modes associated with LED Design • Review the definition of "light failure" in relation to life and colour shift. • Review the use of NVGs and possible specification of LED light emission [mW/sr], distribution and wavelength. • Review of perceived brightness under various visibility conditions. • Other issues related to LEDs. Note – new provisions should not preclude the use of other light technologies and should be limited to specifications that provide adequate visual cues to users.			
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References				
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1 LED Review		Visual Aids Group	Annex 14 amendments and guidance materials	Q4-2016
Issue Date: 12 February 2015		Date Assessed by SRP: TBD	Date Approved by ANC: TBD	Next Review Date: TBD

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Working Group on Strategic Review and Planning – ANWP Amendment Input Form (Job-card)

PART I				
	Safety	Sustainability	Implementation	Reference: AP019
Title	Review of Annex 14 (and if relevant Annex 15) specifications with regard to the visibility criteria specified in the definitions of ICAO Annex 14 vol 1 (new definitions following amendments 10 and 11b of A14 vol 1 : instrument RWY and precision approach runway)			
Proposed by	ADOP1			
Problem Statement	Potential inconsistencies within the existing Annex 14 provisions (and probably with the Annex 15 provisions)			
Specific Details (including impact statements)	Following amendment 10, and then amendment 11B to Annex 14, volume 1, introducing new definitions for precision approach runway, and for instrument runway within the framework of the new approach classification, a review of the Annex 14 (and probably Annex 15) specifications is necessary to check potential inconsistencies within the changed definitions and related visibility values.			
PART II				
Rating	High	Medium	Low	
Rationale for acceptance/rejection				
Action already in progress				
Interdependencies/References				
Required Action		By Whom/Resources	Deliverables	Timescales (for deliverable)
1	Review the existing provisions in Annex 6, Annex 14 and Annex 15 to check for any inconsistency regarding provisions for instrument and non-instrument approaches and runway	ADOP (supported by IFPP, FLTOPSP and IMP)	Report identifying inconsistencies in SARPS	Q2/2016
2	Develop consequential amendments to Annexes 14 and 15	ADOP	Proposed amendments to Annexes 14 Volume I5	Q4/2017
Issue Date:	Date Assessed by SRP:	Date Approved by ANC:	Next Review Date:	Completed Date:

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Appendix B to the Report on Agenda on Item 4

Name of WGs/TFs	Tentative Dates	Tentative Venues	Contact person & email address	Remarks
Panel Level				
ADOP/2	Sept/Oct 2015	ICAO Montreal	Jean Louis Pirat (jean-louis.pirat@aviation-civile.gouv.fr)	Final dates to be confirmed
WG/TF Level				
ADWG	22 – 26 June	ICAO Montreal	George Legaretta (George.legarreta@faa.gov)	
FTF	20 -24 July	CAA, Bodø Norway	Armann Norheim (Armann.Norheim@caa.no)	Final dates to be confirmed
PSG	5-16 April	ICAO Eur/Nat Neuilly (France)	Serge Le Cunff (serge.le-cunff@aviation-civile.gouv.fr)	
HDWG				
HDWG meeting	13 – 17 April 2015	UK CAA, Aviation House, (Exam Room), Gatwick Airport	Kevin Pagne (Kevin.Payne@caa.co.uk) Baillie, Christopher <christopher.baillie@tc.gc.ca>	
VAWG	6 – 10 July 2015	ICAO Montreal	Robert Bonanni (robert.bonanni@faa.gov)	
Study Group Level				
PASG	7 – 11 Sept	ICAO Montreal	Tony Heap (Tony.Heap@caa.co.uk)	This is a provisional date
Cross Panel				
OLS IFPP/ADOP	15 to 19 June	France	Robert Bonanni (robert.bonanni@faa.gov) Tom Andersen (toma@trafikstyrelsen.dk)	



ADOP/1-WP/15
13/02/15

AERODROME DESIGN AND OPERATIONS PANEL (ADOP)

FIRST MEETING

Headquarters, 9 to 13 February 2015

AGENDA ITEM 5

The attached constitutes the report on Agenda Item 5 and should be inserted at the appropriate place in the yellow folder.

Agenda Item 5: Any other business**5.1 Presentation on Aviation System Block Upgrades (ASBUs) and iKits**

5.1.1 The Secretariat gave a presentation on the update of the Aviation System Block Upgrades (ASBUs) for the 5th Edition of the Global Air Navigation Plan. The meeting was informed that the ICAO 2013-2028 Global Air Navigation Plan (GANP, Document 9750, 4th Edition) was an overarching planning document relying on the ASBU methodology. It was introduced at the AN Conf/12, reviewed by the ANC, approved by the Council and endorsed by the 38th Assembly in 2013 as a strategic direction for technical work programme. The update process of the document, described on page 34 of the fourth edition, catered for a draft to be submitted to the ANC in the fall 2015 for a full review process in order to be approved by the Council and endorsed by the 39th Assembly in 2016. The ASBU document, which described the 21 modules through the 4 blocks (B0 to B3), was also to be updated in this process to reflect the maturation of the ASBU since AN Conf/12.

5.1.2 To maintain the modules current and develop the necessary SARPs and guidance material, it was important that the panels take the responsibility of updating the ASBU document and all roadmaps contained in the GANP. Each module and roadmap had been assigned to a lead panel, which was responsible for the work and will coordinate with support panels as needed. Panel chairs had received a job card by the president of the ANC in January 2015 to initiate that work for block 0 and block 1. The table defining the lead and supporting panels for each module and roadmap is given in Appendix A to this agenda item. Consistency of the ASBU framework was also key. The ATMRPP was specifically assigned the task of ensuring both the completeness and consistency of the different modules among the blocks. The feedback from all panels regarding the GANP and the ASBU will be an input to the ATMRPP panel, which will play the role of the final architect.

5.1.3 The Secretariat had designed implementation Kits for the ASBUs (iKits) to gather in one holder all the necessary SARPs, guidance material, training material and links to external standards to help the different stakeholders in implementing the desired modules. The right documentation should be targeted during the update process to make these iKits relevant.

5.1.4 The schedule for the new edition of the GANP was strict. For an endorsement at the 39th Assembly, the draft had to be submitted to the ANC in the fall 2015 session to initiate the review process in due time. Therefore, the draft had to be finalized by the summer 2015. The feedback from all the panels to ATMRPP was set to April 2015.

5.2 Italian approach to safeguard of aerodrome surroundings – Experiences and Tools

5.2.1 IP/8 presented by the member from Italy contained a description of the different activities implemented by ENAC (Italian CAA) on the theme of safeguard of aerodrome surroundings, based on a comprehensive approach to safety taking into account the interaction between aerodrome and local community. The Italian Air Navigation Code established a set of constraints to support an effective planning and ensure the safety of aviation activities at and in the proximity of the aerodrome. ENAC provided additional guidelines and tools to the local municipalities for the definition of the zones interested by the *Land Use Compatibility Plans*. The paper mainly provided a description of a software

tool developed by ENAC in order to support the evaluations about the risk level related to aircraft accident in areas near aerodrome and defines the footprint of the safety zones. The software named SDAC – *Spatial Distribution of Aircraft Crashes* was based on a database of aircraft accidents occurred worldwide in the last fifteen years (1996-2011) and considered more than 800 accident. The software was updated on a 3 years basis. In order to compare and analyze accident data and their positioning, the tool was based on a virtual normalized runway drawn on a length of 1000 m. The SDAC software had the capability to customize visualization of accident relating to various filtering fields: *Flight maneuver*, *Aircraft classes*, *Accident consequences*, *Point of impact*, *Distance of accident from the runway*,.... The software was also able to provide statistical diagram about the accident distribution around the runway. The software could be useful to study the characteristics of different events like runway excursion and the related issues as the definition of the strength of the strip.

5.2.2 During the discussion most of the panel member appreciated the tools and its potential that could support different kind of air navigation and aerodrome safety analysis with particular reference to the accident investigation activities. There were questions regarding the sources of the database and the possibility to add other filters to query the system. It was also suggested that ICAO could consider this system as a reference to support some new activities of the ADOP.

			Aerodrome Design and Operations Panel (Joseph)	Airworthiness Panel (?)	ATM Operations Panel (Nico)	Air Traffic Management Requirements and Performance Panel (Saulo)	Communication Panel (Vaughn)	CP-OPDLWG (Crystal)	Flight Operations Panel (Miguel)	Frequency Spectrum Management Panel (Loftur)	Instrument Flight Procedures Panel (Erwin)	PBN Study group (Erwin)	Information Management Panel (Mike)	Meteorology Panel (Neil)	Navigation System Panel (Alessandro)	Safety and Separation Panel (Saulo)	Safety Management Panel (Elizabeth)	Surveillance Panel (Mie)	SP-ASTAF (Mie)	Remotely Piloted Aircraft Systems Panel (Leslie)
L = Lead Panel S = Supporting Panel			2 18	- 7	12 34	5 17	- 13	2 8	3 18	- 3	6 3		4 21	3 22	- 3	2 11	- 2	1 14	8 3	3 1
Block	Name	Descr.	ADOP	AIRP	ATMOPS	ATMRPP	CP	OPDLWG	FLTOSP	FSMP	IFPP	PBN-SG	IMP	METP	NP	SASP	SMP	SP	SP-ASTAF	RPASP
B0	ACAS	ACAS Improvements		S	S				S									S	L	
B2	ACAS	New Collision Avoidance System		S	S				S									S	L	S
B0	ACDM	Optimized Airport Operations through Airport-CDM	L		S								S	S						
B1	ACDM	Optimized Airport Operations through A-CDM Total Airport Management	L		S		S						S	S						
B0	AMET	Meteorological information supporting enhanced operational efficiency and safety	S		S				S				S	L						
B1	AMET	Enhanced Operational Decisions through Integrated Meteorological Information	S		S	S			S				S	L						
B3	AMET	Enhanced Operational Decisions through Integrated Meteorological Information (Near term and Immediate Service)			S	S			S				S	L						
B0	APTA	Optimization of Approach Procedures including vertical guidance	S								L	S		S	S					
B1	APTA	Optimized Airport Accessibility	S								L	S		S	S	S				
B0	ASEP	Air Traffic Situational Awareness (ATSA)			S	S			S				S					S	L	

B1	ASEP	Increased Capacity and Efficiency through Interval Management			S			S	S							S		S	L	
B2	ASEP	Airborne Separation (ASEP)			S	S		S	S							S			L	
B0	ASUR	Initial capability for ground surveillance			S											S		L		
B0	CCO	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)			S				S		L									
B0	CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)			S				S		L									
B1	CDO	Improved Flexibility and Efficiency in Descent Profiles (CDOs) using VNAV			S				S		L	S		S						
B2	CDO	Improved Flexibility and Efficiency in Descent Profiles (CDOs) using VNAV, required speed and time at arrival			S		S				L	S		S						
B0	DATM	Service Improvement through Digital Aeronautical Information Management					S						L							
B1	DATM	Service Improvement through Integration of all Digital ATM Information				S	S						L	S						
B0	FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration						L					S							
B1	FICE	Increased Interoperability, Efficiency and Capacity through FF-ICE, STEP 1 application before departure			S	L		S					S	S						
B2	FICE	Improved Coordination through multi-centre Ground-Ground Integration: (FF-ICE, Step 1 and Flight Object, SWIM)			S	L		S					S	S						
B3	FICE	Improved Operational Performance through the introduction of Full FF-ICE			S	L		S					S	S						
B0	FRT0	Improved Operations through Enhanced En-Route Trajectories			S							S		S		L				
B1	FRT0	Improved Operations through Optimized ATS Routing			S						S	S		S		L				

Consistency on the thread

Consistency on Thread

[illegible]

ADOP/1 - WP/15
Appendix A to the Report on Agenda Item 5

B1	SWIM	Performance Improvement through the application of System-Wide Information Management (SWIM)			S	S	S						L	S					
B2	SWIM	Enabling Airborne Participation in collaborative ATM through SWIM			S	S	S						L	S					
B0	TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route			S			L					S			S			
B1	TBO	Improved Traffic synchronization and Initial Trajectory-Based Operation			S	L	S	S				S	S	S		S			
B3	TBO	Full 4D Trajectory-based Operations			S	L	S	S	S		S	S	S	S	S	S		S	
B0	WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation	S	S	L				S										
B1	WAKE	Increased Runway Throughput through Dynamic Wake Turbulence Separation	S	S	L				S					S					
B2	WAKE	Advanced Wake Turbulence Separation (Time-based)	S	S	L	S			S					S				S	
EN	COM	Communication Enablers and Roadmap				S	L	S		S			S		S				S
EN	NAV	Navigation Enablers and Roadmap				S	S			S		S			L				S
EN	SURV	Surveillance Enablers and Roadmap				S	S			S						S		L	S
EN	IM	Information Management Enablers and Roadmap				S	S						L	S					S
EN	AVCS	Avionics Enablers and Roadmap				S	S	S	L	S			S	S	S			S	S