International Civil Aviation Organization

Fifth Meeting of MIDANPIRG AIM Sub-Group

AIM SG/5
(Cairo, Egypt, 22-24 January 2019)

Agenda Item 4: **Global/Regional Developments related to AIM and SWIM**

OUTCOMES OF THE 13th AIR NAVIGATION CONFERENCE

(Presented by the Secretariat)

SUMMARY
This paper presents the outcome of the 13th Air Navigation Conference (AN-Conf/13) for the follow-up on relevant recommendations by the AIM SG. Action by the meeting is at paragraph 3.
REFERENCES
- AN-Conf/13 Report - MSG/6 Report

1. INTRODUCTION

1.1   The Thirteenth Air Navigation Conference (AN-Conf/13) was held in Montréal from 9 to 19 October 2018. The Conference was attended by a total of 1022 participants from 116 Contracting States and 37 observer delegations. The list of the participants and the full report of the Conference can be found on the AN-Conf/13 website at: *www.icao.int/meetings/anconf13*.

2. DISCUSSION

2.1   The meeting may wish to note that the AN-Conf/13 endorsed fifty-two (52) Recommendations, addressing a wide variety of subjects, such as Air Traffic Management (ATM), Communications, Navigation and Surveillance (CNS), Aeronautical Meteorology, Information Management, Aerodrome, Human Factors, Civil-Military Collaboration, Remotely Piloted Aircraft System (RPAS), Search and Rescue (SAR), Cyber resilience, new operations types, Global Aviation Safety Oversight System (GASOS), State Safety Programme (SSP), Safety Management, Universal Safety Oversight Audit Programme (USOAP), Continuous Monitoring Approach (CMA) and Regional Safety Oversight Organizations (RSOO). The list of the AN-Conf /13 recommendations relevant to AIM Sub-Group is in **Appendix A**.

2.2   The MSG/6 meeting reviewed the AN-Conf/13 Recommendations related to air navigation and agreed that the different MIDANPIRG subsidiary bodies should identify clearly the Recommendations related to their terms of reference and agree on the necessary follow-up actions. In addition, the MSG/6 meeting agreed that a Working Paper should be presented by the Secretariat to the MIDANPIRG/17 meeting to propose follow-up actions for assignement to States and the different actors/stakeholders. Accordingly, the meeting agreed to the following MSG Decision:

MSG DECISION 6/1:   FOLLOW-UP ON THE AN-CONF/13 RECOMMENDATIONS

That,

a) *the Secretariat present a Working Paper to the MIDANPIRG/17 meeting to propose follow-up actions on relevant AN-Conf/13 Recommendations, for assignement to States and the different actors/stakeholders; and*

b) *the different MIDANPIRG subsidiary bodies should identify clearly the AN-Conf/13 Recommendations related to their terms of reference and agree on the necessary follow-up actions.*

3.   ACTION BY THE MEETING

3.1   The meeting is invited to identify the AN-Conf/13 Recommendations related to AIM SG terms of reference and agree on the necessary follow-up actions.

APPENDIX A

Recommendations	Follow-up Actions
Recommendation 1.1/1 — Vision and overview of the Sixth Edition of the *Global Air Navigation Plan* (Doc 9750, GANP) That States: a) agree that the future *Global Air Navigation Plan* (Doc 9750, GANP), based on the outcome of the Thirteenth Air Navigation Conference (AN-Conf/13), be available as a web-based platform, including a concise, executive summary (printable) which outlined its key policies, priorities and strategies to ensure that the GANP was easily accessible to all States and key decision makers; b) agree with the proposed multilayer structure for the Sixth Edition of the GANP; c) welcome the proposed vision, performance ambitions and conceptual roadmap for the Sixth Edition of the GANP, with the inclusion of the civil-military dimension; d) recognize the importance of a separate but aligned GANP and *Global Aviation Safety Plan* (Doc 10004, GASP); That ICAO: e) consider the establishment of a GANP Study Group comprised of Member States from all regions and industry to undertake work on future editions of the GANP; f) make available the GANP global strategic level (printable) in the six ICAO languages; g) develop online training and organize regional seminars in conjunction with the planning and implementation regional groups (PIRGs), where possible, for the familiarization of the Sixth Edition of the GANP and support the deployment and implementation of regional and national air navigation plans; h) develop a national air navigation plan template available for voluntary use by States, as part of the Sixth Edition of the GANP, aligned with the global and regional air navigation plans and support States in developing their national air navigation plans while taking into consideration neighbouring requirements; i) strengthen the relationship between the GASP, the GANP and the newly developed Global Aviation Security Plan (GASeP); and j) continue to work with States, international organizations, air traffic management (ATM) modernization programmes and other stakeholders on the development of the Sixth Edition of the GANP, as required for subsequent endorsement at the 40th Session of the ICAO Assembly.	For Information of AIM SG

Recommendation 1.2/1 — Global technical level of the Sixth Edition of the *Global Air Navigation Plan* **(Doc 9750, GANP)** That States: a) agree with the proposed change management process to maintain an up-to-date aviation system block upgrade (ASBU) framework with the formal involvement of the ASBU Panel Project Team (ASBU PPT) to improve transparency, consistency and stability; b) welcome the updated ASBU framework and consider the initial version of the basic building block (BBB) framework; That ICAO: c) map the global technical level of the *Global Air Navigation Plan* (Doc 9750, GANP) with the strategic level; d) make available the ASBU and proposed BBB frameworks in an interactive and simplified format, as part of the web-based GANP Portal, emphasizing the relationship between both frameworks, and between the frameworks and the regional air navigation plan (ANP) elements; e) enable the capability, within the GANP Portal, to upload relevant information related to the development and deployment of the ASBU and proposed BBB frameworks in order to allow States, regions and industry to share information; f) incorporate a flexible framework for emerging air navigation concepts such as unmanned aircraft systems (UAS), UAS traffic management (UTM), Big Data and the aviation Internet, into future editions of the GANP; g) include a Global Aeronautical Distress and Safety System (GADSS) thread in the Sixth Edition of the GANP in line with ICAO provisions; h) consider designing a thread for a Global Aviation Internet Network in the GANP, in coordination with aviation and non-aviation-related industries; i) emphasize and enhance a human-centric approach to system design and processes for change management; j) support the conduct of trials for new air navigation concepts as outlined in the ASBU framework within the GANP; and k)　continue to work with States, international organizations, air traffic management (ATM) modernization programmes and other stakeholders on the development of the global technical level of the Sixth Edition of the GANP for subsequent endorsement at the 40th Session of the ICAO Assembly.	For Information of AIM SG

Recommendation 1.3/1 – Air navigation roadmaps
That States:
a) provide ICAO with timely information on their modernization plans and the equipage plans of airspace users;
That States and ICAO:
b) work collaboratively to adopt a performance-based approach for developing performance requirements and acceptable means of compliance to support the implementation of the *Global Air Navigation Plan* (Doc 9750, GANP) while considering the need for global interoperability;
That ICAO:
c) provide air navigation roadmaps, linked to the aviation system block upgrade (ASBU) elements, within the GANP which support:
    1) new airspace users and emerging technologies;
    2) greater flexibility where possible in the choice of technologies, based on performance needs; and
    3) earlier adoption of new technologies and operational capabilities as they emerge, linked to the performance needs;
d) continue to explore practical means to make use of international standards, in particular through the Standards Roundtable work with recognized standards-making organizations, to expedite the efficient development of ICAO provisions; and
e) expedite the work on the Global Data Link Implementation Strategy and develop harmonized solutions to support air-ground data link communications.
	<mark>For Information of AIM SG</mark>

Recommendation 1.4/1 — Cost-benefit analysis (CBA) in support of assets deployment That States: a) perform a cost-benefit analysis (CBA) as part of all required impact assessments, in coordination with air navigation services providers (ANSPs) and among other relevant stakeholders, when defining optimum solutions for improvements in the performance of the air navigation system through the use of the aviation system block upgrades (ASBU) framework; b) use a simplified mechanism, if they do not have a process already in place, such as the checklist available on the Global Air Navigation Plan (GANP) Portal, for CBA of air navigation infrastructure investment projects to support improvements as described in the ASBU framework; and That ICAO: c) support the implementation of applicable CBA methodologies through dedicated workshops.	<mark>For Information of AIM SG</mark>

Recommendation 3.1/1 — System-wide information management (SWIM) That States: a) support developments and implementation of system-wide information management; b) via the mechanism of the planning and implementation regional groups (PIRGs), showcase regional system-wide information management (SWIM) demonstrations, highlighting the operational and economic benefits of SWIM, and evaluate possible transition and mixed-mode scenarios; c) share information, lessons learned and observations regarding SWIM development and implementation; d) develop national implementation plans in alignment with regional strategies and priorities and in accordance with the strategy outlined in the *Global Air Navigation Plan* (Doc 9750, GANP) which would include SWIM; That ICAO: e) while making use of already developed Standards and best practices, continue the development of provisions related to information services, while including relevant guidance, governance aspects, information content and related information exchange models, and supporting technical infrastructure and governance for SWIM in sufficient detail to ensure safe, efficient and secure globally seamless operations; f) consider the concept of a global SWIM framework as part of the GANP and the aviation system block upgrades (ASBUs); g) consider security-by-design principles when developing interconnected trusted global SWIM frameworks; h) develop provisions related to the harmonization of information exchange models and globally interconnected registries; i) through regional events, and in collaboration with States and industry, promote SWIM and its benefits, as described in the *Manual on System-wide Information Management* (Doc 10039), as well as implementation best practices to the aviation community; and j) provide assistance to States to support the implementation of Annex 15 — *Aeronautical Information Services* and *Procedures for Air Navigation Services — Aeronautical Information Management* (Doc 10066, PANS-AIM).	MID States: to take necessary action(s) on items a) to d) ICAO: to conduct a Regional or Interregional SWIM Seminar/Workshop in 2020 AIM SG: to address SWIM planning in the MID Region starting from AIM SG/6

Recommendation 3.5/1 — ICAO location indicator system and database of significant points That States and industry stakeholders: a) urgently complete the population of the ICAO International Codes and Routes Designators (ICARD) database with all five-letter name codes (5LNC) used worldwide to ensure the accuracy of the database; b) ensure that whenever a 5LNC that is used for military purposes is published in an ICAO Aeronautical Information Publication (AIP) and consequently coded into aircraft flight management system (FMS), such 5LNCs are coordinated through the ICARD process; That ICAO: c) continue to address the limitations of both location indicator and 5LNC availabilities in the short-term and determine a long-term solution; d) consider, when developing such solutions, the need for global harmonization and interoperability; e) continue with its efforts to improve awareness and training on the use of ICARD in the regions that do not actively use ICARD; f) continue to work towards removing duplicated 5LNCs and sound-like conflicts; and g) implement improvements to the ICARD database functionality, including the use of maps depicting flight information regions (FIRs), more information regarding 5LNC history and sound-like proximity checks for codes held in reserve but not yet allocated to a region.	MID States: to take necessary action(s) on items a) and b) ICAO: to conduct a 1-day workshop on ICARD in 2019-2020 (back-to-back with AIM SG/6) AIM SG: to continue addressing ICARD issues
Recommendation 3.5/3 — Certification of ANSPs That ICAO investigate the potential benefits, balanced against the associated costs of the development of provisions and guidance material for certification of air navigation services providers (ANSPs).	For Information of AIM SG
Recommendation 3.5/4 — True North That ICAO conduct a detailed study into the technical, operational, and economic feasibility of changing to a "True North" reference system.	For Information of AIM SG

Recommendation 4.2/1 – Implementation of essential air navigation services That States: a) consider the use of more advanced technologies and procedures, in coordination with international organizations and industry stakeholders, to provide the essential air navigation services for international civil aviation, taking into account the principles of global interoperability and performance specification compliance; b) include planning for the implementation of the essential services outlined in the proposed basic building blocks (BBB) framework within their national air navigation plans; That ICAO: c) in coordination with the planning and implementation regional groups (PIRGs) and by making use of existing reporting mechanisms, verify the provision of the essential air navigation services for international civil aviation, as outlined in the proposed BBB framework, through the methodology for the identification of air navigation deficiencies against the regional air navigation plans; d) develop the necessary tools to support the PIRGs in the verification of the provision of the proposed basic building block (BBB) services at the regional and national levels; e) coordinate the interoperability of systems and harmonization of procedures at a regional level, through the PIRGs, in relation to the use of advanced technologies and concepts of operations, taking into account global requirements; f) in line with the No Country Left Behind (NCLB) initiative, provide the necessary technical assistance to States for the provision of essential air navigation services as identified by the PIRGs and as reflected in State national air navigation plans; and g) urge the aviation manufacturing industry to create a testing environment for States to justify procurement decisions which guaranty interoperability and system functionality within local specific environments, as a follow-up to the provision of essential air navigation services.	MID States: to ensure that the essential AIS services are provided, as per the BBBs (AIP, Charts, NOTAM, Aerodrome AIS Unites, ARO; Pre-flight & post-flight briefing services) ICAO: to provide necessary support to States in the implementation of essential AIS Services by States AIM SG: to continue monitoring availability of essential AIS Services provided by States

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