



WORKING PAPER

ASSEMBLY — 39TH SESSION

EXECUTIVE COMMITTEE AND TECHNICAL COMMISSION

Agenda Item 27: Increasing the efficiency and effectiveness of ICAO

Agenda Item 35: Aviation safety and air navigation standardization

ENHANCING THE IMPLEMENTATION OF INTERNATIONAL AVIATION PROVISIONS

(Presented by the United States)

EXECUTIVE SUMMARY

Since the inception of the International Civil Aviation Organization (ICAO) in 1947, the safe, secure, and orderly expansion of international aviation has in large part been built upon a standardized approach to the promulgation of national regulations. As directed by Article 37 of the *Convention on International Civil Aviation* (Doc 7300), ICAO is empowered to develop Standards and Recommended Practices (SARPs) for the purpose of obtaining the highest practicable degree of uniformity in aviation worldwide. This is a critical function and, as the scope and complexity of the aviation system increases, the process by which these SARPs are created must be continuously scrutinized and adapted to accommodate future needs.

Action: The Assembly is invited to:

- a) direct the Council to consider SARP development and review process revisions that promote transparency and enhance coordination across relevant disciplines, and to include an assessment of potential pre- and post- implementation issues. Consideration should also be given to improving the Procedures for Air Navigation Services (PANS) development and review processes, provided their impact on global harmonization and interoperability;
- b) urge States to respond to ICAO State letters regarding proposed amendments to Annexes and PANS especially those that relate to concepts or technologies not previously mandated at a national or regional level. Review of such proposals should include a cross-disciplinary perspective, as appropriate, provide input regarding the anticipated economic impact to the State and industry, and incorporate the views of relevant industry stakeholders;
- c) direct ICAO Regional Offices to take an active role in encouraging responses to State letters regarding amendment proposals. ICAO Regional Offices should also monitor State responses and provide assistance where needed to determine the impact of implementation in a regional context; and
- d) adopt the proposed amendments to the resolution, as contained in the appendix of this working paper, to supersede Resolution A38-11.

<i>Strategic Objectives:</i>	This working paper relates to the Safety Strategic Objective.
<i>Financial implications:</i>	This working paper has no significant financial implications
<i>References:</i>	Doc 7300, <i>Convention on International Civil Aviation</i> Doc 10022, <i>Assembly Resolutions in Force (as of 4 October 2013)</i>

1. INTRODUCTION

1.1 Over the last triennium, aviation has continued to improve upon an impressive safety record due in large part to the increasing reliance on risk-based decision-making, as well as greater partnership between stakeholders. This progress should be applauded; however, the international aviation community must remain mindful that future challenges will require an even greater degree of cooperation and collaboration to address global safety issues.

1.2 An effective approach will require increased implementation of SARPs. Traditionally, SARPs development has been primarily undertaken by experts with knowledge or experience in a particular discipline. However, as new technologies and challenges enter into the modern aviation system, more robust cross-disciplinary development and review processes are required to identify operational implications across all relevant disciplines, to create a holistic account of actual impact on the global air transportation system.

1.3 Successful implementation of a Standard across 191 States is no easy feat; complex political, economic, and geographic factors must be satisfactorily addressed in order to develop a universally implementable Standard. In years past, the Assembly and other high-level ICAO forums have addressed the need for an efficient and effective SARP development process, the efforts of which have greatly contributed to the efficiency of the process. Nonetheless, the need for harmonized and effective SARPs has become ever more critical due to the increasing complexity of the global air transportation system. Therefore, this working paper recommends that the existing SARP development and review processes in place at ICAO be amended and enhanced to better evaluate impact and feasibility of implementation on a global scale. These processes should more actively involve the aviation industry (especially operational personnel) to ensure that SARPs will achieve the desired impact and can be implemented as intended. In addition to SARPs, consideration in this matter should also be given to Procedures for Air Navigation Services (PANS). PANS play a critical role in harmonization and interoperability, and therefore should incorporate an enhanced comprehensive and cross-disciplinary review process.

2. DISCUSSION

2.1 Establishment of effective SARPs, those that are technically sound and capable of worldwide implementation, requires an approach that encompasses a thorough evaluation of the associated regulatory, economic, operational, safety, and security aspects. When the need for new SARPs is identified, the development process should be expeditious, while allowing for a comprehensive review process to assess implications and likelihood of being implemented on a global scale.

2.2 Aviation is a complex enterprise. Any change to operational procedures or aviation infrastructure will have a profound effect on the entire system. To fully understand the degree of change that a new SARP may present to the system as a whole, there needs to be a comprehensive review process to mitigate potential unintended consequences.

2.3 In considering adoption of a new SARP, analyses of safety, economic, operational, and sometimes, security, factors are required to determine the broad-reaching changes across the global air transportation system. Additionally, circumstances may occasionally necessitate ICAO and its Member States to effectively implement urgently needed SARPs in a nimble yet prudent manner. Throughout the initial assessment and documentation phases of this consideration, such analyses will require human and

financial resources. If the desired change is determined to be viable and necessary, approaches to implementation by all stakeholders must be developed and documented. Following this, actual implementation calls for additional resources by all stakeholders to update procedures, processes, and related documents.

2.4 A post-implementation assessment should be made to determine if the intended benefits have been successfully achieved without any unintended consequences or degradation to safety. The range of stakeholders can include groups as diverse as regulators, operators, air navigation service providers, and manufacturers. Often these groups are non-homogenous and contain numerous sub-groups whose inputs are relevant to the change.

2.5 The development of a robust implementation plan that outlines the strategic approach for managing the change that a new SARP entails will support an effective outcome at the national, regional, and global levels. Therefore, the SARP development process should consider such implementation planning. For SARPs proposing a major change to the status quo, ICAO should direct the development of a transition and communication strategy throughout planning and implementation phases, which should include outreach to stakeholder groups. Even for seemingly minor changes, resource demands for management of the transition should not be discounted, and a comprehensive assessment of anticipated resource demands is critical.

2.6 At each stage in the SARP development and review processes, there must be a committed effort to include a cross-disciplinary assessment of the proposed change. This extends to the internal ICAO processes, as well as to States providing feedback on the proposed change. For those States directly contributing resources to the ICAO SARP development process, whether that be as a panel member or other resource contribution, States should endeavour to ensure that their review and disposition of a new SARP extends beyond the scope of the specific individual who provided expert feedback in the initial phases of the development. As the impact of SARPs frequently crosses over multiple technical areas, the review of such impact must cross over multiple perspectives.

3. CONCLUSION

3.1 As the international aviation community identifies priorities based on new technologies, or in response to aircraft accidents or incidents, ICAO provides the leadership for Member States to collaborate on how best to proceed. For example, much attention has been and will continue to be focused on the concept of global tracking and the integration of unmanned aircraft systems at the ICAO level. Both of these subject matters are extremely complex in nature, involve a wide range of technical issues, are on the forefront of public attention, and have not yet been widely regulated at the national or regional level. The development of SARPs, and the lessons learned from those SARPs already developed, in these two areas is therefore extremely critical, and demonstrate the importance of SARP development that is governed through an improved, cross-disciplinary, and comprehensive assessment process.

3.2 Ultimately, for ICAO to adopt effective SARPs, it relies heavily on the experience and expertise of States and international organizations submitting replies to ICAO State letters. The comments received from this review process provide valuable insight into a State's experience or anticipated approach to implementation of the SARP. As a matter of priority, States should endeavour to provide responses to State letters proposing new or amended SARPs. Such responses should include input beyond those individuals directly involved in the development of the related provisions.

3.3 To account for regional impacts of a proposed change, ICAO Regional Offices should play a greater role in encouraging Member States to comment on proposed SARPs. ICAO Regional Offices are uniquely situated to facilitate analysis regarding the impact of a SARP to their respective regions. As stated above, PANS are also an integral part of regional harmonization, and increasing ICAO Regional Office involvement in the PANS development process would also prove greatly beneficial.

3.4 SARPs are an integral part of the international aviation system; through adherence to these SARPs, States have achieved an exceptional degree of standardization and interoperability that would never have been possible without the work of ICAO. To ensure that future SARPs are capable of effectively supporting expansion of this system, the focus of SARP development and review efforts must be on promoting greater cross-disciplinary review, more actively involving industry in the process, and accounting for the pre- and post- implementation aspects and resource demands a new SARP brings forth.

APPENDIX

DRAFT RESOLUTION FOR ADOPTION BY THE 39TH SESSION OF THE ASSEMBLY

Resolution 27/xx: Formulation and implementation of Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS) and notification of differences

Whereas Article 37 of the *Convention on International Civil Aviation* requires each Member State to collaborate in securing the highest practicable degree of uniformity in regulations and practices in all matters in which such uniformity will facilitate and improve air navigation;

Whereas Article 37 of the Convention requires the Organization to adopt and amend international standards and Recommended Practices and procedures and states the purpose of and the matters to be dealt with in that action, and Articles 38, 54, 57 and 90 contain additional relevant provisions;

Whereas in accordance with Article 38 of the Convention any Member State which finds it impractical to comply in all respects with any international standard or procedure or deems it necessary to adopt regulations or practices differing therefrom is obliged to give immediate notification to ICAO;

Whereas the Assembly deems it advisable to establish certain policies to be followed in complying with these provisions of the Convention;

Recognizing the effective implementation of SARPs and PANS promotes safe, secure and sustainable development of international civil aviation;

Recognizing that making differences information easily available to all stakeholders in a timely manner is important to promote safety, regularity and efficiency in international civil aviation;

Noting that many Member States experience difficulty in fulfilling their obligations under Articles 37 and 38 of the Convention and keeping pace with frequent amendments to Annexes;

Recognizing that up-to-date ICAO technical guidance material provides valuable assistance to Member States in the effective implementation of SARPs, PANS and Regional Plans;

Recognizing that substantial resources are required to develop and maintain all ICAO technical guidance material for SARPs and PANS;

Noting the increase of the number of notified differences to ICAO; ~~and~~

Recognizing that there is a strong need for all available means to be sought and employed in encouraging and assisting Member States in overcoming their difficulties in implementation of SARPs and PANS; ~~and~~

Recognizing that implementation of a Standard is increased globally through a development process that encourages inclusion of perspectives among all States and relevant industry stakeholders;

The Assembly:

1. *Calls on* Member States to reaffirm their commitment to abide by the obligations under Articles 37 and 38 of the Convention;
2. *Resolves* that SARPs and PANS shall be amended as necessary to reflect changing requirements and techniques and thus, inter alia, to provide a sound basis for global and regional planning and implementation;
3. *Agrees* that subject to the foregoing clause, a high degree of stability in SARPs shall be maintained to enable the Member States to maintain stability in their national regulations. To this end amendments shall be limited to those significant to safety, regularity and efficiency and editorial amendments shall be made only if essential;
4. *Reiterates* that SARPs and PANS shall be drafted in clear, simple and concise language. SARPs shall consist of broad, mature and stable provisions specifying functional and performance requirements that provide for the requisite levels of safety, regularity and efficiency. Supporting technical specifications, when developed by ICAO, should be translated in all working languages of ICAO in a timely manner and shall be placed in separate documents to the extent possible;
5. *Instructs* the Council to utilize, to the maximum extent appropriate and subject to the adequacy of a verification and validation process, the work of other recognized standards making organizations in the development of SARPs, PANS and ICAO technical guidance material. Material developed by these other standards-making organizations may be deemed appropriate by the Council as meeting ICAO requirements; in this case such material should be referenced in ICAO documentation;
6. *Resolves* that to the extent consistent with the requirements of safety regularity and efficiency, SARPs specifying the provision of facilities and services shall reflect a proper balance between the operational requirements for such facilities and services and the economic implications of providing them;
7. *Instructs* the Council to consult Member States on proposals for the amendment of SARPs and PANS before the Council acts on them, except when the Council may deem urgent action to be necessary. Furthermore, subject to the adequacy of the verification and validation process, technical specifications may be acted upon by the Council without consultation with Member States. Such material shall however be made available to Member States upon request;
8. *Resolves* that the applicability dates of amendments to SARPs and PANS shall be so established as to allow Member States sufficient time for their implementation;
9. *Agrees* that no Annex or PANS document shall be amended more frequently than once per calendar year;
10. *Reminds* Member States of the requirement in Annex 15 to publish any significant differences in their Aeronautical Information Publication (AIP) and to include English text for those parts expressed in plain language;
11. *Encourages* Member States to use the Electronic Filing of Differences (EFOD) System when notifying their differences to ICAO;

12. *Instructs* the Secretary General to continue improving the EFOD system and assist Member States in transitioning from the paper-based processes to the use of the EFOD system;
13. *Directs* the Council to monitor and analyse the differences between the regulations and the practices of Member States and the SARPs and PANS with the aim of encouraging the elimination of those differences that are important for the safety, regularity and efficiency of international air navigation and taking appropriate actions;
14. *Instructs* the Council to explore possibilities to make differences information more easily available to all interested stakeholders and assess appropriate mechanism and form in which this information is made available;
15. *Resolves* that Member States shall be encouraged and assisted in the implementation of SARPs and PANS by all available means and provided as soon as possible with more guidance in respect of the notification and publication of differences;
16. *Calls* on all Member States able to do so to provide requesting States with technical cooperation in the form of financial and technical resources to enable those States to carry out their obligations under Articles 37 and 38 of the Convention;
17. *Instructs* ICAO to establish priorities for the continuing updating of the contents of present ICAO technical guidance material and the development of additional guidance material thus ensuring optimum value for Member States in their planning and implementation of SARPs and PANS;
18. *Resolves* that the associated practices in this Resolution constitute guidance intended to facilitate and ensure implementation of this Resolution; ~~and~~
19. *Instructs* ICAO to review existing SARP development processes and implement changes intended to encourage the inclusion of inputs from a broader set of stakeholders in the aviation industry;
20. *Direct* ICAO to consider the development of a transition and communication strategy throughout planning and implementation phases, which should include outreach to stakeholder groups;
21. *Directs* ICAO to enhance the role of its Regional Offices in facilitating and monitoring the SARP amendment review process;
22. *Call* upon Member States to respond to ICAO State letters regarding proposed Annex and PANS amendments; and
1923. *Declares* that this resolution supersedes Resolution A37-15, ~~Appendices A, D and E~~ A38-11.

Associated practices

1. The Council should ensure that provisions of SARPs and PANS are completely consistent with each other. Furthermore, the Council should endeavour to improve the processing, presentation and usefulness of ICAO documents containing SARPs, PANS and other related provisions, especially for complex systems and their associated applications. To that end the Council should promote the development and upkeep of broad system-level, functional and performance requirements. The Council should continue seeking the most appropriate means of development, translation, processing and dissemination of technical specifications.

2. Member States should comment fully and in detail on the proposals for amendment of SARPs and PANS or at least should express their agreement or disagreement on their substance. They should be allowed at least three months for this purpose. Furthermore, Member States should receive at least 30 days of notification of the intended approval or adoption of detailed material on which they are not consulted.
3. Member States should be allowed a full three months for notifying disapproval of adopted SARPs amendments; in establishing a date for notifying disapproval the Council should take into account the time needed for transmission of the adopted amendments and for receipt of notifications from States.
4. The Council should ensure that, whenever practicable, the interval between successive common applicability dates of amendments to Annexes and PANS is at least six months.
5. The Council, prior to the adoption and approval of amendments to SARPs and PANS, should take into account feasibility of the implementation of SARPs and PANS by the intended applicability dates.
6. The Council, taking into account the definitions of terms “Standard” and “Recommended Practice”, should ensure that new Annex provisions, uniform application of which is recognized as necessary, are adopted as Standards, and that those new provisions, uniform application of which is recognized as desirable, are adopted as Recommended Practices.
7. The Council should urge Member States to notify the Organization of any differences that exist between their national regulations and practices and the provisions of SARPs as well as the date or dates by which they will comply with the SARPs. If a Member State finds itself unable to comply with any SARPs, it should inform ICAO of the reason for non-implementation, including any applicable national regulations and practices which are different in character or in principle.
8. Differences from SARPs received should be promptly made available to Member States.
9. In encouraging and assisting Member States in the implementation of SARPs and PANS, the Council should make use of all existing means of ICAO and strengthen partnerships with entities which provide resources and assistance towards development of international civil aviation.
10. Member States should establish internal processes and procedures by which they give effect to the implementation of provisions of SARPs and PANS.
11. ICAO should update and develop guidance material in accordance with the established priorities to adequately cover all technical fields.
12. ICAO should amend and enhance existing SARPs development processes to ensure a robust multidisciplinary approach, and endeavor to make coordination as transparent to Member States as possible.