



WORKING PAPER

TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

Agenda Item 6: Future direction

6.2: Standardization- approach to SARPs development in support of One Sky

**FRAMEWORK FOR STANDARDS AND RECOMENDED PRACTICES IN
SUPPORT OF THE AVIATION SYSTEM BLOCK UPGRADES**

(Presented by the United States)

SUMMARY

With the development of technology and the modernization of global air traffic management systems, the United States believes there is a need to review the processes utilized to develop and establish new Standards and Recommended Practices (SARPs) and associated guidance material. The United States concurs with the Secretariat's AN-Conf/12-WP/23 in that there needs to be restructuring of the system of expert groups. This paper provides a review of the consultative mechanisms and suggests a framework to help in restructuring the groups including the principles suggested in the WP.

Action. The Conference is invited to agree to the recommendation in paragraph 5.

References:

Doc 7300- *Convention on International Civil Aviation*

Doc 9958- *Assembly Resolutions in Force- A37-15*

Doc 8143- *Directives to Divisional-type Air Navigation Meetings and Rules of Procedure for their Conduct*

Doc 7984- *Directives for Panels of the Air Navigation Commission*

1. INTRODUCTION

1.1 The Preamble of the Convention on International Civil Aviation, December 7, 1944 (Chicago Convention) states that international civil aviation be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity, and operated soundly and economically. In order to accomplish this, Article 37 of the Chicago Convention charges ICAO to adopt and amend international standards and recommended practices dealing with matters concerning the safety, regularity, and efficiency of air navigation.

1.2 The formulation of these Standards and Recommended Practices (SARPs), Procedures for Air Navigation (PANS), and associated practices are established by the ICAO Assembly.

1.3 Currently the SARPs formulation and approval process can take a significant amount of time from design to adoption. In regards to the future implementation of the aviation system block upgrades (ASBUs), many of the established SARPs will need to be reviewed, modified, and potentially deleted.

1.4 Therefore, it is recommended that consideration be given to the review and or development of a new framework for SARPs formulation. The SARPs framework needs to maintain the principles suggested in ICAO Working Paper 23 and must be comprehensive enough to support the needs of States, planning and implementation regional groups (PIRGs), air navigation service providers (ANSPs), industry/standards-making bodies, operators, as well as others.

2. REVIEW OF DEFINITIONS AND GUIDANCE MATERIAL

2.1 In reviewing the SARPs process, it is necessary to review the ICAO definitions (found in A37-15 Appendix A of Doc 9958) of a SARP, as well as the guidance material involved in the application and implementation of these standards. The review will also assist in establishing the roles of the consultative mechanisms within the standards framework.

2.2 A Standard is defined as any specification necessary for the safety or regularity of international air navigation to which Contracting States will conform in accordance with the Convention.

2.3 A recommended practice is defined as any specification of which it is recognized as desirable in the interest of safety, regularity or efficiency of international air navigation, and to which Contracting States will endeavour to conform in accordance with the Convention.

2.4 The PANs include operating practices and material too detailed for SARPs. The material should be suitable for application on a worldwide basis. The Council invites Contracting States to publish any differences in their Aeronautical Information Publications when knowledge of the differences is important to the safety of air navigation.

2.5 The Regional Supplementary Procedures (SUPPs) have application in the respective ICAO regions. Although the material in the SUPPs is similar to that in the PANS, SUPPs do not have the worldwide applicability of PANS.

2.6 Guidance material is produced to supplement the SARPs and PANS and to facilitate their implementation and normally is issued as Attachments to Annexes or in separate documents such as manuals, circulars. They are usually approved at the same time as the related SARPs are adopted.

3. CURRENT ISSUES WITH THE SARP FORMULATION AND APPROVAL PROCESS

3.1 While the current SARP formulation and approval process has led to the development, safety and efficiency of international aviation for the past 68 years, the advent of new technology has resulted in a need to review this process. Under the previous Universal Safety Oversight Audit Program (USOAP) and now with the implementation of the continuous monitoring approach (CMA), each State will continue to assess their respective systems. In doing so, the States will determine if the adoption of the SARPS necessary to implement ASBU concepts will require the filing of additional differences.

3.2 In order for the ASBU concepts to be implemented, the formulation and implementation of new SARPs may be necessary. This will result in the potential for additional differences. Therefore, it would benefit

ICAO if the existing SARPs were reviewed for relevance, update and or possible deletion. For timeliness, this review should be done in parallel with the development of new SARPs to ensure they integrate emerging technologies and subsequent procedures.

3.3 In the current process for technical air navigation SARPS, the review and formulation of SARPS is done with the Air Navigation Commission through its twelve Panels comprised of independent technical experts. Further work is delegated to technical study groups, Council technical committees, PIRGs and various safety oversight organizations. At times this work becomes isolated from the work of the other groups. Once the work is completed by the consultative mechanisms, it must then be reviewed and approved by the nineteen members of the Air Navigation Commission. Although the Air Navigation Commission is directed to set the specific work plan and time frame for each panel, it is easy to see how the SARPs formulation and approval process can become complex and time consuming.

4. FRAMEWORK FOR SARPS FORMULATION AND APPROVAL

4.1 The overall intent of the framework is to ensure that ICAO provisions for complex systems can be managed efficiently, notwithstanding the increasing technical complexity of the subjects. These guidelines are relevant but they are missing a modern framework to advance their purpose. Given the complexity, volume and single focus of the current panel and study group structure, the need for a review of this framework becomes apparent.

4.2 While maintaining the principles set forth in ICAO WP/23, the framework for SARPs formulation and approval should begin with a thorough analysis of the Global Air Navigation Plan (GANP) and the steps that will be necessary to develop and implement SARPs applicable to the ASBUs.

4.3 The panels need to become multidisciplinary in order to address the integrative nature of the ASBUs. With the exception of very specific mandates, this may require eliminating certain panels and creating new multidisciplinary panels composed of multiple members from current panels. These new panels could address the ASBUs and ensure proper integration of all subject matter expertise focusing on SARPs.

4.4 In conjunction with the development of SARPs, technical specification and requirements are needed. This aligns with the current concept of study groups, which currently work on clearly defined technical issues that do not require lengthy consideration to reach a satisfactory conclusion. The study groups should be analysed for further efficiencies but should maintain their current level of detail unlike the proposal for panels.

4.5 International standards making bodies should work with each other and ICAO to develop related detailed technical specifications that will be in separate documents published by ICAO or other organizations. ICAO should develop formal working arrangements and agreements with international standards making bodies and form open and cooperative relationships.

4.6 It is suggested that the SARPs formulation and approval process be managed by ICAO with a defined set of project management principles. Based on a mapping of the SARPS and PANS, ICAO would determine critical dates, time lines, and create a systematic work program for the consultative mechanisms. This will not only ensure that the SARPs and guidance materials are reviewed and formulated in a timely manner, but also provide States, PIRGs and other regional mechanisms an aid in planning for implementation of the ASBUs.

5. CONCLUSION

5.1 The United States supports the proposed framework submitted by ICAO. It is believed the proposed framework would not create a drastic change to the current ICAO process; however it would require some reorganization and be improved by the incorporation of a project management system that will increase the efficiency and effectiveness of the SARPs developmental process. Therefore the Conference is invited to:

- a) support the proposed framework for restructuring of expert groups as contained within AN-Conf/12-WP/23.
- b) request that ICAO work to implement the resultant restructured framework in a timely manner; and
- c) that the restructured framework of expert groups, work expeditiously to ensure the timely adoption of the Standards and Recommended Practices (SARPs) necessary to support the implementation of the aviation system block upgrades.

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