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WORKING PAPER

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ASSEMBLY — 41ST SESSION

TECHNICAL COMMISSION

Agenda Item 31: Aviation Safety and Air Navigation Standardization

REVISION OF THE CONTENTS OF DOC 8071 – MANUAL ON TESTING OF RADIO NAVIGATION AIDS

(Presented by Argentina with the support of 20 Member States of the Latin American Civil Aviation Commission (LACAC)²)

EXECUTIVE SUMMARY

This working paper presents a proposal for a revision of *Manual on Testing of Radio Navigation Aids* (Doc 8071) in order to achieve more orderly regulation by incorporating the contents of Appendices P, Q and D the *Aeronautical Surveillance Manual* (Doc 9924), which cover related topics.

Action: The Assembly is invited to:

- a) take note of this working paper; and
- b) instruct the Council to consider the desirability of having the Panel of Experts on Navigation Systems and the Panel of Experts on Surveillance carry out the necessary technical analyses to revise and harmonize the *Manual on Testing of Radio Navigation Aids* (Doc 8071) and the *Aeronautical Surveillance Manual* (Doc 9924).

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| <i>Strategic Objectives:</i> | This working paper relates to the Safety Strategic Objective. |
| <i>Financial implications:</i> | None |
| <i>References:</i> | Doc 8071, <i>Manual on Testing of Radio Navigation Aids</i> Doc 9924, <i>Aeronautical Surveillance Manual</i> |

¹ Spanish version provided by Argentina.

² Aruba (Kingdom of the Netherlands), Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, , Paraguay, Uruguay and Venezuela (Bolivarian Republic of).

1. INTRODUCTION

1.1 This working paper proposes amending the Manual on Testing of Radio Navigation Aids (Doc 8071) to incorporate the contents of the following:

- Appendix P – Guidance for automatic dependent surveillance – broadcast (ADS-B) flight testing of the Aeronautical Surveillance Manual (Doc 9924);
- Appendix Q – Guidance for multilateration (MLAT) flight testing of the Aeronautical Surveillance Manual (Doc 9924);
- Testing of Mode S (local monitor) from Appendix D of the Aeronautical Surveillance Manual (Doc 9924).

1.2 The purpose of this harmonization of the two documents is to enhance orderly regulation by bringing together texts related to testing and unifying in a single document references to testing of aeronautical surveillance systems, given that these documents are widely used by States.

2. ANALYSIS

2.1 The *Aeronautical Surveillance Manual* (Doc 9924) contains high-level guidance on flight testing for ADS-B automatic dependent surveillance – broadcast (ADS-B) in its Appendix P and the multilateration (MLAT) system in its Appendix Q, and testing of Mode S (local monitor) in Appendix D, SSR system techniques.

2.2 The purpose of the *Manual on Testing of Radio Navigation Aids* (as is mentioned in its Foreword, is to “provide general guidance on the extent of testing and inspection normally carried out to ensure that radio navigation systems meet the Standards and Recommended Practices (SARPs) in Annex 10”; it describes the ground and flight testing to be accomplished for a specific radio navigation aid, and provides relevant information about equipment required to carry out tests. Provisions on the testing of surveillance radar systems (primary and secondary radar) are set out in Volume III and its appendices, as is mentioned in the note to section 1.1 General (Chapter 1) – *This volume contains guidance material on radar testing; however, it does not include guidance for new surveillance systems such as automatic dependent surveillance broadcast (ADS-B) and multilateration (MLAT). For high-level guidance material on flight testing of new surveillance systems, refer to the Aeronautical Surveillance Manual (Doc 9924).*

3. CONCLUSION

3.1 Bearing in mind that both Documents are fundamental references for practices in ground and flight testing of radio navigation systems, it is appropriate that the guidance on the testing of ADS-B and MLAT systems and the testing of Mode S (local monitor) be incorporated into the *Manual on Testing of Radio Navigation Aids*, Volume III (Doc 8071).

3.2 This harmonization of the two Documents will make for more orderly regulation by bringing the references to testing together in the same document and will simplify the process of implementation and follow-up with subsequent updates, particularly considering that both manuals are widely used by States.

3.3 In order to optimize the Manual on Testing of Radio Navigation Aids (Doc 8071), it would be appropriate to incorporate into Volume III of Doc 8071 the contents of Appendix P – Guidance for automatic dependent surveillance – broadcast (ADS-B) flight testing, Appendix Q – Guidance for multilateration (MLAT) flight testing, and the testing currently contained in the Aeronautical Surveillance Manual (Doc 9924).

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