



ASSEMBLY — 35TH SESSION

TECHNICAL COMMISSION

Agenda Item 24: ICAO Global Aviation Safety Plan (GASP)

COMMON CRUISING LEVEL STRUCTURE AND GLOBAL UNIVERSAL ALTITUDE MEASUREMENT

(Presented by the International Federation of Air Line Pilots' Associations (IFALPA))

SUMMARY

This paper presents IFALPA's view on the need to harmonize flight level assignment procedures and recommends a review of Annex 5 — *Units of Measurement to be Used in Air and Ground Operations*, as well as worldwide adoption of a system of cruising levels specified in Annex 2 — *Rules of the Air*, Appendix 3, Table of Cruising Levels.

Action by the Assembly is in paragraph 4.

REFERENCES

- Annex 2
- Annex 5
- Doc 9828, *Report of the Eleventh Air Navigation Conference (2003)*

1. INTRODUCTION

1.1 Over the past ten years, significant achievements have been made in airborne navigation systems reducing the margin of error in altimetry systems, among other things. This has allowed the implementation of reduced vertical separation minimum (RVSM) in a growing number of States and regions. RVSM enhances the effectiveness and capacity in air traffic management for international aviation. A key component of this effort is a harmonized system of cruising level assignments to safely organize traffic flows.

¹ English and Spanish versions provided by IFALPA

2. DISCUSSION

2.1 ICAO Annex 2 — *Rules of the Air*, Appendix 3 (Table of Cruising Levels) provides a uniform framework of cruising level assignments in accordance with the respective ICAO Standard at paragraph 5.2 of the Annex. This framework was adapted to RVSM operations through Amendment 31 by the mere addition of the relevant cruising levels in a second table, applicable for RVSM. No further consideration was given to the implications for the RVSM environment, in regard to the differences in the table between corresponding levels expressed in feet to levels expressed in metres. Neither were the limitations of existing metric equipment considered regarding compliance with the specified cruising levels.

2.2 The differences mentioned in paragraph 2.1 above, which rise up to 75 feet (23 metres) between corresponding levels expressed in feet to levels expressed in metres, were highlighted at the Eleventh Air Navigation Conference (ANConf/11), Montreal, 22 September to 3 October 2003 (WP119 refers) and led to Recommendation 4/10 - Tables of cruising levels: *"That ICAO continue to study the common cruising levels structure, as outlined in Annex 2 — Rules of the Air, Appendix 3"*.

2.3 With reference to limitations of existing metric equipment mentioned in paragraph 2.1 above, it must be noted that existing on board equipment, as well as the corresponding CNS/ATM ground facilities designed for the use of metric units, do not facilitate compliance with all cruising levels specified in ICAO Annex 2.

2.4 Notwithstanding the concerns and limitations expressed above, further safety concerns arise as some States use cruising level systems which are not in compliance with the ICAO provisions of Annex 2. This practice increases complexity and safety risk, limits capacity and flexibility, and creates substantial obstacles for the seamless introduction and operation of RVSM. Of particular concern are operations at the interface between airspaces where different units of measurement are used. This concern was shared by the Eleventh Air Navigation Conference (ANConf/11), Montreal, 22 September to 3 October 2003 (WP119 refers) and led to Recommendation 4/9 – Harmonization of flight level assignment methodology across flight information boundaries: *"That relevant States, when planning for the introduction of reduced vertical separation minimum (RVSM) at interfaces between airspaces where different units of measurement are used, taking into account relevant operational and technical considerations, should apply a common cruising levels structure in accordance with the tables of cruising levels expressed in metres or feet, as outlined in Annex 2 — Rules of the Air, Appendix 3"*. Also requesting the Secretary General to urge relevant States to apply a common cruising levels structure in accordance with the tables of cruising levels expressed in metres or feet, as outlined in Annex 2, Appendix 3.

2.5 It should be recalled that during the 32nd Session of the Assembly, the Technical Commission discussed unification of units of measurement to be used in air and ground operations (Doc 9726, Agenda Item 27). It concluded on the basis of a study on data from 1996 (A32-WP/63) that, inter alia, no changes to Annex 5 or ICAO policies were necessary at the time.

2.6 It must be noted, however, that the conclusions in paragraph 2.5 above were based on data which had been collected two years prior to the introduction of RVSM in any airspace. Furthermore, international scheduled passenger traffic has grown by 6.3% per annum during the interim 8 years, with traffic across SI and non-SI environments increasing at an accelerated rate.

2.7 A study by the United States Federal Aviation Administration (FAA), completed in 1997, indicated that 97% of jet aircraft worldwide were non-SI equipped aircraft. Moreover, a growing number of non-SI equipped aircraft are being operated by airlines of the small number of States which use SI units.

2.8 In view of paragraphs 2.6 and 2.7 above, IFALPA strongly asserts to review the dual use of SI and non-SI altitude measurements. This existing practice has been directly responsible for one catastrophic mid-air collision and could certainly be implicated in any number of other incidents and accidents involving aircraft fitted for one system operating in the other. While recognizing the burden of re-equipage which such a Standard could place on certain States and operators, IFALPA firmly believes that a single, universal altitude measurement should be mandated to enhance global flight safety.

3. CONCLUSIONS

3.1 Recalling paragraph 2.4, IFALPA believes that all States should apply the common cruising level structure in accordance with the tables of cruising levels as outlined in Annex 2, Appendix 3, as soon as practicable.

3.2 Recalling paragraph 2.2, IFALPA believes that ICAO should review Annex 2 in regard to the differences in the tables between corresponding levels expressed in feet to levels expressed in metres.

3.3 Recalling paragraph 2.8, IFALPA believes that Annex 5 should be reviewed in regard to the use of a single, universal altitude measurement.

4. ACTION BY THE ASSEMBLY

4.1 The Assembly is invited to:

- a) note the information provided in this working paper;
- b) agree that States should be urged to apply the common cruising level structure in accordance with the tables of cruising levels as outlined in Annex 2 — *Rules of the Air*, Appendix 3, as soon as practicable;
- c) agree that Annex 2 — *Rules of the Air* should be reviewed in regard to the differences in the tables between corresponding levels expressed in feet to levels expressed in metres; and
- d) agree that Annex 5 — *Units of Measurement to be Used in Air and Ground Operations* should be reviewed in regard to the use of a single, universal altitude measurement.