



**WORKING PAPER**

**TWELFTH AIR NAVIGATION CONFERENCE**

**Montréal, 19 to 30 November 2012**

**Agenda Item 1: Strategic issues that address the challenge of integration, interoperability and harmonization of systems in support of the concept of “One Sky” for international civil aviation**

- 1.1: Global Air Navigation Plan (GANP) – framework for global planning**  
c) **Navigation roadmap**

**HARMONIZED RESPECTIVELY GLOBAL TRANSITION ALTITUDE**

(Presented by the International Federation of Air Traffic Controllers Associations)

**SUMMARY**

This paper presents the view of IFATCA on the global harmonization of transition altitude(s) and the relevant procedures.

**Action:** The Conference is invited to take note of the content of this paper and States are invited to give full support to harmonization of transition altitudes with the ultimate goal of obtaining a global transition altitude to create standard operating procedures and enhance safety.

**1. INTRODUCTION**

1.1 An amendment to PANS-OPS, and perhaps consequential amendments to PANS-ATM, and Annexes 2 and 11, related to transition altitude, is required to establish a globally harmonized airspace system. Modern-day aircraft characteristics and present air traffic management systems are quite different from those in place when the existing provisions were published. The change would have to accommodate performances of the current aircraft population, recent terminal airspace design, standard operating procedures (SOP) and mitigation of risks.

**2. DISCUSSION**

**2.1 Applications and the usual distribution of traffic in the vertical dimension**

2.1.1 In June 2011 the 50th meeting of the European Air Navigation Planning Group (EANPG) Programme Coordinating Group (EANPG COG) called for support of a harmonized application of procedures for determining the transition altitude. Review of proposals to amend *Procedure for Air Navigation Services – Aircraft Operations* (PANS-OPS, Doc 8168) and the existing *European Regional Supplementary Procedures* (EUR SUPPs, Doc 7030) provisions and the request for support were part of the actions taken.

**Proposed Amendment to the PANS-OPS, Volume I, Part III, Section 1****2.1.2 Transition altitude**

2.1.2.1 A transition altitude shall normally be specified for each aerodrome by the State in which the aerodrome is located.

2.1.2.2 Where two or more closely spaced aerodromes are located so that coordinated procedures are required, a common transition altitude shall be established. This common transition altitude shall be the highest that would be required if the aerodromes were considered separately.

2.1.2.3 As far as possible, a common transition altitude should be established:

a) for groups of aerodromes of a State or all aerodromes of that State;

b) *on the basis of an agreement, for:*

*1) aerodromes of adjacent States;*

*2) States of the same flight information region; and*

*3) States of two or more adjacent flight information regions or one ICAO region; and*

c) *for aerodromes of two or more ICAO regions when agreement can be obtained between these regions.*

2.1.2.4 The height above the aerodrome of the transition altitude shall be determined on the basis of topography, meteorological conditions, type of traffic including aircraft performance criteria and their impact on the safe and efficient flow of traffic, ensuring that adequate terrain clearance exists for all flight at or above the transition altitude as low as possible *but normally not less than 900 m (3 000 ft).*

2.1.2.5 The calculated height of the transition altitude shall be rounded up to the next full 300 m (1 000 ft).

2.1.2.6 *Despite the provisions in 2.1.2, "Transition altitude", a transition altitude may be established for a specified area on the basis of regional air navigation agreements.*

2.1.2.7 Transition altitudes shall be published in aeronautical information publications and shown on the appropriate charts.

**The parts of the above text in *italic* already indicate that significant diversity in establishing transition altitudes is the consequence of the current PANS-OPS.**

**2.2 The European area**

2.2.1 The European area has a variety of transition altitudes. From a flight deck perspective, there is a potential for confusion during the descent and approach phase, and also during the climb-out. The variety of transition altitudes across Europe can cause a potential for confusion and errors on the flight deck. A change in altimeter setting during the critical phases of the flight does imply a safety risk, i.e. this could lead to level busts, risk of loss of separation and possible CFIT.

2.2.2 Different transition altitudes in dual or mutual border areas introduce a safety risk in ATM procedures, especially in areas where airports are close to borders. Lower transition altitudes require specific procedures for mountainous areas. In both of the described situations in 2.2.2 procedures imply safety risks for operations carried out by air traffic controllers and pilots.

2.2.3 Standardized and harmonized procedures will become a key enabler for future ATM procedures, leading to worldwide harmonization. As such the European States, in the context of the Single European Sky (SES), should be encouraged to implement a common and harmonized transition altitude in a way which addresses consequent global harmonization.

2.2.4 It is known that IFALPA policy strongly advocates a globally harmonized transition altitude of 18 000 ft, thus contributing to commonly applied procedures and enhancing safety for the flight deck side.

2.2.5 IFATCA supports the principle of a global harmonized transition altitude from an air traffic controllers perspective.

2.2.6 Introduction of harmonized transition altitudes requires sufficient training for air traffic controllers in both the areas where transition altitudes are removed and in areas where they are introduced. It is of great importance that operational controllers are involved in developing and deployment of revised ATM procedures.

2.2.7 The following safety aspects should be taken into account and/or assessed:

- a) synchronization of a common implementation date;
- b) workload issues as the change in radio telephony load;
- c) best practice – e.g. the North American experiences; and
- d) impact on capacity (certain areas in the ECAC area might be losing capacity due to a common TA)

### 3. CONCLUSIONS

3.1 European States are encouraged to implement a harmonized transition altitude. As 18 000 ft has been successfully in force in North America for decades. A similar choice for Europe will be a major step towards globally harmonized procedures.

3.2 Other States are encouraged to follow this initiative leading to a worldwide harmonized transition altitude of 18 000 ft.

3.3 Postponing the introduction of harmonized transition altitudes may have adverse effects on future developments like SESAR and NextGen.