



**AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP
TWENTY FIRST MEETING (APIRG/21)
Nairobi, Kenya (9 to 11 October 2017)**

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.4 Status of ASBU Implementation and evolution of the Global Air Navigation Plan

RE-DEFINITION OF ICAO CATEGORIES FOR WAKE TURBULENCE (RE-CAT)

(Presented by South Africa)

SUMMARY
This paper provides information on the requirements for development of a new harmonized, global wake turbulence separation minima in accordance with Aviation System Block Upgrade (ASBU) B0-WAKE
<p>REFERENCE(S):</p> <ul style="list-style-type: none"> - ASBU- JULY 2016 - AN-Conf/12-WP/41 - Approval documents: ICAO PANS-ATM Doc4444 (to be updated) - ICAO ATS Planning Manual 9426
<p>Related ICAO Strategic Objective(s): A, B, C, D, E</p> <ul style="list-style-type: none"> - Aerodrome operations – improving airport performance - Airport capacity - Main performance impact as per Doc 9883: KPA-02 – Capacity, KPA-06 – Flexibility

1. INTRODUCTION

1.1 ICAO has called for the global review of the wake turbulence aircraft categories and associated standard wake turbulence separation minima in line with ASBU module B0-WAKE.

1.2 B0-WAKE: Increased runway throughput through optimized wake turbulence separation requires the development of new harmonized, global wake turbulence separation minima to recognizing the capacity improvements offered by dynamic wake turbulence separation implementation and optimised traffic sequencing. This will result in enhanced efficiencies without compromising safety. Real time information exchanges between airborne- and/or ground based wake turbulence monitoring and alerting system would require due consideration.

1.3 Refinement of ICAO procedures and standards will allow increased runway capacity with the same or increased level of safety. This will be accomplished without any changes to aircraft equipage or changes to aircraft performance requirements.

1.4 Considering aircraft evolution and global airport capacity constraints experienced, it is prudent that some consideration be given to the ICAO ASBU element 1 wake RE-CAT proposal.

2. DISCUSSION

2.1 The demand for airport capacity increases every year. A main constraint on airport capacity is the runway, which accommodates only a limited number of flights per unit of time.

2.2 This capacity is often directly linked with the minimum separations between aircraft on arrival or departure. The minimum separation between two aircraft is prescribed by ICAO Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM, Doc 4444) and includes wake turbulence separation criteria.

2.3 PANS-ATM divides aircraft into three different wake turbulence weight categories (Heavy, Medium, Light). A fourth sub-category “Super Heavy” is defined by State Letter.

2.4 The ICAO Re-Cat strategy seeks to optimise the conventional wake turbulence categories and associated wake turbulence separation minima.

2.5 South Africa is in the process of planning for implementation, in line with international accepted standards and practises.

2.6 The RE-CAT initiative is split into different phases:

- a) Phase 1 (RECAT-1): Optimization of the ICAO wake turbulence separation classes, with up to six categories;
- b) Phase 2 (RECAT-2): Replacement of the Separation Classes with a static “pair-wise” regime, where each aircraft pair has its appropriate wake turbulence separation minima; and
- c) Phase 3 (RECAT-3): Dynamic Pair-wise Separation, where also actual conditions, such as aircraft mass and atmospheric/meteorological conditions, are considered when establishing the required wake turbulence separation minima.

2.7 These RECAT phases would require research and development of the appropriate ICAO SARPs and/or guidance material for the AFI-Region.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to note the information contained in this paper.

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