International Civil Aviation Organization

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WORKING PAPER

FOURTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 26 August to 6 September 2024

Agenda Item 3: Air navigation system performance improvement
3.1: Proposals to improve the efficiency of air navigation services contributing to LTAG

PROJECT 30/10 – OPTIMIZATION OF LONGITUDINAL SEPARATION ACROSS FIR BOUNDARIES

(Presented by the Secretariat)

EXECUTIVE SUMMARY

Air traffic management performance improvement is hampered by the application of different separation minima across flight information region (FIR) boundaries, or separation minima that are inconsistent with those typically applied across a region or sub-region. Many States make every effort to improve the efficiency of their service delivery and minimize the adverse environmental impacts of civil aviation activities. Nonetheless, these same States also contend with downstream bottlenecks due to the absence of seamless operations. This paper presents an initiative to focus attention on this challenge and encourage the seamless implementation of longitudinal separations of 55.5 km (30 NM) or less in oceanic and remote airspace, and 19 km (10 NM) or less elsewhere, with the objective of enhanced operational efficiency of the global air navigation system.

Action: The Conference is invited to agree to Recommendation 3.1/x – Project 30/10 in paragraph 3.

Strategic Objectives:	This working paper relates to the Safety, Air Navigation Capacity and Efficiency, and Environmental Protection Strategic Objectives.
Financial implications:	*Impact for the aviation community:* The financial impact to States consists of oversight, both in terms of change management and ongoing operational review. For industry, air traffic management organizations will need to select separation minima appropriate to the needs of airspace users, and adapt existing training. Nevertheless, these costs can be expected to be offset by fuel savings, use of optimum flight levels and improvement of efficiency in the global air navigation system. *Impact for ICAO:* The ICAO activities referred to in this working paper will continue over the next triennia in accordance with the implementation support policy approved by Council (C-DEC 225/6).
References:	Annex 11 — *Air Traffic Services* Doc 4444, *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM)

1. INTRODUCTION

1.1 The objectives of air traffic services (ATS) include the prevention of collisions between aircraft while expediting and maintaining an orderly flow of air traffic (Annex 11 — *Air Traffic Services*, 2.2). This is typically achieved through the application of separation minima which prescribe, in the lateral and longitudinal plane, the minimum distance or time interval between aircraft, and therefore determine the potential efficiency of the air navigation system. In this respect, impeding the flow of air traffic by the application of excessive separations should be avoided.

1.2 Furthermore, the selection of separation minima needs to be made in consultation between the appropriate ATS authorities in order to ensure compatibility on both sides of the line of transfer of traffic (Annex 11, 3.4.1 b)). Separation minima need to be applied with the highest practicable degree of uniformity, particularly across airspace boundaries, to facilitate and improve air navigation and prevent the unintended introduction of inefficiencies.

1.3 While in many parts of the world the application of seamless or uniform separation minima is the existing doctrine, there remain pockets of airspace which would benefit from a review and improvement of the current separations used.

2. DISCUSSION

2.1 The proposed Project 30/10 is an initiative to focus attention and encourage implementation of longitudinal separations of 55.5 km (30 NM) or less in oceanic and remote airspace, and 19 km (10 NM) or less elsewhere. It is expected to be a regionally based, coordinated effort for seamless reduction of excessive separation minima where this has not already been achieved.

2.2 Use of strategies and initiatives covered by ICAO provisions, such as air traffic flow management, dynamic sectorization, flexible use of airspace and civil-military cooperation, can result in performance improvement across large sectors of airspace. In this respect, implementation of more efficient separations cannot be determined in isolation, otherwise the potential exists to simply relocate the bottleneck further downstream. For instance, a regular, collaborative review would also assist in sharing a deeper understanding of the separation applied and associated rationale of neighbouring FIRs, which could lead to further efficiencies in dealing with an imbalance between air traffic demand and airspace capacity.

2.3 Utilizing the existing frameworks of the planning and implementation regional groups (PIRGs), the ICAO regional offices, with appropriate inter-regional support from Headquarters, are ideally placed to foster collaborative discussions between States regarding separation minima and optimization of airspace. Working with airspace users and ATS authorities in identifying bottlenecks or gaps in seamless service provision, the implementation support provided by ICAO through Project 30/10 will allow separations to be reduced in line with existing procedures published by ICAO and improve the efficiency of the global air navigation system on a wider and more consistent scale.

3. CONCLUSION

3.1 Many of the adverse environmental impacts of civil aviation activity can be reduced by the application of comprehensive measures embracing technological improvements, more efficient air traffic management and operational procedures, and the appropriate use of separation minima in coordination with airspace users.

3.2 The efficiency gains available through the implementation of existing, tried and tested separation minima have the potential to bring significant benefits to the aviation community. The relief of artificial bottlenecks can assist with aviation's global environmental challenges and have a direct impact on fuel savings. To improve efficiency, States and PIRGs should, as a priority, review the separations in use in remote, oceanic and other airspaces, and develop regional action plans for the implementation of Project 30/10.

3.3 In light of the above, the Conference is invited to agree to the following recommendation:

Recommendation 3.1/x – Project 30/10

That States:

a) within the processes of the planning and implementation regional groups (PIRGs), actively collaborate with neighbouring States to implement Project 30/10;

that ICAO:

b) through the PIRGs, develop regional action plans for the implementation of Project 30/10; and

c) support inter-regional collaboration for a harmonized implementation of Project 30/10.

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