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(Presented by the Secretariat)

ATTACHMENT to State letter AN 13/11.6-04/

**DRAFT REVISED GUIDELINES ON THE USE OF LATERAL  
OFFSETS AND THE EFFECT ON AIRSPACE SAFETY**

**1. INTRODUCTION**

1.1 These guidelines are based on studies carried out by the ICAO Separation and Airspace Safety Panel (SASP) to address airspace safety issues associated with pilots applying lateral offsets when operating aircraft with automatic offset tracking capability. The intent of offset procedures is to reduce the risk of collision due to a loss of planned vertical separation. The impact of the use of lateral offsets on overall airspace safety has been evaluated, and SASP has carried out a technical analysis of safety-related issues. These guidelines are based on the results of this analysis, and are provided to assist States and regional planning groups to identify air traffic services (ATS) routes and airspace where authorization of the use of strategic lateral offsets would enhance existing levels of safety.

1.2 The SASP studies took into account the effects of lateral offsets on the safety of parallel routes with a 60 NM route spacing where compliance with the minimum navigation performance specification (MNPS) is required; with a 50 NM route spacing where RNP 10 is specified; and a 30 NM route spacing where RNP 4 is specified, as well as in crossing track situations where navigational accuracies ranging from RNP 4 to RNP 20 were assumed.

1.3 In accordance with Annex 2, intentional deviation from the centre line of an ATS route requires authorization. Annex 2, Chapter 3, paragraph 3.6.2.1.1, states:

“Unless otherwise authorized or directed by the appropriate air traffic control unit, controlled flights shall, in so far as practicable:

- a) when on an established ATS route, operate along the defined centre line of that route; or
- b) when on any other route, operate directly between the navigation facilities and/or points defining that route.”

1.4 As a consequence of this, the implementation of strategic lateral offset procedures requires authorization by the appropriate ATS authority.

## **2. AIRCRAFT NAVIGATION PERFORMANCE AND AIRSPACE SAFETY**

2.1 ICAO separation minima, including lateral route spacings, are based on the assumption that aircraft operate on the centre line of a route. In general, unauthorized deviations from this requirement could compromise safety. However, the use of highly accurate navigation systems (such as global navigation satellite system (GNSS)) reduces the magnitude of lateral deviations from the route centre line and consequently increases the probability of a collision if a loss of vertical separation between aircraft on the same route occurs.

2.2 By using offsets to provide lateral spacing between aircraft, the effect of this reduction in random lateral deviations can be mitigated, thereby reducing the risk of collision. These guidelines provide information on how such a strategic lateral offset procedure should be implemented.

2.3 As the application of strategic lateral offsets, limited in magnitude and direction as prescribed in these guidelines, has the potential to reduce the risk of collision due to a loss of planned vertical separation, ATS authorities are encouraged to authorize the use of such offsets in oceanic and remote continental airspace.

## **3. IMPLEMENTATION CONSIDERATIONS FOR ATS AUTHORITIES**

3.1 The following considerations shall be taken into account when planning authorization of the use of strategic lateral offsets in a particular airspace.

- a) Strategic lateral offsets shall only be authorized in en-route oceanic or remote continental airspace. Where part of the airspace in question is within radar coverage, transiting aircraft should normally be allowed to initiate or continue offset tracking.
- b) Strategic lateral offsets may be authorized:
  - 1) on bi-directional routes;
  - 2) on intersecting routes; and
  - 3) in parallel route systems where the spacing between route centre lines is not less than 55.5km (30 NM).
- c) In some instances it may be necessary to impose restrictions on the use of strategic lateral offsets, e.g. where their application may be inappropriate for reasons related to obstacle clearance.
- d) These offset procedures should be implemented on a regional basis after coordination between all States involved.
- e) The routes or airspace where application of strategic lateral offsets is authorized, and the procedures to be followed by pilots, shall be promulgated in aeronautical information publications (AIPs).
- f) Air traffic controllers shall be made aware of the airspace within which strategic lateral offsets are authorized.

#### **4. LATERAL OFFSET PROCEDURES TO BE APPLIED BY PILOTS**

4.1 In the application of strategic lateral offsets, pilots should take the following points into consideration.

- a) Offsets shall only be applied in airspace where this has been approved by the appropriate ATS authority.
- b) Offsets shall be applied only by aircraft with automatic offset tracking capability.
- c) The decision to apply a strategic lateral offset is the responsibility of the flight crew.
- d) The offset shall be established at a distance of one or two nautical miles to the right of the centre line relative to the direction of flight.
- e) If an offset to mitigate the effects of wake turbulence is required it shall be to the right and the total offset shall not exceed 2 NM from the route centre line.
- f) In airspace where the use of lateral offsets has been authorized, pilots are not required to inform air traffic control (ATC) that an offset is being applied.
- g) Aircraft transiting areas of radar coverage in airspace where offset tracking is permitted may initiate or continue an offset.

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