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WORKING PAPER

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**Fourth North American, Central American and Caribbean Working Group Meeting  
(NACC/WG/4)**

Ottawa, Canada, 24 to 28 March 2014

- Agenda Item 3: Follow-up on the progress of the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (NAM/CAR RPBANIP)**  
**3.2 NAM/CAR Regional Performance-Based Air Navigation Implementation Plan: Update, review and progress**

**IMPLEMENTATION OF STRATEGIC LATERAL OFFSET PROCEDURES (SLOP) IN OCEANIC AND REMOTE CONTINENTAL AIRSPACE OF NAM/CAR REGIONS**

(Presented by the Secretariat)

<b>EXECUTIVE SUMMARY</b>	
<p>The use of the Global Navigation Satellite System (GNSS) by an increasing number of aircraft has had the effect of reduce the magnitude of lateral deviations from the route centre line and, consequently, increasing the probability of a collision, should a loss of vertical separation between aircraft on the same route and altitude occur.</p> <p>Strategic Lateral Offset Procedures (SLOP) can help to reduce this risk.</p>	
<b>Action:</b>	Described in Paragraph 3
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Safety</li><li>• Air Navigation Capacity and Efficiency</li><li>• Economic Development of Air Transport</li><li>• Environmental Protection</li></ul>
<i>References:</i>	<ul style="list-style-type: none"><li>• Annex 2 - <i>Rules of the Air</i></li><li>• Annex 11 - <i>Air Traffic Services</i></li><li>• PANS/ATM (Doc 4444) ATM — Air Traffic Management</li></ul>

**1. Introduction**

1.1 Annex 2 - *Rules of the Air*, Chapter 3, paragraph 3.6.2.1.1, reads: "*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".*

1.2 Doc 4444, PANS/ATM, Para. 16.5 reads as follows:

*16.5.1 SLOP are approved procedures that allow aircraft to fly on a parallel track to the right of the centre line relative to the direction of flight. An aircraft's use of these procedures does not affect the application of prescribed separation standards.*

*Note 1.— The use of highly accurate navigation systems (such as the global navigation satellite system (GNSS)) by an increasing proportion of the aircraft population has had the effect of reducing the magnitude of lateral deviations from the route centre line and, consequently, increasing the probability of a collision, should a loss of vertical separation between aircraft on the same route occur.*

*Note 2.— The following incorporates lateral offset procedures for both the mitigation of the increasing lateral overlap probability due to increased navigation accuracy, and wake turbulence encounters.*

*Note 3.— Annex 2, 3.6.2.1.1, requires authorization for the application of strategic lateral offsets from the appropriate ATS authority responsible for the airspace concerned.*

*16.5.2 The following shall be taken into account by the appropriate ATS authority when authorizing 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 provided with an ATS surveillance service, transiting aircraft should normally be allowed to initiate or continue offset tracking;*
- b) *strategic lateral offsets do not affect lateral separation minima and may be authorized for the following types of routes (including where routes or route systems intersect):*
  - 1) *uni-directional and bi-directional routes; and*
  - 2) *parallel route systems where the spacing between route centre lines is not less than 55.5 km (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) *strategic lateral 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); and*
- f) *air traffic controllers shall be made aware of the airspace within which strategic lateral offsets are authorized.*

*16.5.3 The decision to apply a strategic lateral offset shall be the responsibility of the flight crew. The flight crew shall only apply strategic lateral offsets in airspace where such offsets have been authorized by the appropriate ATS authority and when the aircraft is equipped with automatic offset tracking capability.*

*16.5.4 The strategic lateral offset shall be established at a distance of 1.85 km (1 NM) or 3.7 km (2 NM) to the right of the centre line relative to the direction of flight.*

*Note 1.— Pilots may contact other aircraft on the inter-pilot air-to-air frequency 123.45 MHz to coordinate offsets.*

*Note 2.— The strategic lateral offset procedure has been designed to include offsets to mitigate the effects of wake turbulence of preceding aircraft. If wake turbulence needs to be avoided, one of the three available options (centre line, 1.85 km (1 NM) or 3.7 km (2 NM) right offset) may be used.*

*Note 3.— Pilots are not required to inform ATC that a strategic lateral offset is being applied.*

## **2. Discussion**

2.1 ICAO has recognised the inherent risk of a collision between aircraft flying at the same route and altitude as the result of highly accurate navigation systems. This becomes more relevant as time goes by because navigation systems accuracy such as GNSS are increasingly becoming standard on all types of aircraft.

2.2 The use of the GNSS has increased the probability of a collision, should a loss of vertical separation between aircraft on the same route and altitude occur. Regardless of the above the CAR/SAM would benefit greatly by adopting the ICAO Strategic Lateral Offset Procedure in Remote Continental and Oceanic Airspace on a regional basis.

2.3 In accordance with the ICAO provisions on SLOP abovementioned, the NAM/CAR Regions would benefit greatly by adopting/implementing SLOP on a Regional scale. To this end States should publish the areas where SLOP are applicable. The Meeting should support to incorporate the SLOP in the *Regional Supplementary Procedures* (Doc 7030).

3. **Suggested Action**

3.1 The Meeting is invited to:

- a) note the information provided in this working paper;
- b) support the SLOP adoption in the NAM/CAR Regions; and
- c) recommend other actions as deemed pertinent.

— END —