INTERNATIONAL CIVIL AVIATION ORGANIZATION

Implementation and/or Coordination Informal Meetings
First Meeting of the SAT/14 Working Group - SAT/14-TF/1

(Cape Verde, Sal 10 to 12 June 2009)

Agenda Item: 5. Improvement of the airspace structure in the EUR/SAM Corridor
b. implementation of RNP/4

(Presented by ASECNA)

SUMMARY

This Working Paper put the emphasis on the benefits which could be gain from the RNP-4 implementation in the EUR-SAM Corridor and highlight the **RNP 4 capability for operators** and the prerequisite aircraft ADS-C/ CPDLC equipment. Its refers to the disposals formulated by the SAT 14 Meeting which tend to indicate that SAT states have to implement RNP 4 along the routes of the EUR SAM Corridor.

REFERENCE

- SAT/ 14 Report;
- PANS-ATM Doc 4444
- Annex 11

1. Introduction

1.1 As follow up of the implementation of UN741 and UN866 as unidirectional routes, the Fourteenth Meeting on the Improvement of Air Traffic Services over the South Atlantic (SAT/14) held in Montevideo, Uruguay, 7th to 9th May 2008, after SATMA presentation with a comparative data 5th July – 31st December 2007 and the same period during 2006 "concluded that the implementation of two unidirectional routes system has been successful and the ATS service along the EUR-SAM Corridor is more efficient.

1.2 Yet, the SAT/14 meeting found this implementation of UN741 and UN866 as unidirectional routes to be only a temporary solution, and that the high increases of the air traffic during the second half of 2007 was adding new consideration which were suggested to be:

- o the assessment of lateral and vertical risk as a proof that the EUR-SAM Corridor was safe, at least, until 2015, with a yearly growth rate of 7%;
- o the unexpected increase of the air traffic flows indicating that the implementation of RNP4 along the EUR-SAM Corridor must be considered by the SAT group as a relevant target.

2. Discussion

2.1 It has to be noted that EUR/SAM Corridor is constituted of tracks where 30NM lateral separation will be most successfully applied, taking into account the preparedness of operators and the growth of the number of RNP 4 approved aircraft. We have to note also that the RAN/AFI meeting has adopted an interim regional PBN implementation plan which set the target for RNP 4 implementation in oceanic airspace as short term (2008-2012).

2.2 In preparation for the next stage (RNP 4-based separation), in other regions a pre-implementation safety assessment conducted for ADS 30 NM longitudinal separation concluded that, even though the PANS-ATM provisions indicate that the maximum interval of ADS periodic reports for RNP 4 is 14 minutes, a reporting interval of 10 minutes was necessary because of the heavy traffic density on that routes. And it has been recorded concern about the network load of the satellite data link system because of this comparatively higher rate of periodic reports.

2.3 This minimum is applicable only between aircraft with RNP 4 approval. We must agree that this separation reduction would provide aircraft with more opportunity to fly at or closer to an optimum altitude than before as well as increase airspace capacity and ATC flexibility. But a study must be conducted on environmental benefits of the RNP 4-based separation reduction, to show:

a) the annual fuel saving;

b) the annual reduction of CO2 emissions:

Note: Savings to be achieved by flights entirely from departure to destination, not just the flight segments within an FIR, and based on:

- actual data of flights;
- assumption that all aircraft are a same type with RNP 4 approval; and
- results of simulations to be conducted to compare operations using 50NM separation with those using 30 NM separation.

2.4 It has been noted that in Dakar Oceanic FIR, mainly in the EUR-SAM Corridor a few number of aircraft are ADS-C and CPDLC equipped and/or have the pilot trained. Therefore before pushing for RNP-4, we must address the issue of aircraft equipment and pilots training prerequisite to RNP-4

implementation.

2.5 Today, we have RNP10 applied in this EUR-SAM Corridor, without the applicable 50NM longitudinal separation based on ADS/CPDLC within the whole oceanic airspace, this application of 50NM longitudinal separation has to be expanded first to the entire SAT area prior to RNP-4 implementation as solution to contain the so call "unexpected increase of the air traffic flows" before seeking any other "relevant target".

Draft Conclusion – RNP 4 capability for operators

That, recognizing the significant benefits expected from the implementation of 30 NM longitudinal separation based on RNP 4, operators of South Atlantic fleets be urged to equip with RNP 4 avionics for oceanic airspace operations and obtain approval from the States of Registry/Operators as early as possible, but no later than 2012.

3. Action by the meeting

3.1 The meeting is invited to:

a) adopt the Draft Conclusion above;
b) agree to monitor the implementation progress of RNP 4 by operators who fly in the Pacific; and
c) adopt a conclusion inviting airlines who have aircraft not ADS/CPDLC equipped to equip their aircraft with ADS-CPDLC no later than 31st December 2009.

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