



INTERNATIONAL CIVIL AVIATION ORGANIZATION

Third Meeting of the APIRG Communications, Navigation and Surveillance Sub-Group (Nairobi, 26-30 April 2010)

Agenda Item 4: Aeronautical Fixed Service (AFS)

ENHANCEMENT OF GROUND – GROUND COMMUNICATIONS IN THE AFI REGION

(Presented by the International Air Transport Association)

SUMMARY
This paper highlights the need for a performance-based approach in assessing AFI ground-ground communications infrastructure (VSAT networks) efficiency, and to ensure that agreed operational requirements and end-to-end performance objectives are met, and to ensure system sustainability, through regional coordination meetings in accordance with SP AFI RAN (2008) Conclusion 6/19.
Action required is at paragraph 3.
REFERENCES: APIRG/16 Report SP AFI RAN (2008) Report ATS/AIS/SAR/SG/10 Report

1. INTRODUCTION

1.1. APIRG Conclusion 16/16 called upon States and international organizations concerned to expedite the implementation and interconnection of SADC/2, NAFISAT and AFISNET Very Small Aperture Terminal (VSAT) networks as soon as possible, to increase aeronautical fixed services connectivity and efficiency, thus improving flight coordination and management and flight safety in the AFI Region through proper transmission and delivery of flight plans, NOTAM, OPMET, etc.

1.2. Positive steps have already been taken to implement and interconnect these sub-regional VSAT networks. However, based on the outcome of the 6th and 7th Meetings of the AFI ATS Incidents Analysis Group, highlighting flight coordination issues among the identified contributing factors, further steps are needed to ascertain that a seamless and high performance ground-ground infrastructure is available in the AFI Region.

2. DISCUSSION

2.1. Seamlessness of AFI ground-ground infrastructure can be assessed through operational surveys on flight plans, NOTAM and OPMET availability and transit times.

2.2. In this connection, APIRG/16 (November 2007) recommended that the ICAO Regional Offices ensure that due account is taken of AFTN technical and operational aspects in the conduct of surveys related to missing flight plans in the AFI Region (Decision 16/17 refers). Indeed, in addition to missing flight plans that affect flight coordination and safety, IATA technical missions to States and airlines report the lack of TAF forecasts for many aerodromes.

2.3. Furthermore, the Special AFI RAN (November 2008) recognized that elimination of deficiencies in the field of aeronautical telecommunications in the AFI Region and in particular, with aeronautical fixed service (AFS) links, had become a major challenge for the implementation of the area control service as specified in APIRG/13 Conclusion 13/31.

2.4. Especially, Recommendation 6/19 of SP AFI RAN (2008) requested “*all entities involved with planning, implementation and operation of very small aperture terminal (VSAT) networks in the AFI Region to hold regular joint meetings under the auspices of ICAO Regional Offices for the purpose of harmonization and eventual realization of a seamless AFI communication network supporting all present and future communications, navigation, and surveillance (CNS) systems*”.

2.5. Additionally, APIRG ATS/AIS/SAR/SG/10 (Dakar, 12-15 May 2009) acknowledged the necessity for adopting a performance-based approach to ensure that current and future operational requirements and performance objectives (ATS automation, ATS Inter-facility Data Communication – AIDC, aeronautical information management – AIM, information for a collaborative environment – ICE, etc.) are duly taken into consideration; and formulated its Conclusion 10/41 which reads as follows:

CONCLUSION 10/4: 1 GROUND – GROUND INFRASTRUCTURE PERFORMANCE

THAT A PERFORMANCE-BASED APPROACH BE ADOPTED IN IMPLEMENTING ICAO SPECIAL AFI RAN (2008) CONCLUSION 6/19 ON PLANNING, IMPLEMENTATION AND OPERATION OF GROUND-GROUND COMMUNICATIONS INFRASTRUCTURE SUPPORTED BY VSAT NETWORKS TO:

- a) ENSURE THAT AGREED OPERATIONAL REQUIREMENTS AND END-TO-END PERFORMANCE OBJECTIVES ARE MET, AND
- b) ACHIEVE SYSTEM SUSTAINABILITY.

2.6. Although the various VSAT networks are interconnected, the following can be noted:

- These networks are not of the same generation and do not have the same technical characteristics; which may generate adverse effects on end-to-end transmission and delivery of operational safety messages.
- These networks are managed according to different administrative and financial arrangements, which may affect the overall stability and sustainability of the consolidated network.

3. ACTION TO BE TAKEN BY THE MEETING

3.1 The meeting is invited to:

- 1) Agree to, and discuss the modalities of, operational assessments of AFI ground-ground communications infrastructure (VSAT networks) efficiency;
- 2) Endorse SP AFI RAN (2008) Recommendation 6/19 and ATS/AIS/SAR/SG Conclusion 10/41 on the planning, implementation and operation of VSAT networks, to ensure that agreed operational requirements and end-to-end performance objectives are met, and to achieve system sustainability; and
- 3) Request the ICAO Regional Offices to organize the coordination meetings to facilitate VSAT stakeholders meetings as recommended by SP AFI RAN 2008 (*Recommendation 6/19*) with the objectives of harmonizing and achieving a seamless AFI communication network supporting all present and future CNS) systems.

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