

**INTERNATIONAL CIVIL AVIATION ORGANIZATION****AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP  
FIFTEENTH MEETING (APIRG/15)**

(Nairobi, Kenya, 26 – 30 September 2005)

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**Agenda Item 4: Air Navigation and Aviation Security (AVSEC) issues  
4.2: Communications, Navigation and Surveillance****Nairobi Zone C EGNOS TEST BED Flight Trials**

(Presented by Kenya)

**Summary**

This paper is an overview of EGNOS Test Bed Flight Trials conducted in Nairobi pursuant to APIRG Conclusion 14/46(a) concerning implementation of GNSS SBAS system in the AFI Region

**1. Introduction**

1.1 The EGNOS (European Geo-Stationary Navigation Overlay Services) Test Bed Flight Trial was conducted jointly by KCAA, European Space Agency and ASCENA on 19<sup>th</sup> of May 2005 at the East Africa School of Aviation and Jomo Kenyatta International Airport respectively.

1.2 This Test Bed project is part of the programme aimed at implementing the AFI GNSS strategy adopted by the AFI Planning and Implementation Regional Group (APIRG). Its objective is to provide over the Eastern Africa Area, satellite navigation signals for use by aircraft in en-route navigation and landing.

**2 Discussion**

2.1 Thirty-Five participants representing various stakeholders took part in the demonstrations. Key among them was IATA ICAO, Kenya Association of Air Operators, Kenya Airways, Tanzania Civil Aviation Authority, Department of Defence, ASCENA, Police Air-wing, and Kenya Wildlife Services.

2.2 Nairobi, Addis-Ababa and Brea in Central Africa Republic have been chosen to host the ground based Ranging and Integrity Monitoring System (RIMS) equipment. The Nairobi RIMS equipment is installed at East African School of Aviation however due to some Radio frequency interferences from adjacent GSM transmission equipment, the process to relocate the RIMS to a new site near Jomo Kenyatta International Airport is in progress. Data from the Nairobi RIMS is transmitted Via V-SAT link to the European Space Agency (ESA) processing Centre in Hone Foss-Norway.

2.3 The meeting of 19<sup>th</sup> May 2005 at East Africa School of Aviation consisted of presentations, discussions and demonstration flight. Topics covered were as follows:

- a. Presentation on GNSS and EGNOS and their benefits to the aviation industry.
- b. Description of the on-board GNSS and EGNOS equipment.

- c. GNSS Institutional issues
- d. Nairobi GNSS flight Approaches.

2.4 Participants were taken on board the demonstration aircraft where they were able to monitor various JKIA GNSS approach procedures, view accuracy of the EGNOS signals as compared to the conventional ILS signals. Attached (see IMG246-249) is a comparison plotting of the EGNOS Vs ILS error rating for Nairobi JKIA runway 06 approaches.

2.5 The error on EGNOS system is much lower than ILS system

### **3. Action by the meeting.**

3.1 The meeting is invited to:

- a. Note the effort and support Kenya has given to the EGNOS Test Bed Project.
- b. Note the encouraging results of the Test Bed Flight trials.
- c. Promote the EGNOS Test bed awareness within the region.

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