



**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 6: Review of significant developments related to air navigation**

**REVIEW OF AIR ROUTE STRUCTURES**

(Presented by the Secretariat)

**SUMMARY**

This working paper proposes the establishment of an internationally funded project in the AFI Region to review and rationalize ATS route structures contained in the AFI air navigation plan and to identify any further possible savings to be made in flight times for users, which translates directly into financial and environmental benefits. It also calls for the implementation of all air routes and ATM requirements contained in air navigation plans that contribute to a more efficient system

Action by APIRG is in paragraph 3.

**1. INTRODUCTION**

1.1 Fuel prices are driving up costs just as business is starting to return to normal after a number of events in the recent past that had a major impact on international civil aviation. Airlines that fly internationally are expected to pay US\$8 billion more for fuel this year than in 2003. The airlines are trying desperately to reduce labour, fuel and other big-ticket costs to stay viable.

1.2 One of the steps that ICAO is taking is to continue to ensure that the most cost-effective route between points of departure and destination is available. However, due to many conflicting demands on the use of airspace by its many different users, as well as political, environmental and security considerations, it is frequently not possible to fly the most desirable route, and this adds to the additional fuel and maintenance costs incurred by operators.

1.3 The planning and implementation regional groups (PIRGs) established by the Council are responsible for ensuring the continuous and coherent development of the regional air navigation plans and monitoring and fostering their implementation, a task that has been very successfully accomplished. To date, PIRG initiatives have brought about substantial benefits to both air traffic services (ATS) providers and users.

## 2. DISCUSSION

2.1 Excellent examples of restructuring of air routes and the role played by ICAO's regional offices and PIRGs exist in the introduction of a new route network that connects South and Southeast Asia, the Middle East and Europe (EMARSSH) which achieved significant quantifiable benefits due to ICAO's leadership. Flight times were reduced between Europe and Australasia on average by 30 minutes. This translated to an estimated 1% fuel saving, or 22.4 million kilograms of fuel, per year and a reduction in airline costs of US\$55 million per year. It also had a positive environmental impact.

2.2 From the APIRG/14 Report, it is clear that there are various routes in the Africa-Indian Ocean (AFI) air navigation plan that are not fully implemented nor aligned, or are fragmented, which forces users to fly routes that are not at the optimum level of economic and operational performance, a situation that can be ill-afforded.

2.3 To ensure that user resources are utilized to the maximum, it will be necessary for planning and implementation regional groups, in coordination with the users, to review ATS routes more frequently, taking new technologies into consideration, to satisfy user requirements and produce additional savings. At the same time, the proposed changes should be coordinated on a regional basis before submission to ICAO for processing at the highest level.

2.4 Should the PIRGs identify routes where there appears to be a lack of political will for implementation or amendment, the matter should be brought to the attention of the Council of ICAO for immediate action. It should be recalled that Article 37 of the Convention on International Civil Aviation stipulates that Contracting States must undertake to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures and organization in relation to aircraft personnel, airways and auxiliary services in all matters that will facilitate and improve air navigation.

2.5 In today's economic environment, any flying time that can be saved through optimized route structures and provision of ATS is highly important to ensure financial viability of specific routes. With this in mind, the 35<sup>th</sup> Session of the ICAO Assembly instructed the Council, as a matter of priority, to utilize the planning and implementation regional groups to identify possible further savings through rationalization of the air route structures.

2.6 Due to the importance and complexity of the task, it is proposed that ICAO, with the cooperation of funding partners, establish a project that will aim to build on the progress achieved by the region in its planning for implementation of the ATM Objectives contained in the *Global Air Navigation Plan for CNS/ATM Systems* (Doc 9750). The project should also aim to transition to the dynamic planning and implementation process embodied in the second amendment to the Global Plan, which is currently under development.

2.7 It is expected that the ICAO project would address short-, medium- and long-term initiatives, with a focus on attaining the most immediate benefits and achieving what is possible in a realistic timeframe. The immediate focus would therefore be on an improved ATS route structure to include area navigation (RNAV) routes, parallel routes where required and the connection of major city pairs, as well as planning for implementation of supporting facilities and services.

2.8 In addition, and in a parallel effort, the project would need to address the implementation of associated air navigation services infrastructure to support the updated route network. This would help in ensuring that the benefits that are envisioned with the new route infrastructure are readily available to system users. This comprehensive approach, addressing route infrastructure and associated air navigation services provision, should provide support in securing funding for the proposed project.

2.9 Once these tasks have been completed, either the results can then be reviewed by APIRG or regional agreement can be reached at the next AFI regional air navigation (RAN) meeting, as proposed by the African Civil Aviation Commission (AFCAC) in APIRG/15-WP/26.

### **3. ACTION BY APIRG**

3.1 The meeting is invited to approve the following draft recommendation:

**Recommendation 15/X – Air traffic management and air route structure improvements**

That ICAO:

- a) develop a comprehensive planning document for overall ATM and air route structure improvements in the Africa-Indian Ocean Region; and
- b) use this document as the basis for obtaining the funds from the donor organizations.

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