International Civil Aviation Organization
Western and Central African Office

**Eleventh Meeting of the Air Traffic Services/Aeronautical Information
Service/Search and Rescue Sub-Group (ATS/AIS/SAR SG/11)
(Nairobi, Kenya, 26 - 30 April 2010)**

**Agenda Item : 6    Performance Based Navigation (PBN) and AFI ATS Route
Network**

**Comprehensive review of the AFI ATS route network**

(Presented by the Secretariat)

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**SUMMARY**

This paper reviews developments towards improvement of the AFI
ATS route network and proposes action to comprehensively review
and update the network in light of the implementation of PBN and
user requirements.

Action by the meeting is at paragraph 3.

**REFERENCES**

APIRG 14, 15, 16 Reports

ATS/AIS/SAR SG10 Report

This Working Paper is related to Strategic Objectives: **A and D**

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**1.  INTRODUCTION**

1.1        The APIRG 14 meeting in Yaounde, Cameroun, 23-27 June 2003 noted that the
ATS/AIS/SAR Sub-Group had considered in detail the overall status of implementation of
the basic ATS route network, including RNAV routes contained in the ICAO AFI Air
Navigation Plan (Doc 7474/27), Table ATS 1, Charts ATS 2 and ATS 3 in order to:

a)  identify additional route requirements;
b)  identify route segments requiring realignment;
c)  identify routes which can be deleted from the air navigation plan (ANP); and
d)  identify the non-implemented routes and establish target date(s) for their
    implementation.

1.2        The ATS/AIS/SAR Sub-group had also identified requirement for new ATS
routes, and prepared an implementation table with target dates for non-implemented routes.
In view of this, APIRG 14 adopted Conclusions 14/18: Amendment to AFI ANP Table ATS
1 to include new routes in the ANP, and 14/19: Implementation of ATS Routes, including
RNAV Routes, urging States to implement a number of ATS routes by June 2004.

## 2.  DISCUSSION

2.1       The APIRG 15 meeting Nairobi, Kenya, 26 – 30 September 2005 on discussing the AFI ATS route network adopted the following Conclusions:


*CONCLUSION 15/46:       AMENDMENT TO AFI ANP TABLE ATS-1*

a)  *that the ICAO AFI ANP Table ATS-1 be amended to include a requirement for ATS routes, at Appendix L.*
b)  *the ATS routes, at Appendix M, be deleted from the AFI ANP; and*
c)  *that ATS routes, at Appendix N, be realigned as shown.*


*CONCLUSION 15/47:       IMPLEMENTATION OF ATS ROUTES, INCLUDING RNAV ROUTES*

*That:*

a)  *States which have not yet done so expedite the implementation of ATS routes shown in Appendix O as soon as possible but not later than 28 September 2006.*
b)  *the realigned RNAV routes UM998 (Gaborone, Maun, Luena and Maiduguri) and UM731 (Johannesburg, Saurimo and N'Djamena) through Angola, Botswana, Central African Republic, Chad, Congo, D.R. Congo, Libya, Nigeria, South Africa and Zambia be implemented on the common aeronautical information regulation and control (AIRAC) date of 19 January 2006; and*
c)  *Angola, Botswana and D.R. Congo implement segments of RNAV routes UM998 at the common AIRAC date of 19 January 2006.*


2.2       In summary, APIRG 15 identified (Appendix L) 11 new routes to be added to Table ATS 1.  However, two of the routes do not seem to be in the new 2007 table or the charts in eganp. Appendix N provided for two routes in the Southern African Sub-region which needed to be realigned. These do not appear in any other list but they were not categorized as low priority. Appendix M provided for nine (9) routes to be deleted from the (Table ATS 1) of requirements. Seven (7) are still in the latest (2007) Table ATS 1 and 8 are still in eganp;  and Appendix O provided for list of ATS routes to be implemented as soon as possible.

2.3       APIRG 16 Appendix I "Implementation of non-implemented routes including RNAV routes"  has a much shorter list than the APIRG 15 Appendix O (10 vs. 25), and has four routes that were not in the APIRG 15 list. The APIRG 16 Appendix I list by and large informed the SP AFI RAN routes in the Performance Objective, but not entirely.

2.4       IATA wrote a letter dated 17 August 2009 to the ICAO President of the Council requesting ICAO intervention on a specific number of ATS routes in each of the ICAO Region, based, inter alia, on economic and efficiency impact on the air transport industry. With regard to the AFI Region, the list included six (6) of the 11 APIRG 15 Appendix L list.

2.5         The ATS/AIS/SAR SG/10 adopted a list of ATS routes comprising existing and new routes on the basis of user requirements.  Nearly all of the routes were categorized as high priority. The ATS/AIS/SAR SG/10 agreed that the list should serve as a basis to facilitate work on the development of a comprehensive ATS route network.

2.6          The meeting will recall that the SP AFI RAN, under Recommendation 6/25: *Elimination of air navigation deficiencies in the AFI Region*, agreed on the Performance Objectives including the PFF at Appendix J, which lists eight (8) ATS routes, seven of which are in one FIR, for elimination within specified time frames.

2.7         The AFI ATM list of deficiencies has a number of ATS routes the non-implementation of which has been identified and listed as deficiencies. However, some of the routes in the lists have trajectories in FIRs/States under which no deficiencies have been identified.

> *Note: The AFI Deficiency database, last updated by the ATS/AIS/SAR SG/10*
> *identifies at least 44 States as having not deficiencies in the ATM field.*

2.8         The significance of the above discussion can be summarized as follows: the list of ATS routes that can be regarded as high priority requires to be harmonized in order to serve as a consistent source of information for all stakeholders (States, Sub-regional bodies, APIRG, financiers, etc.) in deciding*, inter alia*, on allocation of resources (time, human, finance, etc.).

2.9         The meeting will note, as discussed under WP/12 that the Joint Meeting of the PBN and GNSS Implementation Task Forces in September 2009 agreed on the establishment of the PBN Route Network Development Working Group (PRND WG) pursuant to outcome of the SP AFI RAN.

2.10        The meeting will also recall that the APIRG 15 had identified the need to establish an internationally funded project in the AFI Region to review and rationalize ATS route structures contained in the AFI ANP. The immediate focus of the project would be to include area navigation (RNAV) routes, parallel routes where required, and the connection of major city pairs in the ANP. This action would enhance planning for implementation of supporting facilities and services and identify any further possible savings in flight times for users, which translates directly into financial and environmental benefits.

2.11        The meeting may wish acknowledge however, that with regard to RNAV routes, APIRG 15 took place before the PBN concept was rolled out, before Assembly Resolution A36-23: *Performance-based navigation global goals* was adopted by the 36th Session of the Assembly, and that RNAV implementation priorities have since been modified as indicated in the AFI Regional PBN Implementation Plan.

2.12        In view of the foregoing, the meeting may with to agree that the task of ATS route development should remain the focus of the PRND WG of the PBN TF. Furthermore, that the PRND WG, under the guidance of the PBN TF, should examine the role of a project as identified by APIRG 15, and make recommendations (this is included in revised PRND WG TOR).

2.13        The meeting may wish to agree that in order for a performance-based route network to be developed, a comprehensive user requirement should be made available to the route development process, which will be progressed in consideration of the Regional PBN implementation plan.

2.14        Based on the above, the meeting may wish to agree on the following Draft Conclusion:

**DRAFT CONCLUSION 11/XX:        ATS ROUTE NETWORK USER REQUIREMENTS**

That, in order to facilitate the development of a performance-based AFI ATS route network that respond to the needs of users:

a)  Airspace users, through their representative organizations, provide to the PRND WG a comprehensive ATS route requirement statement based on current and future user needs, as well as clear guidance with regard to development priorities; and

b)  the said user requirements be provided in sufficient time to permit consideration by the first meeting of the PRND WG which is expected to be convened in the second week of October 2010.

## 3.  ACTION BY THE MEETING

3.1        The meeting is invited to:

a)      note the information contained in this working paper;

b)      agree that the ATS route development should be the focus of the PBN PRND WG; and

c)      include in the PRND WG TOR the requirement to assess the role of a specific *ATS route development project*;

d)      give guidance to the PRND WG regarding immediate and future priorities; and

e)      agree on Draft Conclusion 11/XX under paragraph 2.14 of this working paper.

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