**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**Fifth Meeting of the APIRG Communications, Navigation and Surveillance Sub-group
(Nairobi, Kenya, 16-19 September 2013)**

**Agenda Item 4: Aeronautical Fixed Service**

**4.2 AFI Integrated Regional Telecommunications Infrustructure Task Force (IRTI/TF)**

(Submitted by South Africa - ATNS)

SUMMARY

This working paper proposes a revision to the terms of reference for the established AFI Integrated Regional Telecommunications Infrastructure Task Force (IRTI TF) This is to include the development and coordination of the AFI transition strategies and plans, with associated timelines, to enable the streamlined coordinated implementation of Aeronautical Telecommunications Network (ATN) applications.

1.      **INTRODUCTION**

1.1      The Aeronautical Fixed Service (AFS) is crucial to the safe and efficient provision of Air Traffic Management within the region as well as globally.

1.2      Traditionally the provision of AFS over terrestrial infrastructure has proven to be unreliable and is fast becoming redundant with changes in technology.

1.3      The migration of the AFI region to AFS over VSAT technology has vastly improved safety as well as efficiency within the region.

1.4      Technology and emerging requirements for the AFS have however, not stopped progressing. This necessitates the AFI region continuing to upgrade the established VSAT networks to meet the current and future needs of ATM.

2.      **DISCUSSION**

2.1      The meeting of the AFI Aeronautical VSAT Network Managers, which was constituted by the Special AFI Regional Air Navigation (AFIRAN) meeting in 2008, held its first meeting in Durban in 2011. At this meeting, the terms of reference were developed. Best practices for VSAT were drafted. The meeting also created 3 small work groups within the network managers meeting. These are:

2.1.1            Administrative

2.1.2            Financial

2.1.3          Technical

2.2          A second VSAT Managers meeting was held in Douala in 2012. This laid a solid foundation for the regional discussion and planning for the future of the Aeronautical Fixed Service. It dealt with modernisation of the network and services and developing administrative and funding mechanisms/arrangements, that will ensure the future technical and financial sustainability of the networks, working towards fully integrated and interoperable services. This group however was not part of the formalised ICAO structures.

2.3          In 2013 the work started by the VSAT managers was formalised with the establishment of the AFI Integrated Regional Telecommunications Infrastructure Task Force which held its first meeting in Pretoria, South Africa in March 2013. The formation of this task force has its origins in the APIRG 18 Conclusion 18/28.

2.4          In keeping with the work started by the VSAT managers and to maintain the momentum of this group, the IRTI TF maintained the small working groups established under the VSAT managers who continued their work at this first meeting of the IRTI TF.

2.5          Significant work to date by the IRTI TF includes:

2.5.1          Robust discussion regarding funding models

2.5.2          The decision to continue the current administrative framework of the AFISNET, CAFSAT, NAFISAT[1] and SADC VSAT2[2] networks. Funding and cost recovery methods are well established and agreed amongst the members of these Networks.

2.5.3          Significant strides have been made in the technical specifications for the integration/interoperability of the 4 networks, to provide a better service within the region. Recommendation for the ATN backbone infrastructure, which forms an integral part of the network infrastructure, was proposed.

2.6          The IRTI TF conclusion n1/11 calls for the re-establishment of the ATN task force to "address all aspects related to the implementation of the ICAO Aeronautical Telecommunication Network (ATN) in the AFI Region, including implementation of the applicable Aviation System Block Upgrades (ASBU) modules services and supporting infrastructures."

2.7          As the ATN deployment, current and future, is entirely dependant on the network infrastructure within the region, it is South Africa's position that the ATN implementation should continue to be managed within the greater Infrastructure development and implementation.

2.8          In addition to the technical considerations, the current economic climate requires all organisations to be frugal with their available resources, both economic and human. It would therefore make economic sense to maintain the work required for the ATN within already established structures. In most cases, the same subject matter experts would be involved in both.

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[1] NAFISAT Supervisory Committee reaffirmed the continuity of the network to 2022.
[2] SADC VSAT 2 Supervisory Board reaffirmed the continuity of the network to 2022.

2.9     To this end the IRTI TF terms of reference have been reviewed and amendments proposed as per attachment A to this Working Paper.

3.      **SUGGESTED ACTION BY THE MEETING**

3.1     The meeting is invited to:

3.1.1         Take note of the contents of this working paper and progress made to date by the AFI IRTI/TF;

3.1.2         Support the position that the AFI ATN Implementation Task Force not be reconvened but rather form part of the AFI IRTI/TF;

3.1.3         Support the proposed changes to the AFI IRTI TF terms of reference as presented in attachment A to this working paper.

— **END** —

**APPENDIX A**

**TASK FORCE ON THE DEVELOPMENT OF REGIONAL PROJECT ON AN AFI INTEGRATED AERONAUTICAL TELECOMMUNICATION AND ATN INFRASTRUCTURE**

**PROPOSED REVISED TERMS OF REFERENCE**

**1.     Vision**
      a)     Improve the contribution of the aeronautical telecommunication infrastructure in addressing safety endeavours in the AFI Region.
      b)     Enhance Air Navigation Safety, Capacity and Efficiency through elimination of deficiencies associated with AFI aeronautical infrastructure.

**2.     Objectives**
      a)     Develop a sustainable and integrated/interoperable regional IP-based Data Communication Network mainly based on VSAT Technology to provide effective aeronautical telecommunications services in AFI region;
      b)     Upgrade technical capabilities of existing VSAT networks to comply with the ICAO SARPs and guidance material, user requirements and global best practices;
      c)     Ensure financial sustainability of the networks through equitable and fair allocation of costs to States and users;
      d)     Create harmonious and seamless administrative oversight framework for the networks;
      e)     Enlist states' commitment to this initiative;
      f)     Develop the  AFI Aeronautical Telecommunication Network (ATN) Strategy and Implementation Plan; and
      g)     To support the implementation of ATN applications in the AFI Region, guided by the ASBU timeframes;
      h)     Apply appropriate costs-effective technologies aligned with the Global Air Navigation Plan (Doc 9750) Aviation System Block Upgrades (ASBU) Methodology and associated technology roadmaps for communications, navigation and surveillance (CNS), information management (IM) and avionics.

**3.     Deliverables**

     The deliverables expected from the Task Force include:

**3.1.     Technical Team:**

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**P**urpose of the multinational air navigation facility/service and its operational and technical justifications.
This should include the overall plan and targets for the development and the establishment of the facility/service.
The likely implications if any, on regulations, working routines, equipment, premises and maintenance should be included. Information on the expected consequences on the overall AFI air navigation system or any part thereof should also be included.

*Deliverables*
    *a)   Detailed gap analysis based on ICAO SARPs and guidance material, user requirements and global best practices;*
    *b)   Architectural requirements;*
    *c)   Recommendations for a road-map, to be implemented by States; and*

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d)  *Maintenance*

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| **Need for an amendment to the AFI Regional Air Navigation Plan.**<br>Assess the need if the establishment of a multinational facility/service will necessitate an amendment to the AFI Regional Air Navigation Plan, to be carried out in accordance with established procedures.<br><br>*Deliverable*<br>*Amendment proposals to the Air Navigation Plan as appropriate.* |
| **Development**<br>Develop, coordinate and implement the technical upgrade strategies and plans with associated timelines to enable the harmonised implementation of ATN applications in coordination with Teams |

**Composition of the Technical Team:**
- Egypt, Botswana, Mozambique, Nigeria, Rwanda, France/Reunion, South Africa (**Team Leader**), Swaziland, Tanzania, Uganda, ASECNA, Roberts FIR, IATA, Ethiopia

**3.2.     Financial Team**

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| F**inancial implications and cost-effectiveness.**<br>Related information should include estimates of the total costs of the multinational facility/service covering, as required, research and development, implementation, operation and maintenance, administration, and capital costs. how all costs incurred prior to the operational phase will be financed; assessing savings which may accrue from the implementation of the facility/service and comparing these savings to the total cost estimates; proposals as to how cost shares of States participating in the provision of the project are to be determined. Also, assessment needs to be provided on impact on users from charges for the facility/service concerned.<br><br>**Financial aspects**<br>The participation of States in the provision of a multinational facility/service is based on the assumption that any State having supported and agreed to the implementation of such a facility/service and making use of it should also shoulder its respective share of the costs involved.<br><br>*Deliverables*<br>   *a)  Cost estimates;*<br>   *b)  Funding (project teams and  integrated network model);*<br>   *c)  Cost recovery methods (cost sharing amongst states, billing); and*<br>   d)  *Maintenance.* |

**Composition of the Financial Team:**
- South Africa, France, Kenya, Uganda, ASECNA (**Team Leader**), IATA

3.3 **Administrative/Legal:**

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**Managerial implications and other contractual aspects**

The participating States would need to formalize in an agreement the terms under which the multinational facility/service is to be provided. A primary aim of the agreement should be to ensure that the costs involved are shared among the participating States in a fair and equitable manner.

*Deliverables*
  a) *Oversight model;*
  b) *States' commitment;*
  c) *Legal issues; Governance;*
  **d)** *Maintenance; and*
  e) *Draft agreement(s)*

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**Composition of the Administrative/Legal Team:**
- Egypt, Namibia, Kenya (**Team Leader**), South Africa Tanzania, ASECNA, IATA

**3.4 ATN Applications Team:**

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**ATN Applications Team**

Develop coordinated AFI transition strategies and plans with associated timelines to enable the streamlined coordinated implementation of ATN applications in coordination with /Teams;

*Deliverables*
  a) *Description of the ATN applications;*
  b) *Preparation of guidance material to assist States, as necessary:*
      - Transition strategies and implementation plans;
      - *Regulatory requirements;*
      - *Training requirements; and*
  c) *Timelines: national, regional, inter-regional;*

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**Composition of the Applications /Team:**
- To be established

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