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TECHNICAL COMMISSION

Agenda Item 39: Transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM)
Agenda Item 31: Comprehensive Regional Implementation Plan for Aviation Safety in Africa
Agenda Item 32: Regional Safety Oversight Organizations (RSOOs)

UPGRADE OF THE AERONAUTICAL METEOROLOGICAL SERVICE IN THE SOUTHERN AFRICA DEVELOPMENT COMMUNITY (SADC) REGION

(Presented by South Africa)

EXECUTIVE SUMMARY

This paper highlights the progress made in Southern Africa to build meteorological regional cooperation as an instrument to facilitate the safety of air transport. This paper furthermore reviews the process followed to obtain political will towards safety in air transport. The initiatives taken by the Meteorological Association of Southern Africa (MASA) in the provisioning of aeronautical meteorological services towards regional cooperation, capacity building and infrastructure development are also discussed. This is followed by proposals on resource mobilization to support the identified regional programmes.

Action: The Assembly is invited to:

a) note and welcome the initiative taken by MASA to address the challenges SADC faces in the provision of meteorological service to international air navigation by initiating the project "The Upgrade of Aeronautical Meteorological Services in SADC to satisfy ICAO Requirements"
b) request the Council to support, monitor and measure the progress of the MASA Project "The Upgrade of Aeronautical Meteorological Services in SADC to satisfy ICAO Requirements"
c) request SADC States to cooperate in the formation of a Southern Africa Regional Safety Oversight Organisation (RSOO) as the SADC NMSs have shown in the initiative of MASA;
d) request Contracting States in other regions to emulate MASA initiatives and cooperate in the formation of RSOO for the provision of aeronautical meteorological and other aviation related services; and
e) request Council to establish mechanisms to promote resource mobilization efforts of struggling regions and build partnerships with development agencies.

Strategic Objectives:	This paper relates to the Strategic Objective A by informing the Assembly of a remedial plan to resolve safety-related deficiencies through regional cooperation while encouraging States to take the lead in the development of RSOO's.
References:	Doc 9902, *Assembly Resolutions in Force* (as of 28 September 2007)

1. INTRODUCTION

1.1 Recognizing the need to address aviation safety concerns in Africa and to support African States in meeting their international obligations for oversight, ICAO initiated the Comprehensive Aviation Safety Plan in Africa (AFI Plan) that was agreed to by African Ministers and endorsed by the 36th Assembly. The Africa Comprehensive Implementation Programme (ACIP) was established to give effect to AFI Plan. The three focus areas of ACIP are to assist African States establish and maintain effective and sustainable safety oversight system, resolve identified deficiencies within a reasonable time and enhance aviation safety culture of African aviation service providers.

1.2 As severe weather is at least a contributory factor in more than 60 percent of aviation accidents over Africa, a reliable meteorological service, providing all the necessary products and services, is essential to aviation safety. Therefore, it is vital that aeronautical services also be included in ACIP.

1.3 The findings of the Universal Safety Oversight (USO) audits and the report of the Africa Planning and Implementation Regional Group (APIRG) meeting held in Rwanda in November 2007 and August 2010 in Burkina Faso show that most of the Contracting States in the Southern Africa Development community (SADC) Region have great challenges in providing an ICAO compliant meteorological service.

1.4 Not only is a reliable meteorological service satisfying ICAO requirements essential for aviation safety, but it also promotes aviation regularity and efficiency by contributing significantly to efficient flight planning and optimization of airspace. It, therefore, also impacts positively on reducing the aviation carbon footprint.

1.5 This working paper will endeavour to highlight the cooperation of the National Weather Services (NWSs) of the SADC Region to upgrade the meteorological service to international air navigation to ICAO compliance and invite the Technical Commission to monitor the progress made. It will also recommend that this initiative be emulated to form a SADC RSOO.

2. POLITICAL WILL IN AFRICA AND THE SADC REGION

2.1 In response to the vital role played by weather, climate and the advent of climate change in various key socio-economic sectors such as water resource management, food security, transport, health, energy etc, the World Meteorological Organization (WMO) and the African Union (AU) organized the historical “First Conference of Ministers responsible for Meteorology in Africa” in Nairobi, Kenya from 12 to 16 April 2010. The purpose of the meeting was to obtain political support to strengthen African National Meteorological Services in their provision of weather, climate and water information for decision-making.

2.2 In recognition of the importance of transport in socio-economic development of the African continent, air transport was identified as one of the key sectors which needed to be strengthened through enhanced meteorological services. African Ministers gave a commitment to support NMSs to meet ICAO quality standards.

2.3 In a subsequent meeting of "SADC Ministers responsible for Transport and Meteorology" in Pemba, Mozambique during May 2010, Ministers once more encouraged the regional cooperation work conducted by MASA[1] and called for greater cooperation within Member states.

2.4 In essence, the cooperation of NMSs in their priority programmes, which includes the enhancement of aeronautical meteorological services, is supported at the level of Ministers. There is a growing recognition by political leaders of the important role which weather plays in air transport. Ministers have made commitments in the Nairobi Conference and adopted the African Ministers' Conference-Nairobi Declaration (see attached Declaration)

3. REGIONAL COOPERATION TO ACHIEVE REGIONAL ICAO COMPLIANCE

3.1 Within a month of the AFI Plan being accepted by the Assembly, MASA recognized that the AFI Plan would impact on its members, as the National Weather Service (NWS) in each SADC State is the official meteorological services provider to international air navigation. A resolution was accepted inviting SADC Members to report to the next annual meeting on the level of ICAO compliance to meteorological requirements within SADC and propose ways to address challenges.

3.2 After analyzing the current level of non-compliance with ICAO meteorological requirements and the challenges facing its Members in addressing the challenges individually, MASA appointed a task team to identify the requirements of each SADC Member, the feasibility of developing a regional programme to address non-compliant issues and to propose an implementation plan. In October 2009 MASA adopted "The Upgrade of Aeronautical Meteorological Services in the Southern Africa Development Community (SADC) to satisfy ICAO Requirements" as its second project. As the name implies, the purpose of the project is to raise the standard of the meteorological service to international air navigation standards in all SADC Member States under the umbrella of MASA and through regional cooperation of national meteorological services of SADC Member States. This project is in response to the AFI Plan, in particular Assembly Resolution A36-1 encouraging States (and others) to undertake projects to address priorities.

3.3 This is a wide-ranging project aimed at ensuring that each SADC State is able to satisfy ICAO's meteorological requirements. The items that the project will seek to address include:

3.3.1 Reliable, ICAO-compliant aerodrome meteorological instrumentation. It is recognized that it is not only necessary that modern instrumentation capable of providing the necessary information be installed, but that the instrumentation be reliable and sustainable.

3.3.2 The Project also seeks to strengthen and improve the reliability of the national observational networks as it is recognized that these observations provide the basis for good forecasts. Possible extensions to the remote sensing networks such as the lightning detection network are also being considered.

3.3.3 In order to provide the necessary aeronautical service of a satisfactory standard it is essential that the meteorologist has meteorological data and images as well as Numerical Weather Prediction products at his/her disposal. The distribution of these products requires a fast, high capacity

[1] Meteorological Association of Southern Africa (MASA) is a properly constituted association of National Weather Services of SADC States and is recognized by WMO.

communication network. The Project seeks to install a reliable high-speed network of sufficient capacity, and to develop maintenance programmes.

3.3.4 Not only does that meteorologist require access to modern meteorological data but he/she also requires the necessary workstation to be able to optimize the incoming data. The Project plans to have modern workstations in all Meteorological Offices (MOs) and Meteorological Watch Offices (MWOs).

3.4 The Project also seeks to address oversight issues impacting on the ability to meet ICAO requirements. This includes attaining the necessary International Organization for Standardization (ISO) certification. A training course on the implementation of an ICAO-compliant quality Management System has already taken place.

3.5 The MASA project is very ambitious and, when completed, will raise the standard of meteorological services to international air navigation significantly and have a positive impact on aviation safety. It is realized that the project will fail without the necessary initial and ongoing capacity building of personnel in the Region. This issue is also being addressed. Plans are far advanced in the establishment of a WMO Regional Training Centre-Pretoria (RTC-Pretoria) in the SADC Region. An agreement, linking the RTC to a local university, has been formalized and training material and courses meeting WMO[2] requirements have been developed. WMO representatives will inspect the facility shortly.

3.6 It needs to be stressed that while the RTC will be in a single location, the intention is that it should be a truly regional training centre, drawing on regional experts to provide the training. Experts will also be drawn from outside the region to ensure the maintenance of comparable international standards.

4. RESOURCE MOBILIZATION

4.1 The aim of the Project is to develop the meteorological services of SADC to the point where they are financially self supporting. Until that time, however, external funding is necessary. Financial assistance has, to date, been kindly provided by the Government of Finland.

4.2 Funds generated from cost recovery for meteorological services inherently depend on the number of aircraft landing and taking off and on the volume of traffic criss-crossing the Flight Information Region (FIR) and has proved inadequate to sustain the required improvements in most African countries.

4.3 Recognising that cost-recovery for the provision of aeronautical meteorological services is in itself insufficient, more so in the Least Developed Countries (LDC) and Small Islands Developing States (SIDS), where there is minimal or low air traffic volumes, it would be prudent for ICAO to consider other forms of alternative funding. It is therefore safe to mention that even in this MASA project, additional funding is still sought for other components of this innovative project.

4.4 There is therefore a dire need for ICAO to be proactive in assisting struggling Members and especially LDCs and SIDS in the region and elsewhere, in their resource mobilization efforts and also in establishing close relations with development partners/donors. This intervention is crucial for enhancing global aviation safety and sustainability.

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[2] ICAO specifies that personnel providing meteorological services to international air navigation satisfy WMO qualification requirements. l

5. CONCLUSION

5.1 This initiative of MASA must be seen in the context of the Comprehensive Regional Implementation Plan in Africa (ACIP). By accepting the Project, SADC meteorological service providers have recognized the shortcomings in their aeronautical service delivery, the challenges they face in meeting ACIP, and in trying to address them individually. They are therefore cooperating to address the mutual challenges in satisfying ICAO requirements. This cooperation shows that the regional approach to address mutual challenges is viable but requires the recognition by and mutual cooperation of all Contracting States.

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