



## INTERNATIONAL CIVIL AVIATION ORGANIZATION

### AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP SEVENTEENTH MEETING (APIRG/17) (Burkina Faso, 2 to 6 August 2010)

#### Agenda Item 3: AFI Regional Air Navigation Planning and Implementation Agenda

##### Item 3.2: Aerodrome Operational Planning (AOP)

##### Review of the report of the eighth meeting of the Aerodrome Operational Planning Sub-Group (AOP/SG/8).

*(Presented by the Secretariat)*

#### SUMMARY

This paper presents the report of the eighth meeting of the Aerodromes Operational Planning Sub-Group (AOP/SG/8). The Sub-Group received and reviewed the follow-up action taken on the APIRG /16 meeting Conclusions and Decisions approved by the Council and on the Conclusions of the Special AFI RAN meeting. It reviewed the list of deficiencies in the AOP field and held lengthy discussions on the methodology currently in use by ICAO for the development of the list of deficiencies and keeping it reasonably up-to-date at all times. The meeting also reviewed the progress of implementation of specific Annex 14 requirements in AFI in particular the requirement for aerodrome certification, State safety programme and safety management system.

#### Action by:

APIRG/17 is at paragraph 10.1

#### References:

Special AFI RAN Meeting Report Doc 9930  
APIRG/16 Report  
AOP/SG/8 Report

### 1. Introduction

1.1 The Eighth Meeting of the Aerodromes Operational Planning Sub-Group was held in Nairobi, Kenya from 02 to 04 June 2010. It was attended by 26 participants from 15 States and International Air Transport Association (IATA).

### 2. Follow-up of the Special AFI RAN Meeting Conclusions

2.1 The meeting was apprised of the fact that the approach to the Special Regional Air Navigational (RAN) Meeting which was held in Durban, South Africa 24-29 November 2008 was different from past RAN meetings in that it dealt specifically with safety issues only. There was therefore no review and amendment of the Regional Air Navigational Plan. The AOP/SG/8 meeting

reviewed the progress of implementation of those Conclusions of the Special AFI RAN Meeting with a bearing in the Aerodrome Operations Planning (AOP) field.

2.2 The meeting noted the decision by the ICAO Council requiring ICAO to take up an increasing leadership role in order to ensure that the relatively high safety concerns in AFI region are addressed and the subsequent establishment of an AFI Comprehensive Implementation Plan (ACIP). The meeting was briefed of the significant progress that ACIP had achieved in addressing the aviation safety concerns in AFI in particular with respect to the conduct of extensive training activities in various fields and agreed that in order for ICAO to succeed further, it was essential that Contracting States in the AFI Region strengthen cooperation across the region to make the optimum use of available resources and also commit to the ideals of the AFI Plan. In this regard the meeting noted Special AFI RAN Conclusion No 3/2 encouraging States in the AFI Region to take full advantage of the programme established to enhance aviation safety in the region and also encouraging industry and donors to undertake projects that address the priorities identified through gap analysis conducted by ACIP in cooperation with all stakeholders.

2.3 The AOP/SG/8 meeting noted that States had indeed taken full advantage of the activities of ACIP so far. Most of the AFI States, with exception of a handful, had gone through the gap analysis exercise and the industry and all stakeholders have been actively involved. The enhanced regulator/industry cooperation has been quite well received and both parties appreciate each other's viewpoint with respect to the need to ensure aviation safety. It is however too early to evaluate how the training activities have been translated into actual implementation of SARPS, actual improvement of safety and eventually reduction of accidents and incidents. The AOP/SG/8 meeting was of the view that ICAO should develop strategies to continue to monitor these parameters in order to evaluate the tangible benefits of the ACIP.

**Draft Conclusion 8/01: Mechanism for follow up on ACIP activities**

**That ACIP should develop and implement a mechanism to follow up how much the training activities conducted have translated into actual implementation of the SARPS and eventually the reduction of accidents and incidents.**

2.4 The AOP/SG/8 meeting agreed with the observation at the Special AFI RAN that there was inadequate implementation of the eight safety oversight critical elements and in particular emphasized the importance of implementation of Critical Element 4 (qualifications and training of technical staff) as a prerequisite to the implementation of the other critical elements. In this regard, it was noted that there was in particular inadequate training opportunities for aerodrome inspectors. Most States therefore had to depend on overseas training which was quite expensive. Further, concerns were raised that many States were experiencing difficulty with retention of the few personnel that had obtained the training and gained adequate experience. There was also inadequate guidance on the aspect of resolution of safety concerns. The AOP/SG/8 meeting therefore formulated the following draft Conclusion:

**Draft Conclusion 8/02: Development of training programmes for aerodrome inspectors**

**That ACIP should assist a few of the existing training institutions in the AFI to develop and implement aerodrome inspectors training programmes.**

2.5 The AOP/SG/8 meeting noted the emphasis by the Special AFI RAN of cooperative approach towards improving aviation safety in particular in States that did not have enough aviation

activity to support the investment to establish and sustain an effective safety oversight organization bearing in mind other pressing national needs. Under such competing priorities, the Civil Aviation Authorities often give higher priority to the traditional CAA fields, i.e. airworthiness, flight operations, personnel licensing and to some extent air navigation services to the detriment of aerodromes. On this basis, the meeting noted with appreciation the cooperative approach being established in a number of regional groupings within AFI in particular the BAG States, UEMOA, EAC and SADC.

2.6 With regard to the proposal to establish Regional Aviation Safety Teams, the meeting was of the opinion that their establishment should be driven by the ICAO Regional Offices and that it was essential to establish their terms of reference in order to ensure that States and industry identify individuals that can give meaningful contributions to their activities.

**Conclusion 8/03: Establishment of Regional Safety Teams (RST)**

**That ICAO Regional Offices should be the champions in the establishment of Regional Safety Teams (RST) and in soliciting participants from States, the terms of reference of the RST should be established in order to ensure appropriate individuals are identified for participations.**

2.7 The AOP/SG/8 meeting noted the observation by the Special AFI RAN the safety and efficiency of international civil aviation depends primarily on the skills of the personnel that manage, operate and maintain its systems. Training capacity within Africa is limited. As a result, training which frequently had to be performed outside the continent at great cost to government and industry was essentially very limited. The meeting emphasized the need for extensive on-the-job training in order to ensure aerodrome inspectors have the necessary confidence to carry out their functions. The meeting therefore formulated the following Draft Conclusion.

**Draft Conclusion 8/04: Field experience as an essential part of training activities.**

**That in addition to the theoretical training being offered by ICAO and the training institutions, States should establish mechanism for allowing their aerodrome inspectors to undergo on-the-job training through attachment.**

**3. Follow up of APIRG/16 Meeting Conclusions and Decisions concerning Aerodrome Services.**

**3.1. Bird hazard reduction**

3.1.1 With respect to the prevalence of bird hazards, the AOP/SG/8 noted that the APIRG/16 Conclusion for cooperative arrangements in conducting ornithological studies on developing strategies for bird hazard control among neighbouring states continues to be implemented as is the case in the five East African Community (EAC) Partner States which have since established an EAC Wildlife Hazard Management Committee under the umbrella of the EAC Civil Aviation Safety and Security Oversight Agency (CASSOA).

3.1.2 The meeting however noted that, despite several reminders, reporting of bird strikes to ICAO bird strike information system (IBIS) had not been improved. It was suggested that the Regional Safety Oversight Organizations and the various COSCAPs being established in various parts of Africa be used as a tool for collection of data and submitting of reports to IBIS.

### **3.2. Rescue and Fire Fighting Services (RFFS)**

3.2.1 The meeting acknowledged that there have been some improvements on the provision of fire fighting equipments, rescue tools and protective clothing and equipment. However a number of airports were not allocating sufficient resources for rescue and fire fighting personnel development to ensure adequate training (including the prerequisite education background and on-the-job training) and retraining (including refresher training) on a regular basis. The meeting therefore observed that there was need for States to develop appropriate regulations and guidance material regarding staff selection criteria defining the minimum education background, minimum qualifications and skills at each level and the need for periodic medical examination.

3.2.2 The meeting further noted that there were quite a few aerodromes in AFI which are located close to large bodies of water, marshy and mangrove environment which as a result require special facilitation for rescue and fire fighting. Although ICAO has provided specific guidance on this issue, many airports have not made provisions to facilitate prompt action in case of an eventuality in this difficult terrain and environment.

### **3.3 Aerodrome Pavement Strength and Friction Characteristics**

3.3.1 The AOP/SG/8 meeting noted that as witnessed during the safety oversight audits, many States were not implementing the requirement to carry out pavement strength measurements as a tool for proactively planning for preventive maintenance programmes bearing in mind the extensive resources required for undertaking complete pavement rehabilitation which eventually becomes necessary. Further, it was also noted that very few aerodromes have implemented the requirement for measuring and reporting runway friction characteristics even when it has become evident that there was extensive rubber deposit. The meeting acknowledged that the equipment required to measure pavement strength and runway friction characteristics were expensive and the technology required was not readily available. Hence the meeting reaffirmed its earlier Conclusion for States to consider cooperative arrangement in the implementation of these requirements.

## **4. Review of the List of International Aerodromes in the AFI ANP**

4.1 The AOP/SG/7 meeting, whilst discussing the issue of deficiencies at aerodromes in the AFI Region which were seen to have remained unresolved for a long time, noted that there were some airports listed in the Air Navigation Plan (ANP), which were not being or which were not planning to be used for regular international flights. Such airports were not therefore given priority in allocation of resources and were poorly equipped. This was considered to be contributing to the long list of deficiencies which remain for a long time and agreed that States should make a review of the list of airports included in the AFI ANP and FASID and propose appropriate amendments to remove such airports.

4.2 The AOP/SG/8 meeting was advised that the ICAO ESAF and WACAF Regional Offices have twice circulated reminders to States to review the list of international aerodromes. On both occasions there has been minimal response. The meeting took note of this fact and agreed that in view of the above, the list of aerodromes in the AFI Plan should continue to be amended following the standard ICAO procedures for amendment of the ANP and FASID.

## 5. Review of deficiencies in the AOP field

5.1 APIRG has been regularly reviewing the status of implementation of the AFI Air Navigation Plan through its subsidiary bodies including the AOP/SG. The result of this review is reported to the ICAO Council and notified to States and user organizations concerned. The list of deficiencies have been compiled by the Regional Office and updated with additional information collected during informal regional meetings, mission of regional officers to States including during safety oversight audits and also from various sources including user organizations after validation in accordance with the decision of the Air Navigation Commission. The meeting was apprised of the persistent difficulties encountered by the Secretariat in obtaining from States current information on deficiencies and corrective actions taken to remove them and for the validation of the reports by users.

5.2 The attention of the sub-group was drawn to ALLPIRG/5 Conclusion 5/15 that called for implementation of *“last resort action”* when efforts to eliminate deficiencies prove unsuccessful after exhausting all alternatives. The last resort action consists of two parts:

- a) propose the inclusion of an alternate facility/procedure in the ANP; and;
- b) if this is not feasible, States, users and ICAO should be provided with an analysis concerning the risk associated with such a deficiency.

5.3 On its part, IATA reported that it regularly organizes Technical Missions through which its team of experts maintains direct contact with the authorities and service providers. The purpose of such missions is to identify infrastructural deficiencies of concern to airline’s operations, priorities for remedial action, possibilities for cooperation between IATA and the authorities to effect remedial action, and opportunities for future development plans. IATA Technical Missions usually include discussion with the authorities on practical timelines for remedial action and where necessary follow up missions are arranged.

5.3 After extensive deliberation, the meeting was of the view that the methodology used to compile, validate and keep up-to-date the list of deficiencies is not efficient bearing in mind that States do not respond to enquiries sent to them. The list of deficiencies therefore, cannot at any one time be considered as accurate and recommended that the methodology be reviewed by the Secretariat and reported for discussion at next AOP/SG meeting.

### **Draft Conclusion 8/05 : Review of Methodology for compiling list of deficiencies**

**That ICAO should develop a more efficient methodology for compiling, validation and tracking of deficiencies at international airports that would ensure the list of deficiencies is reasonably up to date at all times.**

## 6. Specific Annex 14 requirements

### 6.1 Requirement for Runway End Safety Area (RESA)

6.1.1 The meeting discussed the requirements in Annex 14 Volume I for the provision of the runway end safety area (RESA) and the specifications associated with it. Where provision of a RESA would be prohibitive to implement, consideration may have to be given to reducing some of the declared distances. The provision for equipment or installation required for air navigation purposes which must be located on a runway end safety area to be frangible and mounted as low as possible was

also discussed. It was indeed emphasized that runway excursion incidents and accidents have become quite prevalent and that airports should ensure this requirement is implemented.

## **6.2 Runway friction testing and rubber deposit removal**

6.2.1 The meeting noted that many airports take friction characteristics for granted. Where aerodrome certification has been implemented and where runway pavement inspection is regularly conducted, reports of standing water and rubber deposits have been recorded and have been indicated as possible areas of questionable friction levels. The meeting emphasized that because of the weather prevailing in the tropics, cases of bitumen bleeding and enhanced rubber deposits are more pronounced and in wet conditions friction characteristic could be reduced considerably. In addition, poor drainage facilities either by design or as a result of inadequate maintenance procedures do increase the prevalence of standing water on runway surfaces. The meeting discussed the element of the cost of the friction measuring equipment at an airport where the traffic is not very high and reaffirmed its earlier Conclusion for cooperative approach to this problem. In this regard, Kenya indicated that the Kenya Airports Authority (KAA) had acquired both a friction testing machine and a rubber deposit measuring equipment and indicated that interested neighbouring States could contact the management of KAA for such cooperation.

## **6.3 Signage**

6.3.1 Signs at an airport are essential for the surface movement guidance and control. The USOAP audit results have indicated the extent of laxity on the issue of appropriate signage or the lack of adequate maintenance of signage on the pretext that aerodrome layouts are not complicated and extreme weather conditions are not frequent. The meeting was of the view that strict implementation of the SSP/SMS which incorporates regular inspection reports would help address these deficiencies.

## **6.4 Aerodrome emergency planning.**

6.4.1 The meeting noted that despite emphasis on this matter on previous discussions and the number of workshops that ICAO has conducted in the region to re-emphasize the necessity to implement the requirement, deficiencies still exist. The meeting was further apprised of the Amendment No. 10 to Annex 14 Volume I which has introduced under examples of emergencies “public health emergencies” including increased risk of travelers or cargo spreading a serious communicable disease internationally through air transport and severe outbreak of a communicable disease potentially affecting a large proportion of aerodrome staff. The meeting recalled that at those aerodromes located close to large bodies of water and/or swampy areas, or difficult terrain, the aerodrome emergency plan should include the establishment, testing and assessment at regular intervals of a predetermined response for the specialist rescue services. The ICAO USOAP results have indicated that there are a number of such aerodromes in AFI who still do not have appropriate specialist rescue services included in their AEP. In addition a number have never conducted a full scale emergency exercise involving rescue at sea.

6.4.2 The meeting was informed that Ghana has over the years gained substantial experience on the conduct of a full scale emergency exercise. In view of the fact that the major airport in Ghana is located close to the sea and in compliance with the Annex 14 Volume 1 requirements, Ghana had recently conducted a successful Search and Rescue Exercise involving an incident at sea.

The exercise highlighted a number of challenges such as:

- How to let participating agencies appreciate the complex nature of such an exercise.

- Getting the active participation of top government officials which was vital for the success of the exercise.
- Combining the requirements of Annexes 12 and 14 for the successful conduct of the exercise.

## **7. Status of implementation of Annex 14 requirements for Aerodromes Certification and Safety Management Systems**

7.1 Various surveys conducted by the ICAO secretariat, review of the results of ICAO Universal Safety Audit Programme (USOAP) and more recently the Gap Analysis conducted under the AFI Comprehensive Implementation Plan (ACIP) all indicate that the level of implementation is generally very low. Further analysis indicate that a serious lack of trained aerodrome inspectors in almost all fields. In this regard the meeting was advised that the ICAO WACAF office has scheduled to hold an aerodrome certification workshop 04 – 08 October 2010 and that ACIP is planning an Aerodrome Inspectors' Courses, one in French in 11 – 29 October and another in English in 08 – 26 November. States are advised to take advantage of these training activities whose content shall take into account the particular AFI environment. Further, there will be no tuition fees for participation.

### **Draft Conclusion 8/06: Training for aerodrome inspectors**

**That States should take advantage of the Aerodrome Certification Workshop 04-08 October 2010 (English) and Government Inspectors' Course (11-29 October 2010, French) scheduled to be held in the WACAF Region the Government Inspectors' Course (08-26 November 2010, English) scheduled to be held in the ESAF Region**

## **7.2 ACP Activities related to the implementation of the requirement for SMS**

7.2.1 ACIP has conducted several Integrated Safety Management (ISM) training activities directed to the regulators *and* service providers and the course integrate State Safety Programme (SSP), service providers Safety Management System (SMS), State safety oversight systems, Global Aviation Safety Plan (GASP, Global Aviation Safety Roadmap (GASR) and the development of a Regional Safety Programme (RSP). The meeting appreciated efforts that ACIP has put in to ensure adequate training is provided. The meeting however emphasized the need for more practically oriented training for aerodrome inspectors where one would acquire “hands-on experience” to assist them obtain the necessary confidence to carry out safety oversight responsibilities in their respective States. In this regard, the meeting formulated the following Conclusion:

### **Draft Conclusion 8/07**

**That:**

**States that have not done so take advantage of the remaining training activities on Integrated Safety Management Systems.**

**ACIP should endeavor to include practical aspects for aerodrome inspection in the upcoming Government Inspectors' Course to be held later in the year in the WACAF and ESAF Regional Offices**

## **7.3 Experience of Algeria**

7.3.1 The meeting was apprised of the experience of Algeria regarding implementation of the requirement for aerodrome certification where 14 aerodromes had been certified since 2005 and again re-certified in 2009 supported by adequate legislation. A certification committee composing of five external and two internal aerodromes inspectors was the guiding force towards this achievement.

Extensive training of fifty personnel was conducted. A further training programme for SMS implementation is expected.

#### **7.4 Experience of Kenya with respect to aerodrome certification**

7.4.1 During implementation of the requirement for aerodrome certification, it has been noted that the aerodrome regulations in Kenya were deficient on the specifics. Further the KCAA has noted that during development of guidance material, it was necessary to ensure there is sufficient consultative framework with airport operators and service providers with a view to developing a realistic action plan for the implementation of the cooperative requirement based on a carefully considered gap analysis. Initiatives by the East Africa Community (EAC) Civil Aviation Safety and Security Oversight Agency (CASSOA) are providing the necessary platform for additional consultation within the region and this is expected to enhance cooperation and understanding. It is expected that CASSOA will spearhead efforts to establish a Regional Safety Programme within the five EAC partner States.

7.4.2 Kenya has also observed that successful implementation of Annex 14 requirements for aerodrome certification is highly dependent on the commitment of the aerodrome operator including the allocation of sufficient resources for training and timely correction of safety concerns identified by the regulatory authorities during inspections. The problem is compounded by the facts that since most airports are wholly owned by government and act as the major and usually the only economic gateway to the states, regulatory authorities do not have the necessary powers to impose stringent operating restrictions. The meeting therefore formulated the following draft conclusion:-

##### **Draft Conclusion 8/08**

##### **That:**

- 1. States should while developing their legislative frameworks ensure that the regulatory authority is granted express powers to regulate aerodromes and that its inspectors are adequately empowered to impose operating restrictions and sanctions at aerodromes in cases where non-conformances have been identified.**
- 2. Aerodrome operators in the region should commit to certification of their aerodromes and in particular pay attention to the correction of identified safety concerns through allocation of adequate resources required to facilitate effective implementation of Annex 14 requirements.**

#### **7.5 Experience of Kenya with respect to implementation of SMS**

7.5.1 Kenya reported that the safety management system requirements were yet to be fully implemented at the Kenyan aerodromes. Kenya Airports Authority (KAA) which operates the major airports have not defined its safety policies, objectives and strategies; safety training and flow of safety information is inadequate and there is a general lack of commitment at the highest level of management. The slow implementation of SMS by aerodrome operators has also been attributed to inadequate regulatory guidance. This calls for the need to ensure that the State expeditiously establishes the SSP by providing the requisite regulations and guidance material and setting the required safety performance levels.

**Draft Conclusion 8/09**

**That:**

1. To effectively achieve the objectives of SMS at certified aerodromes, senior management of the aerodrome organization should demonstrate commitment to SMS by actively participating in its implementation and by providing adequate resources for training for staff and contractors, and by facilitating the flow of safety information to all staff.
2. Senior management at aerodromes should pay more attention to safety monitoring and to the implementation of remedial actions necessary for achievement of required safety performance levels and ensures that safety objectives and strategies are clearly defined.
3. As a matter of urgency, CAA's should endeavor to establish objective strategic plans for the implementation of the SSP in order to expeditiously support implementation of Annex 14 requirements for aerodrome certification and SMS implementation.

**8 Follow up on specific Annex 14 requirements – Amendment No. 10 General**

8.1 The meeting was apprised of the content of Amendment 10 to Annex 14, Volume I which became applicable 19 November 2009 and after careful evaluation formulated the following draft conclusion:-

**Draft Conclusion 8/10:**

**That:**

**States should take note of the contents of amendment no. 10 to Annex 14 Volume I and take the necessary steps to make corresponding amendments to their national Aerodrome Regulations**

**That States should ensure the aerodromes review their emergency plans to include provisions for public health emergencies.**

**9. Review of the AOP/SG Terms of Reference**

9.1 The meeting reviewed its terms of reference and future work programmes with a view to incorporate the ICAO emphasis on ensuring all activities support the ICAO Strategic Objectives. The ToR were amended to include

- a) Runway Safety
- b) Establishment and implementation of SSP and SMS
- c) Land use control and management around the airports
- d) Mechanism for cooperation among States in the field of aerodrome operations.

**10. Action by the APIRG/17 Meeting.**

10.1 The APIRG/17 meeting is invited to take note of the activities of the AOP/SG and to recommend the draft conclusions for adoption by Council.