



International Civil Aviation Organization
Eastern and Southern African Office

**Thirteenth Meeting of the Air Traffic Management/Aeronautical
Information Management/Search and Rescue Sub-Group
(ATM/AIM/SAR SG/13)
(Nairobi, Kenya, 16 - 19 September 2013)**

Agenda Item 7: Safety Management

**PROGRESS RELATED TO SAFETY MANAGEMENT ACTIVITIES
UNDERTAKEN IN THE AFI REGION**

(Presented by the Secretariat)

SUMMARY
This working paper provides an update on SMS activities undertaken in the AFI region and addresses safety issues relating to safety of air navigation in AFI FIRs, as identified by the AFI Tactical Action Group (TAG)
Action by the meeting is at paragraph 3 .
REFERENCES
AFI Plan TAG/5 Report
This Working Paper is related to Strategic Objectives: A

1. INTRODUCTION

1.1 The Fifth meeting of the AFI Tactical Action Group (TAG/5) which was held at the offices of the International Air Transport Association (IATA) in Johannesburg, South Africa on 18 March 2013 discussed various issues relating to safety management of airspace and reviewed air safety reports (ASRs/UCRs) and other incidents addressed by the ATS Incident Analysis Group (AIAG).

1.2 The template for the Letter of Procedures (LOP) which details the coordination process between air traffic services units (ATSUs) is still largely based on the Air Traffic Services Planning Manual, Doc 9426-AN/924 - First Edition - 1984, Part II – Methods of application employed by Air Traffic Services. The template was reviewed during the TAG/5 meeting to make it more adaptable to current coordination requirements.

2. DISCUSSION

2.1 The meeting will recall that Annex 19 to the Chicago Convention has been established and has become effective as of 15 July 2013. The creation of this Annex has enabled ICAO to consolidate the provisions relating to State Safety Programmes (SSPs) and Safety Management Systems (SMS) into a single source document. It involved close collaboration between ICAO, its Member States and key international organizations over the past three years. The establishment of Annex 19 supports ICAO's global safety strategy, which calls for improved standardization, increased collaboration among aviation stakeholders, new information sharing initiatives and prioritization of investments in technical and human resources required to ensure safe operations in the future.

2.2 Annex 19 consolidates existing overarching safety management provisions from Annex 1 – *Personnel Licensing*, Annex 6 – *Operations of aircraft*, Annex 8 – *Airworthiness of Aircraft*, Annex 11 – *Air Traffic Services*, Annex 13 – *Aircraft Accident and Incident Investigation* and Annex 14 – *Aerodromes, Volume 1- Aerodrome Design and Operations*. The consolidation of existing safety management provisions into a single Annex eliminates duplication of Standards and Recommended Practices (SARPs) that currently exist in other Annexes.

Outcome of TAG Meetings

2.3 The meeting recalled the TAG missions that had been undertaken to DRC, Angola and Nigeria between 2009 and 2011 with the objective of addressing the issues that led to sustained high volumes of UCRs including AIRPROXs in their respective FIRs. In each case, a corrective action plan (CAP) had been agreed between the State and TAG mission. The Group noted that reports from Angola on the implementation of the CAP had not been forthcoming, while Régie des Voies Aériennes (RVA) of the Democratic Republic of Congo (DRC) had provided some progress reports at various events hosted by ICAO and IATA. With regard to Nigeria, the Nigerian Airspace Management Agency (NAMA) had been providing consistent detailed feedback on progress, as well as responding to queries as they arose from the TAG Secretariat.

2.4 The representative from NAMA provided a further update to the TAG regarding various measures being taken to implement the CAP. It was noted from the information provided by NAMA, that there were delays in completing the major projects to address the communication deficiencies. Delays in progress include: the "Total VHF & AIS Automation" project, which had nevertheless reached very advanced stages. However, the following improvements were noted:

- Satellite phones had been installed at Kano and Lagos;
- Kano/Lagos AFTN link was operating at 99% availability;
- Telephones had been provided to support ATS/DS for traffic coordination;
- New terminal and en-route radar facilities were to be commissioned during the April-May 2013 timeframe;
- Measures were under consideration to overcome the delays in ATC ab-initio training of candidates that were already enrolled;

- Measures were under consideration to overcome the delays in ATC ab-initio training of candidates that were already enrolled;
- Refresher and recurrent training for ATCOs have already started in 2012. This includes 30 controllers who were trained in Zaria, Nigeria and another 30 in Cairo, Egypt in 2012;
- Various measures were being undertaken to increase number of qualified air traffic controllers; and
- Appropriate measures including system and power backups have been implemented to address the failures of ATS communication recording.

2.5 The TAG/5 received an update from Kenya on process to address deficiencies and airspace reorganization, notably the transition process to have 24 hour provision of radar based air traffic control available. The meeting acknowledged improvements that had been made including signing of service level agreement (SLA) between ATC and CNS (engineering division). It was also noted that Controller Pilot Data Link Communication (CPDLC) had been installed and would be brought into operation as soon as training was completed, which is expected in June 2013.

2.6 The TAG/5 meeting was informed that IATA had been providing support to DRC with regard to procurement and installation of solar panels to power communication facilities. It was also recalled from ATM Coordination Meeting between Central and Eastern AFI FIRs (ATM/CM-CEAF) held in Nairobi, Kenya, 13-15 August 2012, DRC had reported installation completion of most of the planned 14 VSAT stations and with the remaining to be installed by end of 2012. However, the TAG was still concerned about the inadequate level of maintenance of these and other installations.

2.7 The TAG/5 meeting expressed concerns relating to airspace safety in Angola, DRC and Nigeria, which for a long time had remained critical with limited progress on the CAP, particularly on the critical issues. While the installations of radar in Kano FIR were appreciated, the TAG highlighted that it would have limited effect in addressing the safety issues which were related to lack of communication. It remained important that installation of effective communication be given priority.

2.8 The TAG/5 meeting expressed concern at the continuation of reported incidents in which airborne collision avoidance system (ACAS) had become a prominent feature in aircraft separation, noting that ACAS was supposed to remain a safety net. Its increased role in restoring separation meant that there was a high risk of collision should it fail, particularly given the high precision of navigation that positioned aircraft close to assigned trajectory centrelines.

2.9 In view of the above, it agreed that, pending effective implementation by the respective air navigation service providers (ANSPs), of elements of the Corrective Action Plans (CAPs) agreed with the TAG, or other effective solutions that would enable acceptable levels of safety to be achieved, the Kinshasa and Luanda FIRs should implement special systems of airspace operation that will support safety of operations. In this regard, the meeting agreed to establish a TAG Task Team (TAG/TT) to develop a proposed *Special Airspace Structure and Systems of Operations* (SASSO) to be presented to the concerned States for consideration and application. A draft proposed terms of reference of the SASSO is

appended at **Appendix A** to this working paper for further review and amendment, as necessary, the Sub-Group.

Safety Management Systems/State Safety Programme (SMS/SSP)-2012

2.10 As part of the Regional Office Safety Team (ROST) activities the following Safety Management Systems/State Safety Program (SMS/SSP) courses were undertaken in Mombasa, Kenya (5-14 March 2012), Gaborone, Botswana (14-25 May 2012), Asmara, Eritrea (11-22 June 2012) and Windhoek, Namibia (10-21 September 2012). The main objectives of the training were to:

- a) To provide participants with knowledge of safety management concepts and ICAO Standards and Recommended Practices (SARPs) related to safety management in Annexes 1, 6, 8, 11, 13 and 14, and related guidance material;
- b) Develop participants' knowledge to develop and implement a State Safety Program (SSP), instituting responsibilities and accountabilities concerning Safety Risk Management (SRM) and Safety Assurance (SA).
- c) Accept and supervise the key components of service providers' safety management system (SMS), including development and implementation.

Outcome of the ATS Incident Analysis Group (AIAG)

2.11 The meeting reviewed the outcome from the AIAG/10 meeting which had been held prior to the TAG/5 and noted that there was a similar pattern of causal factors contributing to ATS incidents in most FIRs as follows:

- a) air traffic controller proficiency was inadequate due to inadequate training and lack of recurrent (refresher) training;
- b) shortage of qualified air traffic controllers resulting in understaffed shift operations (one air traffic controller manning more than one position), controller overload and other human factors issues; and
- c) inability of ANS Management to assign air traffic controllers to recurrent and specialized training.

2.12 These causal factors were directly accountable for the following:

- a) Failure by air traffic controllers to coordinate traffic between ATC units and neighbouring FIRs;
- b) loss of situational awareness;
- c) unrealistic expectations on aircraft performance and flight crew;
- d) unchecked errors by senior air traffic controllers providing OJT supervising;

- e) lack of technological awareness (*in one case a controller seemed to lack knowledge of basic aircraft manoeuvres related to a TCAS RA*);
- f) ATC errors;
- g) airspace organization that has been overtaken by events, no longer pertinent to existing traffic complexities;
- h) lack of adequate and serviceable communication equipment;
- i) lack of effective backup power for ATC equipment;
- j) lack of updated operational procedures; and
- k) lack of internal (within the ANSP ATS Units) coordination.

2.13 The TAG/5 acknowledged the impact of inadequate ATC proficiency in most of the AFI Region and was of the view that the issue should be further studied. It further agreed that the adequacy of available training to the ANSPs should be reviewed and necessary supplemental training recommended. States were to be urged to implement refresher training programmes for ATC staff. In addition, ANSPs were encouraged to consider cockpit operations familiarization visits for air traffic controllers. ANSPs should also consider the use of flight simulators (various levels) as well as visits to airline simulator training sessions, to update air traffic controllers' competence with regard to aircraft recognition and performance characteristics, including cockpit workload of flight crew. Some of the areas in which the shortcomings are evident are as follows:

- a) Different standards applicable in aviation training academies, schools and institutions;
- b) Lack of effective abridging (conversion) training being provided by ANSPs in order to bring their candidates to set standards and to specific requirements of air traffic services units (ATSUs) depending on airspace configuration, daily aircraft movements, whether procedural or radar control, etc;
- c) Type and quality of on-the-job (OJT) training being provided, covering both initial and in-service OJT;
- d) Quality of recurrent training being provided;
- e) Special training including introduction/indoctrination to new technologies; and
- f) Development and implementation of training programmes and training plans (Ref. ICAO USOAP Audit reports).

2.14 Based on the above, the TAG/5 meeting formulated the following Draft Decision for consideration and endorsement by the Sub-Group:

Draft Decision 13/XX ATS Competency Study Group (ATSCSG)

That, the ATSCSG is established with the Terms of Reference as at Appendix B to this working paper to:

- a) **study the shortcomings in ATC training including States' (and ANSPs) training programmes and plans; and**
- b) **establish and provide recommendations that would address issues relating to lack of competency of ATS personnel.**

2.15 The TAG/5 recalled that the USOAP audit of most AFI States had revealed a low implementation rate with regard to training of both the regulator and ANSP staff. This lack of effective implementation was evident in the high numbers of ATS incidents that were being recorded by the group.

2.16 The TAG/5 also noted the on-going issues of civil/military coordination in the Addis Ababa and Entebbe FIRs, as part of the ASRs/UCRs being reported. Uganda provided feedback on the actions that were being taken to address the causal factors.

2.17 Cockpit discipline had been identified as a contributing factor in some ATS incidents. IATA had been requested to sensitize its member in the appropriate use of the IATA In-Flight Broadcast Procedure (IFBP).

2.18 The group was of the view that the participation of all stakeholders was highly beneficial in identifying the causal and contributing factors of ATS incidents, and noted the educational benefit of their participation in the process of incidents analysis and identification of appropriate remedies.

LOP template

2.19 The ATM Coordination Meeting for Southern AFI Flight Information Regions (ATM/CM-SAF) convened in Ezulwini, Swaziland, 17-19 June 2013, noted that while many Letters of Agreement/Procedures (LOAs/LOPs) were not necessarily deemed to be deficient, there were several aspects related to current coordination requirements, including contingency requirement, that could be included as part of the LOP in order to improve ATS coordination. The meeting noted that the current template in use was guided by the Air Traffic Services Planning Manual, First Edition -1984, Part II – *Methods of application employed by Air Traffic Services*, Section 1, Chapter 2, *Coordination*, and agreed that a review of the template was necessary in order to reflect current coordination requirements between air traffic services units (ATSUs). The meeting formed a Task Team to review the existing ICAO LOP template and proposed plausible solutions and improvements, taking into consideration the various challenges that many FIRs were experiencing. South Africa was tasked with generating a first draft template for consideration by States and ANSPs. The draft template is attached as **Appendix C** to this working paper and the meeting is called upon to review, amend and adopt the draft LOP template when updating their coordination protocols through signing of LOAs/LOPs between ATS units.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the progress made by the TAG in addressing and resolving ASRs/UCRs and other safety related issues;
- b) review and amend, as necessary, the contents of the SASSO terms of reference at **Appendix B** to this working paper;
- c) review and adopt the draft LOP template as at **Appendix C** to this working paper.
- d) urge States to take appropriate action to address deficiencies discussed in this working paper.
