



DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

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(Jeddah, Saudi Arabia, 20-22 May 2013)

Agenda Item 6: Aviation Safety

ICAO USOAP AUDITS: SUDAN'S EXPERIENCE

(Presented by Sudan)

SUMMARY

This working paper presents the progress of the safety performance in Sudan after the audits conducted by ICAO under USOAP during the periods from 2000 through to 2012, including the two ICVMs. The paper also intends to explain the experience of Sudan in resolving the SSC identified by ICAO ICVM successfully and in a short period. Furthermore the paper attempts to describe the efforts made by Sudan to delist Sudan from EU safety list. The meeting is invited to note the experience of Sudan in dealing with the issue of SSC and EU safety list

1. INTRODUCTION

1.1 ICAO USOAP 2000

1.1.1 ICAO has conducted the first audit under USOAP on Sudan during the period from 21 to 29 February 2000 in accordance with the Memorandum of Understanding (MOU) agreed to on 19 November 1999 between Sudan and ICAO. At that time the scope of the audit was confined to the primary legislation and three Annexes to Chicago Convention, 1944. The ICAO Audit Team identified the following findings:

- a) Regulations governing the medical requirements in Sudan;
- b) Designated medical examiners, assessor and their training;
- c) License specifications;
- d) Accident prevention and flight safety programme for air operators;
- e) Requirement for an operator to establish threshold crossing height for precision approaches and for the procedures to be included in the operation manual;
- f) Requirement for an operator to establish a training programme for cabin crew members.
- g) No promulgation or adoption of a detailed code of airworthiness.

1.1.2 In response to the findings identified above, SCAA developed a Corrective Action Plan to address the findings and submitted to ICAO. Most of the finding identified was still open. They also appeared in the audit of 2006, notably those relating to the designation of medical examiners, assessors and the regulations relating thereto.

1.2 ICAO USOAP 2004

1.2.2 The audit was carried out pursuant to Assembly Resolution A32-11, with the objective of ascertaining the safety oversight capability of the CAA of Sudan and to ensure that it was in conformity with ICAO Standards and Recommended Practices (SARPs), as contained in Annexes 1, 6 and 8 to the Convention on International Civil Aviation (Chicago Convention) and related provisions in other Annexes, guidance material and relevant safety-related practices in general use in the aviation industry.

1.2.3 The following corrective actions were taken to partially address the findings identified:

- a) The CAA of Sudan has achieved significant progress in implementing the ICAO recommendations with respect to its primary aviation legislation and civil aviation regulations.
- b) The CAA has recently promulgated a new set of Air Navigation Regulations (ANRs), which cover the relevant requirements of Annexes 1, 6 and 8.
- c) The newly established standards were made available to all Sudanese air operators, training organizations and maintenance organizations as of June 2004.
- d) Inspector handbooks and guidance material were available, and CAA staff has received training on the new regulatory framework.
- e) The CAA has achieved some progress in implementing the ICAO recommendations relating to its civil aviation organization.
- f) The CAA has developed adequate guidance material, inspector handbooks and checklists including associated forms for the use of its technical staff.
- g) The CAA has also increased its capabilities with respect to attracting and retaining qualified and experienced staff.
- h) Required delegations and credentials have been issued to all technical staff.
- i) In the area of personnel licensing, most of the required regulatory standards have been established with the promulgation of the new ANRs.
- j) Formal delegation of personnel to grant and sign licenses, validations, ratings and approvals on behalf of the Director General has been issued.
- k) An inspector handbook has been developed to assist the staff in their assigned responsibilities.
- l) The process of designating aviation medical examiners with an aviation medicine background has been initiated.
- m) The CAA's Airworthiness Directorate has made significant progress in implementing most of the ICAO recommendations relating to airworthiness of aircraft.
- n) The recently promulgated ANRs, Part 1 through Part 6 establish the airworthiness code of Sudan.
- o) The Airworthiness Directorate now incorporates a technical library encompassing all the necessary continuing airworthiness information

- p) The CAA has signed airworthiness bilateral arrangements with the Russian Federation and Ukraine to ensure that all relevant aircraft documentation is made available to the CAA.
- q) Airworthiness inspectors and support staff now have access to the Internet and the CAA's intranet from their workstations.
- r) Furthermore, a newly established handbook contains the required guidance information and material to assist airworthiness inspectors in the conduct of their duties
- s) The regulatory framework also specifies requirements for the approval/ acceptance of modifications and repairs.
- t) Minimum recruitment and qualification criteria for airworthiness inspectors have been incorporated in the revised Airworthiness Directorate Policy and Procedures Manual.
- u) An annual audit and inspection schedule is also available, and activities are conducted and documented accordingly.

1.3 ICAO UOSAP 2006

1.3.1 The ICAO USOAP program revealed great differences in the safety oversight system in all states subjected to the audit. This in fact derived ICAO to change its approach in conducting audit. Therefore a new approach call "*Comprehensive Systems Approach (CSA)*" was introduced for conducting safety oversight audit on Contracting States. The new approach cover all ICAO annexes related to safety. Under the CSA approach Sudan was again subjected to another audit under USOAP. It was during the period from 21 to 30 November 2006.

The areas subjected to the audit process within the State safety oversight system are:

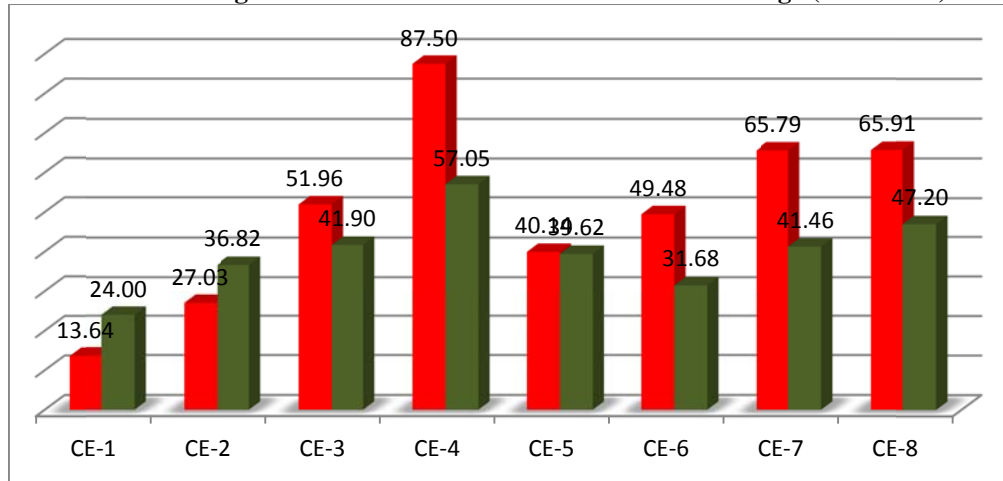
- Primary aviation legislation and civil aviation regulations;
- Civil aviation organization;
- Personnel licensing and training;
- Aircraft operations;
- Airworthiness of aircraft;
- Aircraft accident and incident investigation;
- Air navigation services; and
- Aerodromes.

1.3.2 The ICAO Audit Team identified 87 findings in different areas with the state safety oversight system. Some of these findings had already been identified in the first and follow-up audits 2000 and 2004 respectively.

1.3.3 The following diagram illustrates the critical elements of safety oversight system lack of effective implementation of Sudan compared to the global level of implementation:

Col. 1 Sudan Average 50.18%

Col. 2 Global Average (174 States) 39.96%



1.4 CHANGES IN THE SCAA

1.4.1 In 2009 a new Director General for Sudan Civil Aviation Authority was appointed. The new DG developed a three -year Aviation Strategy focusing on enhancing safety and security, liberalizing air transport and operating aerodromes on commercial basis. With respect to the strategic objective to enhance safety, the SCAA updated its Corrective Action Plan (CAP) that had been submitted to ICAO. To effectively implement the CAP, the DG issued several decrees and actions. The most salient are:

- a) establishment of a high level committee under direct control of the DG to deal with audit;
- b) establishment of an Implementation Team (IT) from the various directorates of the Authority;
- c) appointment of Captain Haile Beli as the Leader of the Implementation Team;
- d) establishment of counter parts from the directorates concerned;
- e) development and implementation of a course tailored specifically to address ICAO audit and the usage of PQs, SAAAQ and CC involved in the audit;
- f) attending a course on ICAO website framework for the management of iSTAR site for the audit;
- g) provision of resources required for the implementation of the CAP;
- h) conducting of a simulated audit by the local staff to ensure the readiness of Sudan to receive an ICAO ICVM,
- i) voluntarily invited ICAO to conduct an ICVM audit

1.4.2 The implementation Team was tasked to carry out a detailed study based on the ICAO USOAP audit findings identified by ICAO teams during the previous audits. The results of study were used to redevelop and update the CAP in order to address all the findings identified with detailed and clear corrective actions taking, into accounts the evidences contained in the protocol questions PQs. The Team is also tasked to review the best practices developed by ICAO and other Contracting States.

1.5 ICAO ICVM 2011

1.5.1 The ICVM of Sudan was conducted from 11 to 15 December 2011. The ICVM team reviewed the progress made by the State in addressing 87 F&Rs, covering 399 PQs in the areas of LEG, ORG, PEL, OPS, AIR, AIG, ANS and AGA.

1.5.2 Following the review, the status of 158 PQs was changed to satisfactory and that of 2 PQs was changed to not applicable, which resulted in updated LEI of 31.1 per cent, while 239 PQs remain not satisfactory.

1.5.3 An SSC was identified with respect to the air operator certification process of Sudan. The CEs with the highest LEI, after the ICVM, are:

- a) CE-8, *Resolution of Safety Concerns*, at 57 per cent;
- b) CE-7, *Surveillance Obligations*, at 53 per cent; and
- c) CE-4, *Technical Personnel Qualifications and Training*, at 48 per cent.

1.5.4 The ICVM identified a Significant Safety Concern in the areas of OPS and AIR specifically in the process for the certification of air operators. Sudan responded immediately to the SSC identified even before the departure of ICAO ICVM Team by developing a detail corrective action plan of immediate, short term and long term actions.

1.5.5 The CAP developed consists of the following actions:

A. Immediate corrective actions

- 1) *Review and approval of the operations manuals, training manuals and the organizational structure of applicants for AOC*
- 2) *Review and approval of Standard Operating Procedures*
- 3) *Review and approval/acceptance of the maintenance control manuals and review and approval of maintenance programs*
- 4) *Review and approval of the minimum equipment lists (MELs).*
- 5) *Review and approval of all special authorizations, specific approvals and/or special limitations as granted in the operations specifications issued in the conjunction with an AOC.*
- 6) *Comprehensive coordination procedures between all entities involved in the certification of air operators.*

B. Short-term Corrective Actions

- 1) *A comprehensive certification process for the issuance of an AOC, taking into account the various legal and practical operational aspects of lease arrangements.*
- 2) *Comprehensive coordination procedures between all entities involved in the certification of air operators.*
- 3) *The SCAA should establish and implement a system to ensure that all records pertaining to the certification process for the issuance and renewal of AOCs are maintained.*

C. Long term corrective actions

The SCAA should establish and implement a system to ensure that all records pertaining to the certification process for the issuance and renewal of AOCs are maintained.

Note: This action has been scheduled to be implemented as part of the Short-term Corrective Action (see B (3) above).

1.5.6 The SCAA has implemented successfully the CAP. The SCAA amended the CAP addressing the SSC and uploaded it to ICAO iSTAR according to USOAP recommendation. The SCAA also established proper contact with ICAO through the iSAR to follow the status of implementation of the CAP. Then the SCAA invited ICAO to conduct the second ICVM to Sudan. Furthermore, the SCAA, using the ICAO PQs, conducted a pre-ICVM audit inspection to ensure the proper implementation of the CAP and to identify and rectify any deficiencies encountered during the audit.

1.6 ICAO ICVM 2012

1.6.1 The ICVM Team reviewed the progress made by the SCAA in addressing the SSC and determined that the following immediate corrective measures had been taken by the SCAA:

- a) Institution of a SCAA project plan addressing SCAA organization and staffing, including:
 - i) a revised organizational structure, and
 - ii) a significantly increased budget;
- b) Recruitment of international experts to improve SCAA's safety oversight capabilities;
- c) Implementation of a training plan developed for the technical staff of each Directorate;
- d) Implementation of a comprehensive set of procedures, manuals, handbooks and guidelines on the certification and surveillance of air operators;
- e) Implementation of a coordinated process for the certification of air operators, including coordination between SCAA departments and an Air Operator Certificate (AOC) Committee to propose final decisions to the Director General (DG) of the SCAA;
- f) Establishment of an AOC Committee, chaired by the DG of the SCAA, to coordinate decisions on AOCs at the SCAA management level;
- g) Audit of all 18 AOC holders, including review of their organizations, manuals, aircraft, Standard Operating Procedures (SOPs), processes and procedures to assess their compliance with Annex 6 to the Chicago Convention and Sudan regulations; and
- h) Limited issuance of AOCs for international operations to air operators which comply with the new provisions.

1.6.2 The ICVM highlighted the following:

A. Effective Implementation:

In February 2012, Sudan issued SUCARS Part 6 Subpart 1 to address aircraft operations, along with the implementing standards.

- 1) Sudan has implemented a comprehensive SCAA project plan which includes, among other things,:
 - a) a significantly increased budget,
 - b) an industry-competitive remuneration scheme to retain qualified staff, and
 - c) a competency-based staff appraisal system.

- 2) The SCAA:
 - a) has recruited international experts in the areas of AIR, ANS, OPS and PEL, who are assisting the Authority make significant progress in implementing regulations, developing procedures, guidance material and training documents as well as providing classroom and on-the-job training.
 - b) is implementing a new organizational structure and has made new appointments in several Directorates.
 - c) is introducing changes to its recruitment policies and processes to be able to attract, recruit and retain qualified and experienced personnel.

B. Effective Implementation:

The SCAA has:

- 1) Brought in international expertise to provide additional technical assistance and on-the-job training.
- 2) Implemented the coordination procedures between AIR Directorate and SFOD for the issuance of AOCs and special authorizations/approvals.
- 3) Provided AIR inspectors with checklists to be used in the approval of manuals.
- 4) Established comprehensive certification files related to the issuance of AOCs and of special authorizations/approvals.
- 5) Documented evidence regarding the completion of airworthiness activities related to the certification/approval processes.
- 6) Removed the contributing elements that generated the SSC with respect to the airworthiness elements in the air operator certification process.
- 7) Reviewed and identified the status of all aircraft registered in Sudan, with the assistance of international experts, and also updated the aircraft register.

1.6.3 The Table below illustrates the Lack of Effective Implementation by Safety Areas in Comparison between 2006, 2011 and 2013 respectively:

