



**AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP
TWENTY FIRST MEETING (APIRG/21)
(Nairobi, Kenya (9 to 11 October 2017))**

Agenda Item 5: Regional Air Navigation Deficiencies

IMPLEMENTATION OF SMS AND QMS IN ASECNA

Presented by ASECNA (Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar)

Executive summary:	
<p>This paper aim to share the implementation of the Safety Management System (SMS) and Quality Management System (QMS) in ASECNA, a practical case made by an air navigation services provider (ANSP).</p> <p>It focuses on SMS and QMS implementation status but also the challengers to improve the two systems. Among the challenges, it is raised a major one concerning the protection of air navigation systems against new threats such as cyber-attacks, due to their interoperability.</p> <p>Conclusion: The meeting is invited to:</p> <ol style="list-style-type: none"> a) Note the experience of ASECNA in the implementation of SMS an QMS, as well as challenges to improve the two systems b) Note that the protection of the air navigation systems against the new threats such as cyber-attacks, constitute a major challenge for all the ANSPs, due to the interoperability these systems c) Adopt the following conclusion: "the ANSP of the Region AFI should achieve a Security Management System dealing at least with protection of air navigation systems against new threats such as cyber-attacks". 	
Strategic Objectives:	This note relates to the Strategic Objective: “Safety”
Financial implications:	N/A

References:	<ul style="list-style-type: none"> ✓ Annex 19 - Safety Management ✓ Annexe 3 - Meteorological Service for International Air Navigation ✓ Annexe 15 - Aeronautical Information services ✓ Doc 9859 - Safety Management Manuel ✓ Doc 9985 - Air Traffic Management Security Manual ✓ Resolutions of ASECNA Borders
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1. INTRODUCTION

1.1. ASECNA, the Agency for Air Navigation Safety in Africa and Madagascar, a public multinational organization, is the Air Navigation Service Provider for its 17 African member states.

1.2. In 2005, in accordance with ICAO's requirements on Safety Management, the Board of Ministers of ASECNA, by the Resolution No. 2005/CM 44-7, adopted a Document affirming a general policy statement for safety management. Throughout that document, the Statutory Authority requires ASECNA to establish a Safety Management System.

1.3. In July 2011, by the Resolution No. 2011 CA 120-10, ASECNA's Board of Directors requested that the Agency's headquarters achieve, by 31 December 2014, a certification level of SMS/QMS as required.

1.4. This paper gives an overview of SMS and QMS implementation status in ASECNA and the intended integration of all the management systems into a single Integrated Management System (IMS). It also focuses on the benefits of the SMS implementation on the services provided by ASECNA.

2. STATUS OF ASECNA SAFETY MANAGEMENT SYSTEM (SMS)

2.1. The SMS has been achieved as per as an approved plan by the Director General of ASECNA in November 2011, in compliance with ICAO requirements on SMS.

2.2. The SMS is fully implemented in ASECNA through the three major functions of safety management which are Risk Management, Safety Insurance and Safety Promotion, as following activities:

- a) Systematic analysis of safety events, as per as relevant manual, including safety just culture;
- b) Monitoring of established safety performance indicators;
- c) Safety assessment before any significant safety-related change to ATS system, including procedures;
- d) Periodic Review Meetings to evaluate the level of SMS implementation and the safety performance;
- e) Conduct inspections and safety audits;
- f) Establishment and monitoring of the implementation of corrective and preventive actions plans;
- g) Staff training sessions including the qualification for Safety Assessment and Internal SMS Auditors;
- h) Dissemination of crucial information for the safety management
- i) Sharing of the best practices, the outcomes of safety-related events analysis and safety audit results.

2.3. Various audits concluded that ASECNA SMS is functional since 2014, in respect of ICAO requirements:

- a) Annual audits of Commission of Safety Verification (an independent body established by the Board of ASECNA);
- b) Two blank audits of SMS conducted by independent experts, in 2014 and 2016;
- c) The peer review conducted ATNS in April 2016 in the framework of the AQSA initiative

2.4. SMS impact on safety performances

2.4.1. In the ASECNA area, there were a total of 1848 safety-related events recorded and analyzed in 2013, a total of 3034 in 2014, a total of 4973 in 2015 and a total of 2355 for the first five months of 2016 (instead of 1965 on the same period of 2015). Thus, the number of safety-related events increased from 2012 to 2016 as follows: 75% from 2012 to 2013, 64% from 2013 to 2014 and 60% from 2014 to 2015. There was an increase of 19.84% over the period January/May 2016 compared to the same period of 2015.

2.4.2. Safety events increase was expected as a positive response to the gradual introduction of the Safety Culture, including increase in voluntary reporting of safety-related events. As an example; the rate of voluntary reporting of Airprox by Air Traffic Controllers increased as followed: 43% in 2012, 59% in 2013, 74% in 2014 and 83% in 2015.

2.4.3. The number of Airprox recorded in ASECNA area were as follow: 29 in 2013; 19 in 2014 and 18 in 2015. 3 Airprox were recorded over the period January/May 2016 versus 7 Airprox during the same period in 2015. Thus the number of Airprox decreased by 34% from 2013 to 2014, 5% from 2014 to 2015. The number of Airprox recorded over the period January/May 2016 decreased by 71% compared to the records of the same period in 2015.

2.4.4. This downward trend of Airprox, despite the increase of the number of safety-related events and the traffic one, is due to the effective implementation of corrective actions plans as identified from the safety-related events analysis, but also to preventive implementation of safety requirements from change safety cases.

3. STATUS OF ASECNA QUALITY MANAGEMENT SYSTEM (SMS)

3.1. The QMS has been achieved as per as an approved plan by the Director General of ASECNA in November 2011.

3.2. ISO:2008 certification of ASECNA activities

3.2.1. An ISO certification audit was conducted in 2014, in order to review the achievement of the QMS implementation level. AS a result, the whole activities of ASCNA are ISO 9001:2008 certified.

3.2.2. The certification deals with all the activities of ASECNA, and leads is member States to meet the ICAO requirements related to the implementation of QMS in Aeronautical Information (AIM) and Aeronautical Meteorology (MET) services.

4. CHALLENGES OF SMS

4.1. Challenges to improve continuously the SMS of ASECNA include:

- a) Oversight of ASECNA SMS on base a common regulation, ASECNA is an ANSP of 18 members States [the full operations of AAMAC should be an opportunity (AAMAC “Autorités Africaines et Malgaches de l’Aviation Civile”: Civil Aviation Authorities of member States).
- b) Extend risk management to all areas of activities, as safety risks and performances can be impacted by risks within other domains such as security, information, environment.
- c) ISO 9001:2015 certification by the end of current ISO 9001:2008, in order to lead ASECNA member States to meet the ICAO requirements related to the implementation of QMS in AIM and MET services.
- d) Achieve the implementation of Security Management System dealing at least with protection of air navigation systems against new threats such as cyber-attacks.

4.2. Due the interoperability of air navigation systems, their protection against new threats such as cyber-attacks is a major challenge for all ANSPs.

5. CONCLUSION

The meeting is invited to:

- d) Note the experience of ASECNA in the implementation of SMS an QMS, as well as challenges to improve the two systems
- e) Note that the protection of the air navigation systems against the new threats such as cyber-attacks, constitute a major challenge for all the ANSPs, due to the interoperability these systems
- f) Adopt the following conclusion: "**the ANSP of the Region AFI should achieve a Security Management System dealing at least with protection of air navigation systems against new threats such as cyber-attacks**".