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ASSEMBLY — 38TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Aviation Safety — Implementation Support

THE IMPLEMENTATION OF SMS AND SSP IN VIET NAM

(Presented by Viet Nam)

EXECUTIVE SUMMARY

After a brief reminder of the ICAO regulation undergoing in safety issues, we illustrate the proposed ICAO mechanisms (SMS and SSP) set up to strengthen the levels of safety of States and service providers in the civil aviation domains. We explain the relationship between these new mechanisms and the way CAAV, on the basis of skill capitalized during more than 40 years in ATM, airport and air operation domains, put in place an organization aiming at supporting States and service providers in the paved way towards the compliance with these ICAO new trends on safety.

Strategic Objectives:	This information paper relates to the Safety Strategic Objective.
Financial implications:	Not applicable.
References:	Annex 1 — *Personnel Licensing* Annex 6 — *Operation of the Aircraft* Annex 8 — *Airworthiness of Aircraft* Annex 11 — *Air Traffic Services* Annex 13 — *Aircraft Accident and Incident Investigation* Annex 14 — *Aerodromes* Doc 9859 — *Safety Management Manual (SMM,)* 2nd edition, 2009 Doc 9935 — *Report of the High-level Safety Conference (2010)*

1. INTRODUCTION

1.1 The letters of 30 November 2005 and 30 June 2006, ICAO drew Contracting States' attention on one of its strategic objectives for the period 2005-2010: the obligation to reinforce the safety of the civil aviation domains, in particular through the implementation of safety management systems (SMS), common to all the domains impacted by safety issues. This strategy was strengthened by a more recent directive (13 November 2008), related to the implementation of a state safety program (SSP).

Indeed, ICAO enhanced safety regulatory requirements already published in Annexes 1, 6, 8 11, 13 and 14 for the SMS, by additional requirements addressing States oversight capacity of the implementation of the SMS by the operators (service providers) in the different civil aviation domains: air navigation and air traffic control, aerodromes, airlines, aircraft maintenance bodies, etc. These requirements make out an approach of management of the safety by the States which is not any more only prescriptive (conformity with a regulations), but which shall also be justified by the safety performance (checked through safety indicators) defined in agreement with service providers. Later on (project planned by 2011), this set of directives and requirements will become an additional appendix to those already existing. Finally, one of the stemming recommendations during the last High-level Safety Conference 2010 (HLSC), in April 2010, aims at establishing, with States and regions, methods and common approaches for the implementation of the SMS and the ICAO SSP.

1.2 In this context, this information paper (IP) aims at clarifying the directives of ICAO relative to the implementation of an SMS and an SSP, and the way CAAV mobilizes its resources and skills to assist States to maintain (or to improve) their compliance with these new trends on ICAO safety issues, under development (i.e. under increase).

2. SAFETY MANAGEMENT SYSTEMS (SMS)

2.1 The safety management system (SMS) is a management tool devoted to manage safety inside an organization (i.e. services providers). A generic framework (see Figure 1 below), allowing SMS implementation and maintenance, has been developed by ICAO and, in a similar way, by others national and regional bodies having as a prerogative the definition and coordination of national or international safety policies in the aviation domains: EUROCONTROL, FAA, EASA, etc.

2.2 Following this generic framework, three top level requirements can be highlighted according to a sound and efficient safety policy:

a) to achieve safety, particularly through the implementation of a relevant organization and the realization of formalized and systematic actions: the recording of safety occurrences and their use for in-depth safety analysis and investigation, the assessment and mitigation of any risk for any change of the referenced system of the domain (airport, ATM system, etc);

b) to assure safety, in particular through monitoring actions, the systematic follow-up of the maintain of agreed safety performances, the carrying out of the safety documentation and the systematic recording of these actions; and

c) to promote safety, through communication and information mechanisms enabling to disseminate feedback on safety issues during operations, keeping in mind safety improvement objectives.

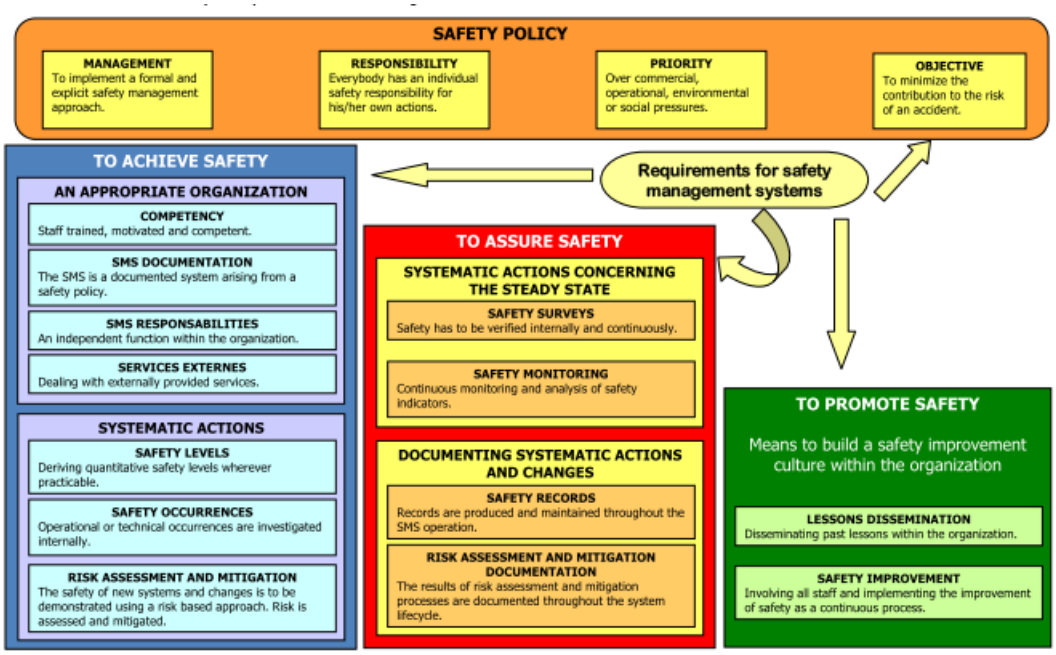


Figure 1: Safety Management System (SMS) general requirements: schematic view

3. STATE SAFETY PROGRAM (SSP)

3.1 The ICAO State Safety Program (SSP) results from the aim of ICAO to federate the functions of regulations, oversight and promotion of safety, assigned to States, in a formal framework (a management system) equivalent to its counterpart for service providers: the SMS. The SSP is thus a set of integrated regulations, directives and specific activities, to be carried out by States, with the aim of improving the levels of safety. The safety responsibilities of States are strengthened by the need to organize the activities under an structured, formalized, documented and well-equipped framework, so as to be able to measure its effectiveness. The effectiveness of the framework in place is then able to be assessed, for example, through the ICAO USOAP (Universal Safety Oversight Audit Program). Following the example of the SMS, ICAO proposes a classification by components and elements for these components:

a) State safety policy and objectives component, defined by the State and which integrate, in others, the State safety legislative framework, the State safety responsibilities and accountabilities and the accidents and incidents investigations body;

b) State safety risk management component, which integrate, mainly, the safety requirements allocated to services providers and the agreed (and expected) safety performance;

c) State safety assurance component, which integrate, in others, the elements required for the oversight of safety performances, the safety data collection (e.g. in a electronic safety database) and exchanges, the identification of hardcore safety issues to be solved; and

d) State safety promotion, which integrate, mainly, external and internal communication mechanisms.

4. THE SSP AND SMS RELATIONSHIP

4.1 The ICAO SSP (under the scope of the State), which aims at ensuring public safety as a general main objective, has as a prerogative the acceptation and oversight of the operational performance of the SMS developed and maintained by service providers (see Figure 2). From his part, the service provider (e.g.: air navigation and air traffic control, aerodromes, etc.) has to deal with the balance mediating its objectives of management and control of risks, through the SMS, with its objectives of production. The safety performance resulting from this balance is oversaw by the ICAO SSP on the basis of safety indicators and the target safety performances agreed by both parts: State and service provider.

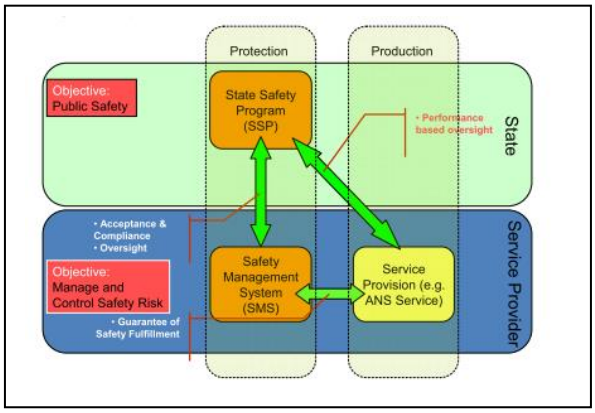
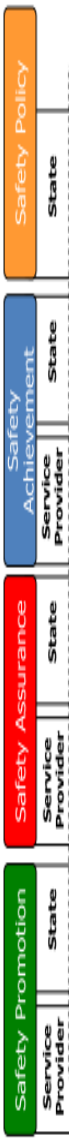


Figure 2: SSP-SMS relationship

5. CAAV IN THE SSP - SMS CONTEXT

5.1 In order to cope with the obligation of setting up an SSP and SMS, according to required ICAO directives, CAAV is strengthening its program of support to States and service providers in its different domains of expertise. A team of safety experts by domain: Air Navigation and Air Traffic Management (ATM), Aerodrome (CIA) and Air Operations (TA), has been formed to capitalize the efforts already deployed through a relevant set of engineering and consulting support activities to States, service providers and institutional bodies: EUROCONTROL, EASA, European Commission. As illustrative purposes, Figure 3 and 4 below provides a subset of these activities.



ATM	Aerodromes	Air Operations
✓ Civil aviation code & regulation; ✓ Sensitize top-management to put in place an SMS.	✓ Training intended to high-level airport management in the SSP/SMS context: roles and responsibilities.	✓ Specific activities/services, organizational reforms and/or restructuring; ✓ Air Transport sector national plan.
✓ Support to standards compliance ICAO ✓ State Safety Program	✓ Safety pre-audit for airports certification; ✓ Elaboration of aerodrome certification manual; ✓ Implementation of certification processes.	✓ Assistance to supervisory authorities; ✓ State Safety Program and Safety Management System.
✓ Elaboration of SMS manuals; ✓ On-site support to SMS implementation: ✓ Assistance to surveillance authorities (conformity, audits); ✓ Regulator and Service Providers coordination.	✓ SMS training of the top-management; ✓ Elaboration of SMS manual ✓ Risk analysis studies (Viet Nam airports). ✓ SMS training of the top-management	✓ Definition and validation of future ADS-B onboard applications (ASAS); ✓ Definition and validation of TCAS standards. ✓ Technical assistance to operations; ✓ Maintain, Repair & Overhaul (MRO) supervision.
✓ Training to safety occurrences investigation methodologies.	✓ Setting up safety performance indicators and targets, in line with SSP requirements; ✓ Design database to manage and control safety occurrences.	✓ Analysis of operational performance; ✓ Operational performance and safety assessment of traffic based on surveillance data.
✓ Training, audits, action plans, on-site support.	✓ Training of national certifying entities.	✓ On-the-job training for inspectors
✓ Training support elaboration & training;	✓ Technical assistance to develop a training program to comply with SMS requirements; ✓ Procedures to report safety occurrences	✓ TCAS training for pilots; ✓ Maintain, Repair & Overhaul (MRO) training.

Figure 3: Illustrative examples of CAAV support to States, services providers and International Bodies

5.2 REGULATION IMPLEMENTATION PLAN

ICAO requirements		Viet Nam regulations	Completion date	Note
Annex 6	3.2	Civil Aviation Safety Regulation issued in compliance with decision number 10/2008/QĐ-BGTVT dated in June 13, 2008	June 13th, 2008	
	8.7.3	Civil Aviation Safety Regulation issued in compliance with decision number 10/2008/QĐ-BGTVT dated in June 13, 2008	June 13th, 2008	
	To Inform the regulation on SMS application and implementation to Operators, AMO by official document number 2310/CHK-TCATB		August 06th, 2008	
	To build SMS guidance manual for Operators and AMOs (AC-1-3)		February 28th, 2009	Based on recognizing the Harmonized SMS Guidance Material

5.3 THE IMPLEMENTATION AND APPLICATION OF OPERATOR AND AMO OF VIET NAM

5.3.1 OPERATOR AND AMO LIST IN VIET NAM (UP TO JANUARY 2009)

No.	Organization	Note
OPERATOR		
1	Vietnam Airlines Corp.	
2	Joint stock Company-Jetstar Pacific	
3	Southern Flight Service Company	
4	Northern Flight Service Company	
AIRCRAFT MAINTENANCE ORGANIZATION		
1	Vietnam Airlines Engineering Company (VAECO)	
2	Joint stock Company-Jetstar Pacific	
3	Southern Flight Service Company	
4	Northern Flight Service Company	
5	Bien Hoa Joint Stock Helicopter Maintenance Company	
6	Aviation Engineering Service Company (AESC)	

5.4 IMPLEMENTATION PLAN

No.	Organization	SMS manual completion date	Effective date
OPERATOR			
1	Vietnam Airlines Corp.	June 1st, 2009	June 1st, 2010
2	Joint stock Company-Jetstar Pacific	June 1st, 2009	June 1st, 2010
3	Southern Flight Service Company	June 1st, 2009	June 1st, 2010
4	Northern Flight Service Company	June 1st, 2009	June 1st, 2010
AIRCRAFT MAINTENANCE ORGANIZATION			
1	Vietnam Airlines Engineering Company (VAECO)	June 1st, 2009	June 1st, 2010
2	Joint stock Company-Jetstar Pacific	June 1st, 2009	June 1st, 2010
3	Southern Flight Service Company	June 1st, 2009	June 1st, 2010
4	Northern Flight Service Company	June 1st, 2009	June 1st, 2010
5	Bien Hoa Joint Stock Helicopter Maintenance Company	June 1st, 2009	June 1st, 2010
6	Aviation Engineering Service Company (AESC)	June 1st, 2009	June 1st, 2010

Figure 4: SMS implementation plan

6. CONCLUSION

6.1 In order to cope with challenges of civil aviation authorities (CAA) and service providers to put in place ICAO safety regulation and oversight mechanisms (SMS and ICAO SSP), CAAV has set up a group of safety experts combining the best skills and competences of its major domains of expertise: ATM, Aerodromes and Air Operations. The capitalization of more than 40 years of experience has to allow us to supply the effort required for a continuous and effective support to States and service providers, having to deal with these new ICAO safety challenges.

6.2 For more information: hmtan@caa.gov.vn.

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