



Safety Evolution Guide: Safety Performance Monitoring and Measurement

Draft example of Evolution Guide based on a SMS practice
which has been recognised as Optimised by the CANSO
Safety Standing Committee

1. OBJECTIVE OF THE GUIDE

Following the international standards applicable for safety and quality management, air navigation service providers shall have processes in place to provide continuous improvement of their services as well as management systems in order to meet the needs of customers and demonstrate high level of safety.

Obviously, each air navigation service provider has its own specific context based on the size of organisation, number of services under provision, geographical location, traffic intensity, etc. In order to achieve unified approach during implementation of safety related standards, the safety information exchange plays important role and supports air navigation service providers' ability in finding the acceptable model for processes and procedures to be used within their safety and quality management systems.

The objective of this guide is to provide the SMS practice of the Ukrainian State Air Traffic Services Enterprise (UkSATSE) in the field of safety performance monitoring and measurement. The presented practice was developed by the UkSATSE experts and assessed as the optimised practice within the SMS maturity survey performed under umbrella of CANSO Standard of Excellence (SoE) in Safety Management System in 2017. UkSATSE uses the number of SMS procedures based on this practice in day-to-day activities and continues its improvement to make SMS processes more flexible, effective and proactive.

2. APPLICATION OF THE GUIDE

The guide is intended to be used by air navigation service providers as an example of the optimised practice in one of the SMS components addressed to safety performance monitoring and measurement. The practice demonstrates the approach used within UkSATSE's SMS. The guide can be considered as awareness material promoting proactive and predictive ways for safety and risk management.

3. OPTIMISED PRACTICE OVERVIEW

At the early stage of UkSATSE SMS development there was identified the necessity to build safety performance monitoring and measurement mechanism supported by methodologies providing the possibility to perform monitoring of safety indicators in day-to day operations using static and dynamic safety data. The idea resulted in the project, which was called "Passport". The purpose of this

project was to get the unique safety profile for each UkSATSE operational unit and react to safety issues in a more predictive way. In order to reach this objective, UkSATSE has developed the concept based on the management of static and dynamic data.

The concept covers collection of safety data received as the outcome from SMS processes based on static and dynamic components of SMS. These components are an integral part of information support necessary for operation of the SMS and management of processes within and outside the system.

The static component includes the information received as a result of SMS measures based on planned activities. It includes the information from external / internal / target audits, audits of “external service suppliers”, inspections, risk assessment, management of changes, researches, tests, analyses, surveys, etc.

The dynamic component includes the information received during day-to-day service provision. Such information is collected by the use of mandatory and voluntary reporting procedures as well as appropriate software of the automated ATC systems. It also includes the list of the formatted data, which ATC systems automatically record and store without involvement of ATS operational personnel.

The mentioned concept is presented on the **Figure 1** below:

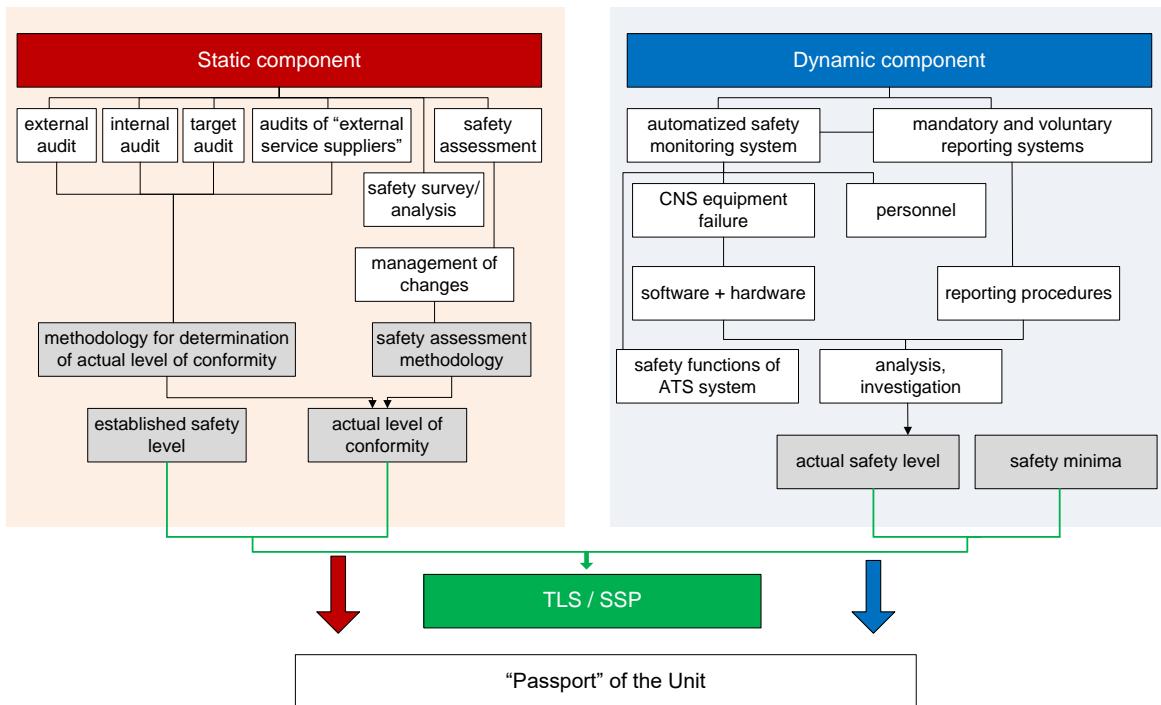


Fig.1. Concept for management of static and dynamic safety data

The “Passport” was developed to aggregate all safety related information for each operational unit, identify all interrelations between the units including “safety history”, their internal / external interfaces, etc. The “Passport” is a continuum

reflecting the current safety picture of the unit expressed in the indicators arising from assessment of the established level of safety, actual level of conformity, actual level of safety and safety minima. All these levels are established and monitored in accordance with the methodologies developed by UkSATSE experts. The use of these methodologies unifies the approach and provides the possibility to monitor safety tendencies, trends of each unit, group of units (regional branches), etc.

One of the important elements is that “Passport” includes a register of the requirements applicable for the services particularly provided by the relevant operational unit. The Register allows to monitor the compliance of the unit depending on the declared type of services.

The **Figure 2** demonstrates the example of data included into the ATS section of the “Passport”.

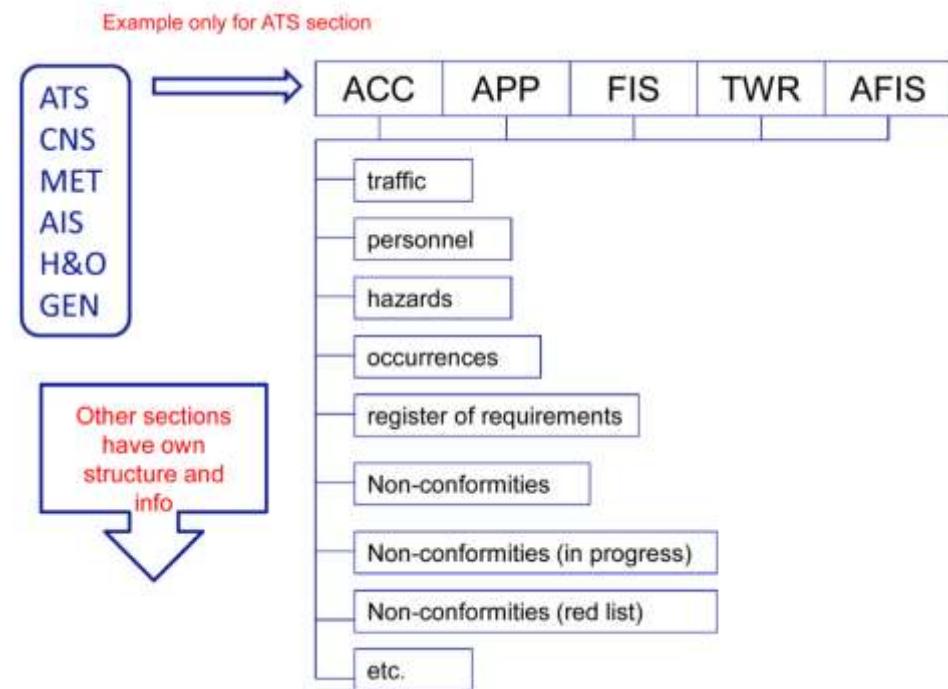


Fig. 2. Example of ATS section

The “Passport” contains other sections reflecting the information about units i.e. reporting, investigations, health and occupation (H&O), certification data, safety (risk) assessment etc. It enables to control the unit’s risk base lines.

The “Passport” has a list of functions supported by the appropriate software developed by the UkSATSE experts and installed in UkSATSE Head Office and regional branches. The software allows to manage all information and monitor critical elements including corrective action plan implementation, repetitive occurrences, “history” of the unit, indicators, etc. Also, software gives the

possibility to collect different data required for surveys, studies, risk assessments, audits, investigations, etc.

The Figure 3 demonstrates craft access panel to the information relevant for UkSATSE, regional branches and units providing declared and certified services (ATS, CNS, MET, AIS), including the data regarding H&O and general characteristics (GEN). The red cycle on Fig. 3 displays a set of information relating to one of the regional branches of UkSATSE. UkSATSE also plans to open the pilot project regarding the remote safety and quality audits based on the information from the “Passport”. It is expected that such approach will significantly reduce time and resources necessary for on-site audit activities and make it possible to use of risk-based audit scheme.

Організація повітряного руху			
Радіотехнічне забезпечення польотів			
Метеорологічне забезпечення польотів			
Аеронафігаційна інформація			
Охорона праці			
Загальні характеристики			
Українські	РСІП "Київцентроаеро"	Львівський РСІП	Дніпропетровський РСІП
К-сть вильотів/посадок	К-сть вильотів/посадок	К-сть вильотів/посадок	К-сть вильотів/посадок
Кількість польотів	Кількість польотів	Кількість польотів	Кількість польотів
Події, пов'язані з БП	Персонал ОПР	Персонал ОПР	Персонал ОПР
Виявлені недоліки	Події, пов'язані з БП	Події, пов'язані з БП	Події, пов'язані з БП
Неусунуті недоліки	Реєстр вимог	Реєстр вимог	Реєстр вимог
Неусунуті недоліки (Red List)	Виявлені недоліки	Виявлені недоліки	Виявлені недоліки
Сертифікати Українському	Неусунуті недоліки	Неусунуті недоліки	Неусунуті недоліки
Сертифікати авіаційним	Неусунуті недоліки (Red List)	Неусунуті недоліки (Red List)	Неусунуті недоліки (Red List)
ПЛАН аудитів 2018	Звіт (аудит РСІП)	Звіт (аудит РСІП)	Звіт (аудит РСІП)
РСІП "Кримавіаирору"	Харківський РСІП	Одеський РСІП	Донецький РСІП
К-сть вильотів/посадок	К-сть вильотів/посадок	К-сть вильотів/посадок	К-сть вильотів/посадок
Кількість польотів	Кількість польотів	Кількість польотів	Кількість польотів
Персонал ОПР	Персонал ОПР	Персонал ОПР	Персонал ОПР
Події, пов'язані з БП	Події, пов'язані з БП	Події, пов'язані з БП	Події, пов'язані з БП
Реєстр вимог	Реєстр вимог	Реєстр вимог	Реєстр вимог
Виявлені недоліки	Виявлені недоліки	Виявлені недоліки	Виявлені недоліки
Неусунуті недоліки	Неусунуті недоліки	Неусунуті недоліки	Неусунуті недоліки
Неусунуті недоліки (Red List)	Неусунуті недоліки (Red List)	Неусунуті недоліки (Red List)	Неусунуті недоліки (Red List)
Звіт (аудит РСІП)	Звіт (аудит РСІП)	Звіт (аудит РСІП)	Звіт (аудит РСІП)
Служба «Укравтомагістралі» (аудит)		Служба аеронафігаційної інформації САІ (аудит)	

ATM
CNS
MET
AIS
H&O
GEN

Traffic dep / arr
Traffic
Personnel
Occurrences
Register of requirements
Non-conformities
Non-conformities (in progress)
Non-conformities (red list)
Reports (audits)
General analysis of the Branch
etc

Regional branches:

- UkSATSE
- UKBB
- UKDD
- UKLL
- UKHH
- UKOO
- UKCC
- UKFF

Fig.3 Craft access panel

4. SCOPE OF THE GUIDE

This guide provides only general information about the concept used by UkSATSE within the safety performance monitoring and measurement system.

The guide focuses on the way of monitoring “safety picture” of each operational unit.

5. ORGANISATIONAL CONTEXT

UkSATSE is the certified air navigation services provider. In order to comply with certification related requirements, standards and recommendations of international aviation organizations, including the EC level, UkSATSE has implemented integrated management system (IMS) comprising safety management, quality management, security management, environmental management, occupational health and safety management systems. The IMS is based on service-oriented principles and process approach.

The safety performance monitoring and measurement approach is also applicable for all others management systems integrated at the UkSATSE level.

The IMS and the practice described in this guide was implemented in UkSATSE in 2010. Currently, UkSATSE continues enhancement of the interfaces related to the “Passport” by working on automation of the data processing.

6. SUMMARY

The presented practice demonstrates one of the approaches, which maybe used for safety performance and measurement at the level of air navigation service provider. The practice fully supports the risk based approach for safety management and extends the possibility of air navigation provider in the field of identification of safety triggers in a more proactive way.