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State Safety Programme and State Safety Plan

Part two – States' approaches to the issue

Peter Vittek
Department of Air Transport, Faculty of Transportation Sciences, Czech Technical University
Horská 3, Praha 2, 128 03, Czech Republic
xvittek@fd.cvut.cz

Andrej Lališ
Department of Air Transport, Faculty of Transportation Sciences, Czech Technical University
Horská 3, Praha 2, 128 03, Czech Republic

Slobodan Stojić
Department of Air Transport, Faculty of Transportation Sciences, Czech Technical University
Horská 3, Praha 2, 128 03, Czech Republic

Vladimír Plos
Department of Air Transport, Faculty of Transportation Sciences, Czech Technical University
Horská 3, Praha 2, 128 03, Czech Republic

***Abstract* — The aim of this article is to bring a closer look on the various state approaches to the State Safety Programme (SSP) and plan implementation and realization. Therefore, article describes and compares French, the United Kingdom, Finland, Belgium and Ireland approaches. Besides that, it also focuses on the differences between the old and newly issued French safety plan. The article brings an overview of the specific risks, defined in the individual state safety plans, and their classification into particular categories.**

Keywords: state safety programme, risks, safety performance indicators

I. INTRODUCTION

State Safety Programme (and following State Safety Plan) establishment represents one of the main steps whose primary objective is an improvement of a current safety level within respective state. As its part, identification of the problematic areas (potential aviation safety risks) represents a major task.

However, a common approach to this issue does not exist yet. If we compare individual EU Members' State Safety Plans [1] it could be seen that states often identify different risks. The effort of their classification, which differs among individual plans, is also noticeable.

II. FRENCH SAFETY PLAN

The old French safety plan (2009), besides its main purposes, also identifies the general and specific risks. As an example, we can list some of the stated purposes and risks [2]:

A. Purposes of safety plan:

a) Safety Culture
b) Safety Performance
c) Information and qualification
d) Training

B. General risks:

a) Improve expertise and training in dealing with human factor
b) Make effective safety measures the priority when regulating and monitoring the air transport industry
c) Limit the risks associated with the interfaces between the various systems run by operators
d) Identify the reasons for and react to any deliberate breach of the rules or routine deviation from procedures

C. Specific risks:

a) Reducing the risks linked to aircraft loading errors and entering data into the Flight Management System (FMS)
b) Reducing the number of runway incursions and limiting the seriousness of any consequences of such and undesirable event
c) Reducing the number of unstable approaches and limit the seriousness of any consequences of such an undesirable event
d) Reducing risks linked to icing

From 2014 France has a new safety plan, which in contrast to the old one is now also applied on helicopter operations and recreational aviation sector [3]. It represents a logical upgrade of the old 2009 plan primarily in the area of risk perception and classification. In that matter, the new plan defines two groups of objectives: systemic/cross-functional and operational objectives.

Systemic ones are based on the safety risks defined in the old plan, but unlike the previous ones, they are now applied on the general aviation sector as well. Operational objectives, on

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the other hand, are now focused on the specific areas instead of specific risks. Some of the operational objectives are:

- Improving the management of approach and landing phases
- Managing adverse meteorological conditions better
- Reducing the risk of mid-air collision
- Adopting a global approach to safety on a platform

Besides the fact, that many risks can be found in different forms in the majority of current plans, states often identify their own as well. The main difference between particular plans is above all, in a way of risk classification.

III. Safety plan of the United Kingdom

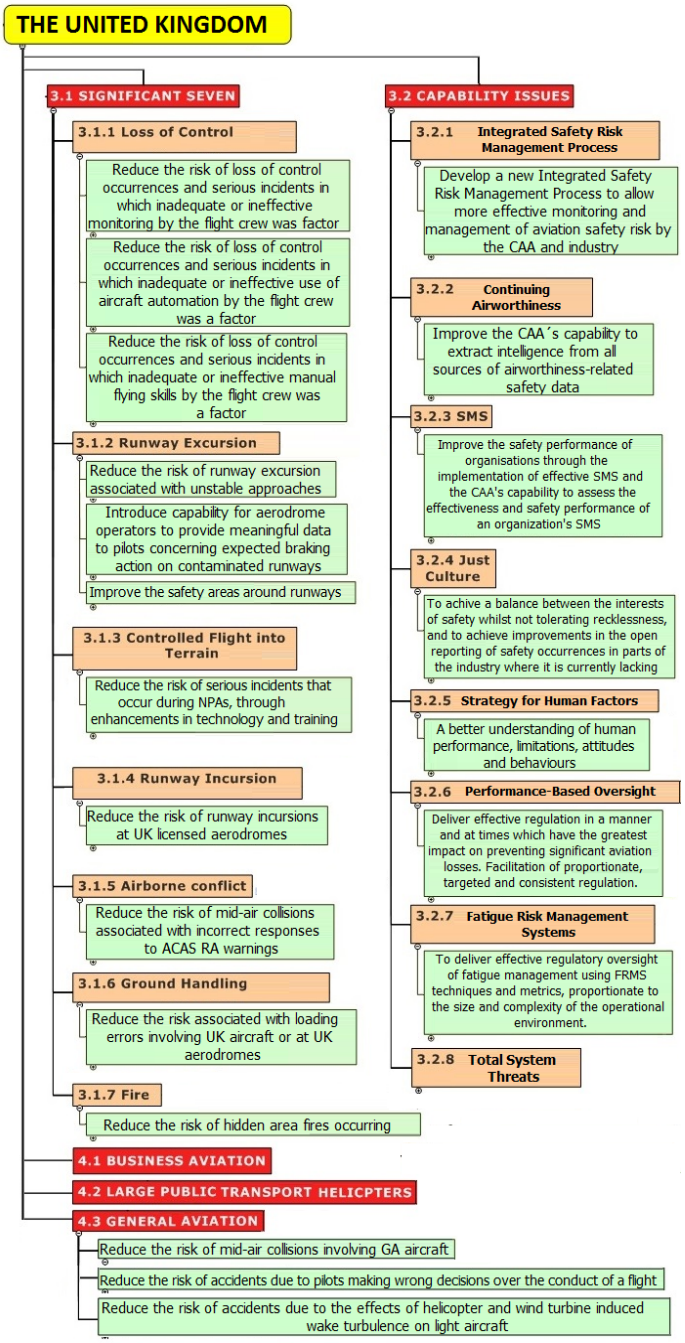

Figure 1. Risks classification – The United Kingdom

In the United Kingdom risks are divided according to the industry sector (general aviation, commercial air transport, business aviation and large public transport helicopters). In addition, the plan defines a separate group of the most significant risks [4].

This group (known as Significant Seven) consists of the seven, most significant problems (reactive indicators) identified during the analysis of the fatal accidents and high-

risk events in which the British aircraft were involved. Individual problems defined in this group are:

- Loss of Control
- Runway Excursion
- Controlled flight into Terrain
- Runway Incursion
- Airborne conflict
- Ground Handling
- Fire

British safety plan includes specific activities for safety risks mitigation. For each of these problems, plan sets various objectives that need to be fulfilled. Practically, the plan introduces concrete activities that need to be performed in order to fulfil the requirements.

For each of these objectives there is a certain set of indicators utilized for monitoring of the performed activities efficiency. As a concrete example, we can take one of these problems e.g. Loss of Control. The one of the three objectives set for this indicator is – Reduce the risk of loss of control occurrences and serious incidents in which inadequate or ineffective monitoring by crew was a factor. This objective than has its own set of lower level indicators such as:

- Take-off configuration warnings
- Loss of control events
- Low speed during approach events
- Low speed during cruise events

Besides Significant Seven, plan is also focusing on Capability issues. Elements of this group represent an effort to improve efficiency and support implementation of SMS and Just Culture. This level can be considered as a level of proactive indicators. As a concrete action regarding Just Culture, British CAA introduces a necessity to measure itself against the Just Culture metrics (defined by the EC, EASA and EUROCONTROL Just Culture Task Force). Measurement is performed through standardized questionnaires with the yes or no answers.

IV. Finnish Safety Programme

In Finland, indicators are divided according to the risks seriousness into three tiers [5]. The reason for the existence of the difference in risks classification among different states lies in a fact that there is not a common framework applicable for all states.

The first tier in Finnish classification consists of the reactive indicators. These indicators are related to the accidents, serious incidents and fatalities. The main reason for considering them as reactive indicators lies in a fact that the main focus here is on the tracking of the number of occurrences that actually happened. Data, used in this process are primarily obtained from the safety reports (Air Safety Reports).

The second tier consists of indicators related to the common undesirable events defined in accordance with international standards. This tier of reactive indicators is similar to the one from the British plan known as Significant Seven. The only noticeable difference between these two is the fact that British Significant Seven also includes fire as one of the defined problems. Identically to the previous case, safety reports are the main data sources.

The third tier consists of other reactive indicators and some proactive ones. Indicators on this level are more detailed and linked to those in the second tier. It practically means that indicator e.g. Runway excursion is linked to specific indicators on the third tier such as (this principle applies to the majority of defined indicators):

- Unstable approaches
- Landing gear and reverse thrust malfunctions
- Deficiencies in runway condition and related information
- Downwind landings and take-offs
- Abnormal runway contact
- High-speed rejected take-off

V. Belgian Safety Plan

According to the published safety plan [6] one could say that Belgium applied more proactive approach to the safety issues. The plan defines operational and general measures.

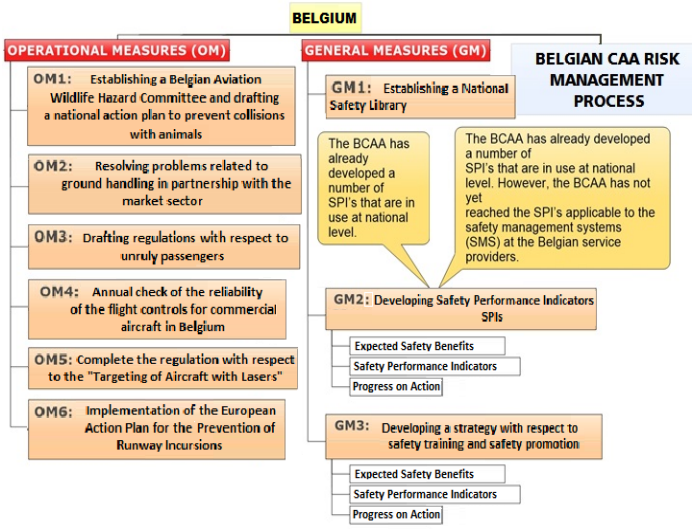

Figure 2. Operational and general measures – Belgium

Some of the operational measures are:

- Implementation of the European Action Plan for the Prevention of Runway Incursions
- Resolving problems related to ground handling in partnership with the market sector
- Complete the regulation with respect to the "Targeting of Aircraft with Lasers"

Further development of SPIs, establishment of National Safety Library and safety training improvement are the measures belonging to the group of the general ones. Regarding SPIs, Belgium already defined certain number of indicators, which were applied at the state level. However, indicators applicable on the service provider level within their risk management systems still does not exist.

VI. IRISH SAFETY PLAN

Ireland is focused on three basic areas in its safety plan (operational issues, commercial air transport and general aviation) [7]. For each of the areas there is certain amount of indicators set, both reactive and proactive ones.

This safety plan is coherent with EASp (European Aviation Safety Plan) what is noticeable especially on indicators set in area of commercial air transport. Just like within other state safety plans in Europe, there are common risks included, e.g. loss of control, runway excursion, controlled flight into terrain and similar.

VII. CONCLUSION

Based on mentioned examples of risks as well as purposes of SSP one could say that France already has general overview of current risks, and in this phase they should continue with evaluation of SPIs which are based in particular on general and specific risks. Their previously defined general risks lead to proactive SPIs, whilst specific risks (included now in respective operational targets) to reactive ones.

Ones the SPIs' evaluation is established, an effort to establish safety performance measurement should be spent and subsequently there should be agreements on their acceptable level signed. Even though such a risk identification and SPIs are widely available in many EU Member states, close to evaluation of SPIs and safety performance are Ireland and Finland yet. They have the best defined SPIs not only regarding definitions (to which risks they refer, which cases belong there and which not) but also regarding data sources.

Generally it is still a matter of future and next experience in each of the states before we will be able to talk about exact system safety performance. But it is definitely clear that safety performance measurement and setting up its target value is expected development of risk management at state level.

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