

ICAO Safety Strategies

Aviation has become an integral part of the world economy and social processes, an instrument of world cooperation and integration. Almost every single minute somewhere in the world takes-off or lands an aircraft that makes its contribution to the transportation of more than 3 billion people annually. Thus, aviation safety along with aviation security is the biggest concern of International Civil Aviation Organization.

During past decades aviation safety has become the reason of International Civil Aviation Organization (ICAO), which is a United Nations specialized agency mandated to promote the safety of international civil aviation worldwide.

In line with the principle laid down in the Chicago Convention that every State has complete and exclusive sovereignty over the airspace above its territory, each contracting State is responsible for safety oversight within its territory and for safety operation of aircraft registered therein.

Safety oversight is not only responsibility of the individual state but is the collective responsibility of all States whether they are member-states of ICAO or not. In view of the inherent link between aviation safety and the elementary considerations of humanity, the obligation to provide safety oversight has acquired an *erga omnes* character, and all States have a legal interest in its observance.

Concept of aviation safety. Global statistics defines air transportation as the fastest and the safest mode of travel of mankind nowadays, as measured by the ratio between the number of accidents and that of passenger/kilometers. However, it is goes without saying that aviation safety is one of the biggest concerns in the world and when major aviation-related accidents or tragic events take place, the whole world is shaken because an accident involves many people usually from different countries that have large resonance and world media coverage. Consequently, aviation safety has been and will be a matter of vital importance for governments, industry, the academic community and the traveling public.

So, what does the safety mean for aviation industry? The ICAO Air Navigation Commission defined aviation safety as the state in which the possibility of harm to persons or of property damage is reduced to, and maintained at or below an acceptable level through a continuing process of hazard identification and safety risk management. This definition has replaced the former commonly used definition of aviation safety as “the state of freedom from unacceptable risk of injury to persons or damage to aircraft and property”.

This change in definition of safety shows that safety is a dynamic rather than static concept. It has a strong temporal sense and what was considered safe yesterday may not be so today.

The history of aviation is the history of improving aviation safety. However, while the elimination of aircraft accidents and/or serious incidents remains the ultimate goal for the entire aviation community, it is recognized as well that the aviation system cannot be completely free of hazards and associated risks. Human activities or human-built systems cannot be guaranteed to be absolutely free from errors and their

consequences. Therefore, safety is a dynamic characteristic of the aviation system, whereby safety risks must be continuously identified and effectively mitigated. ICAO has worked hard to bring and maintain the aviation safety level worldwide to its current state and is active continuously towards achieving the goal. This activity was influenced by the following safety approaches that form the history and the current progress in aviation safety:

a) *reactive approach* – where accident and incident investigation was a tool to find the reason of that accident and incident and to react on it with new Standards and Recommended Practices (SARPs) and other related documents;

b) *compliance approach* – where States had to establish a sound and effective safety oversight system with full implementation of ICAO SARPs related to the State's approval, authorization, certification and licensing processes;

c) *proactive approach*, which refers to States full implementation of State Safety Programme and safety management systems that complement fundamental safety oversight functions with risk management and analytic processes that can proactively identify and mitigate safety issues.

The future of aviation safety will be based on the implementation of predictive systems that will become integral to aviation systems of the future.

Sustainable growth of the international aviation system is conditioned by introduction of advanced safety capabilities that would allow increasing capacity while maintaining or enhancing operational safety margins and managing existing and emerging risks. The predictive system is intended to support an operational environment characterized by increased automation and the integration of advanced capabilities on the ground.

It is no great surprise to anyone that aviation safety was, is and will be a priority aspect in ICAO activity. This activity has started with ICAO safety management SARPs contained in Annexes 1, 6, 8, 11, 13 and 14 to the Chicago Convention, which finally merged in 2013 into a separate Annex 19, as a response to the recommendations by the Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety (Montréal, 20 to 22 March 2006) and the High-level Safety Conference (Montréal, 29 March to 1 April 2010) regarding the need for an Annex dedicated to safety management.

After that, the Air Navigation Commission established the Safety Management Panel (SMP) to provide recommendations for the development of the new Annex, which was adopted by the ICAO council on 25 February 2013 and became applicable on 14 November the same year.

It is important to note that, that the Standards and Recommended Practices in Annex 19 are intended to assist States in managing aviation safety risks. Given the increasing complexity of the global air transportation system and its interrelated aviation activities required to assure the safe operation of aircraft, this Annex supports the continued evolution of a proactive strategy to improve safety performance. And as we already know, the foundation of this proactive safety strategy is based on the implementation of a State Safety Programme (SSP), which role is to systematically address safety risks of a particular state's civil aviation sector.

Annex 19 consolidates material from existing Annexes regarding SSP and safety management systems (SMSs), as well as related elements including the collection and use of safety data and State safety oversight activities.

Implementation of a sound SSP is not an issue of onetime action. It is a process that requires time to mature fully, because factors that affect the time of an effective SSP implementation include the complexity of the air transportation system as well as the maturity of the aviation safety oversight capabilities of that particular State.

The benefit of drawing together all safety related material into a single Annex is to focus States' attention on the importance of integrating their safety management activities and to facilitate the evolution of safety management provisions.

ICAO Safety Strategies. In the next 15 years air traffic is forecasted to double from the current index that requires current and emerging safety risks to be addressed proactively to ensure that this significant capacity expansion is carefully managed and supported through strategic regulatory and infrastructure developments. Therefore, it is vital for States to remain focused on establishing, updating and addressing their safety priorities and to coordinate this activity in their region while they continue to encourage expansion of their air transport sectors.

In order to unify safety activities in its member states, ICAO has developed the Global Aviation Safety Plan (GASP), which represents a high-level policy that includes planning and implementation is associated with the ICAO Global Air Navigation Plan (GANP). These Global Plans define the means and targets by which ICAO, its member states and all aviation stakeholders can anticipate and efficiently manage air traffic growth using proactive actions to maintain and/or increase safety. As a high-level policy, the GASP is approved by the ICAO Council and endorsed by the Assembly.

The GASP is to assist the member states in particular and regions in general in developing their aviation safety policy, as well as in planning and implementation of their safety activities. The GASP:

a) sets out the global air navigation safety objectives, including specific milestones and priorities, to be addressed by aviation safety planners.

b) provides a familiar planning framework to assist member states and regions to make improvements in safety through the use of the four Safety Performance Enablers: standardization, collaboration, resources and safety information exchange.

c) outlines implementation strategies and best practice guidance material to assist member states and regions in their efforts to make their solutions to address the global objectives and priorities.

The implementation of the GASP in all member states should be finalized over the next 15 years through the establishment of core, and then more advanced, aviation safety systems. It is very important to achieve this target during the set period and for that it is vital that all member states put in place over the next decade, effective safety oversight systems and fully implement the ICAO State Safety Programme (SSP) framework.

However, one of the strengths of the GASP is that while setting global objectives and priorities, it allows member states and regions to plan and establish their own specific approaches in order to meet these objectives and priorities according to each particular state's safety oversight capabilities.

The GASP objectives are supported through specific safety initiatives that are categorized according to four distinct Safety Performance Enablers which form the

structure for the implementation of the GASP initiatives and related safety objectives established by regions, States or industry.

The Safety Performance Enablers are:

1. Standardization – uniform and consistent implementation of SARPs;
2. Collaboration – coordination between states, industry, international and regional aviation safety organizations of the implementation of safety policies, oversight activities and the components of a SSPs and safety management systems;
3. Resources – ensuring that professionals have the necessary skills to safely operate the global aviation system as it continues to become more complex and technically advanced;
4. Safety information exchange – encouraging and supporting the exchange of safety information, and implementing safeguards against the improper use of safety information.

Conclusion

The ICAO aviation safety strategies are based on States obligation to develop their safety oversight capabilities and implement State Safety Programmes individually, where ICAO through its high-level policies supported by implementation documents provides a strategy to enhance the implementation of member-states safety initiatives. These strategies provide for the development of key aviation policy principles to assist ICAO regions, sub-regions and States with the preparation of their regional and State aviation safety plans in order to maintain acceptable levels of safety throughout the global aviation system, and also includes a framework comprised of measurable objectives, supported by Safety Performance Enablers and associated safety initiatives.

References

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