

Систем управљања у складу са Делом САМО



Драгутин Гавриловић, Инспектор за пловидбеност

Систем управљања у складу са Делом САМО

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Систем управљања у складу са Делом САМО

САМО.А.200 Систем управљања

а) Организација успоставља, спроводи и одржава систем управљања који обухвата:

1. јасно **дефинисане линије одговорности** и надлежности унутар организације, укључујући **непосредну одговорност одговорног руководиоца у погледу безбедности**;
2. опис свеукупне филозофије и начела организације по питању безбедности, који чине **политику безбедности**;
3. **утврђивање опасности по безбедност у ваздушном саобраћају, које произилазе из активности организације, њихову процену и управљање повезаним ризицима, укључујући предузимање мера за умањење ризика и проверу њихове делотворности**;
4. **сталну обуку и оспособљавање особља** за обављање њихових задатака;
5. **документацију свих кључних процеса система управљања, укључујући и процес указивања особљу на његове одговорности, као и процедуре за измене и допуне ове документације**;

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6. функцију праћења усагашености организације са одговарајућим захтевима. Праћење усаглашености обухвата систем повратних информација о налазима које се достављају одговорном руководиоцу, како би се обезбедила делотворна примена корективних мера, ако су оне потребне; и

7. све додатне захтеве који су утврђени овом Уредбом.

б) Систем управљања мора да **одговара величини организације и природи и сложености њених активности**, узимајући у обзир опасности и повезане ризике својствене овим активностима.

ц) Ако организација има један или више додатних сертификата предвиђених Уредбом (ЕУ) 2018/1139 и њеним делегираним и спроведбеним акатима, систем управљања организације може да буде саставни део система управљања који се захтевају додатним сертификатима.

д) Без обзира на став ц), **за авио-превозиоце** лиценциране у складу са Уредбом (ЕЗ) бр. 1008/2008, **систем управљања предвиђен овим анексом чини саставни део система управљања оператора.**

е) Ако су оператори који чине део једне пословне групације авио-превозилаца, закључили уговор са САМО у складу са М.А.201 став еа) Анекса I (Део-М), САМО обезбеђује да је његов систем управљања усклађен са системом управљања оператора који чине део те пословне групације.

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Two elements of a Management System (MS):

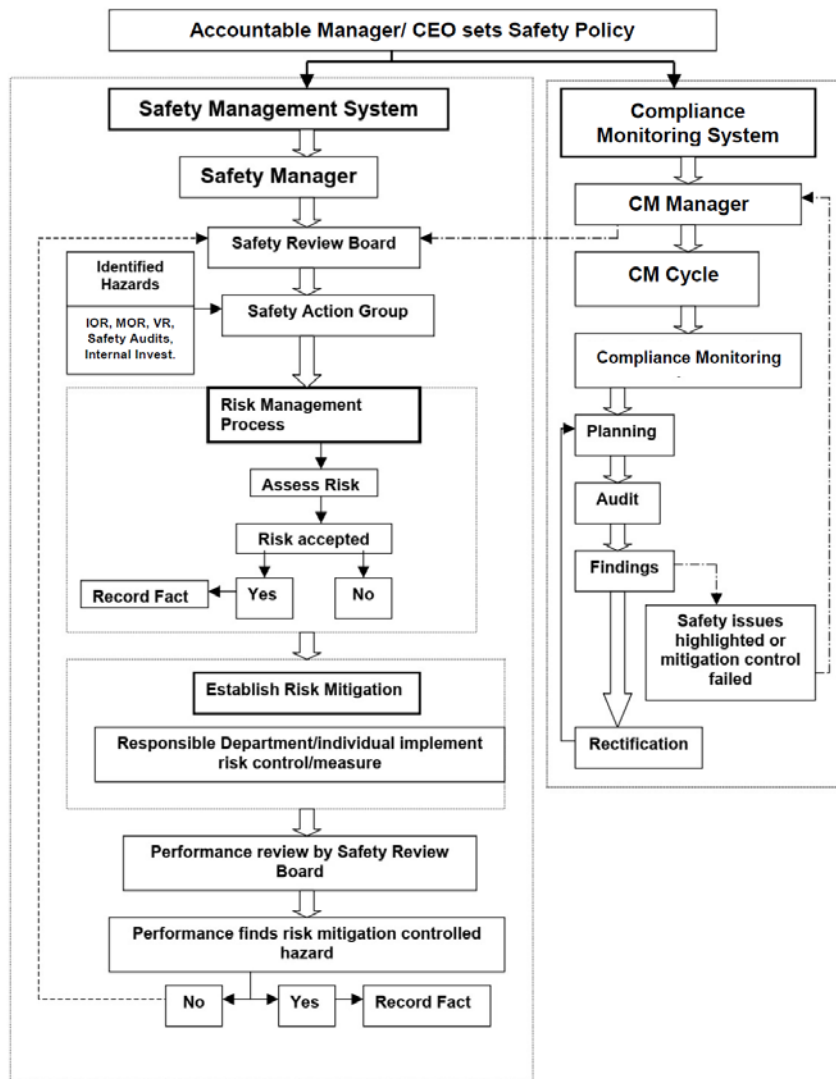
- the **safety management system (SMS)** elements, which refers to ICAO Annex 19 and follows its ICAO framework; and
- the **compliance monitoring system (CMS)**, which is a function to check compliance with the relevant requirements.

While **CMS** focuses on conformity, **SMS** focuses on hazards. Both non-conformities and hazards can impact safety.

Both systems enhance safety and are essential and complimentary management tools. You cannot have an effective SMS without applying compliance monitoring principles.



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The management system shall correspond to the size of the organisation and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities.

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If the organisation holds multiple organisation certificates within the scope of Regulation (EU) 2018/1139 (Common Rules in the Field of Civil Aviation and Establishing EASA), it may choose to implement a **single management system** to cover all of its activities.

Integrated management system occurs when the same organisation holds several approvals and its management system combines policies, procedures, and standards from various areas into a single structure, thus avoiding isolated procedures for common processes.

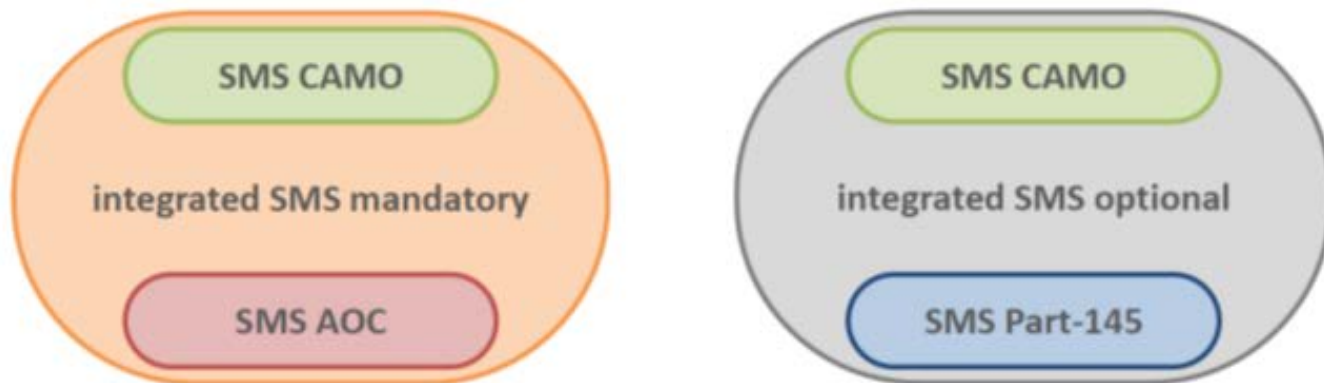
An integrated management system may not only be used to capture multiple certification requirements, but also **to cover other business management systems** such as security, occupational health and environmental management systems. Integration will remove any duplication and exploit synergies by managing safety risks across multiple activities. Organisations may determine the best means to structure their management systems to suit their business and organisational needs.

Систем управљања у складу са Делом CAMO

For Licensed Air Carriers iaw Regulation (EC) No 1008/2008 the management system of the CAMO shall be an integrated part of the operator's management system.

- the accountable manager for the CAMO has to be the same as for the AOC
- the CAMO-approval is part of the AOC.

The lines of responsibility and accountability of the organisation that holds an air operator certificate (AOC) and a CAMO approval are linked directly to the corporate authority of the operator's accountable manager.



Систем управљања у складу са Делом САМО

WHAT IS SMS?

ICAO definition

Safety management system (SMS) is a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

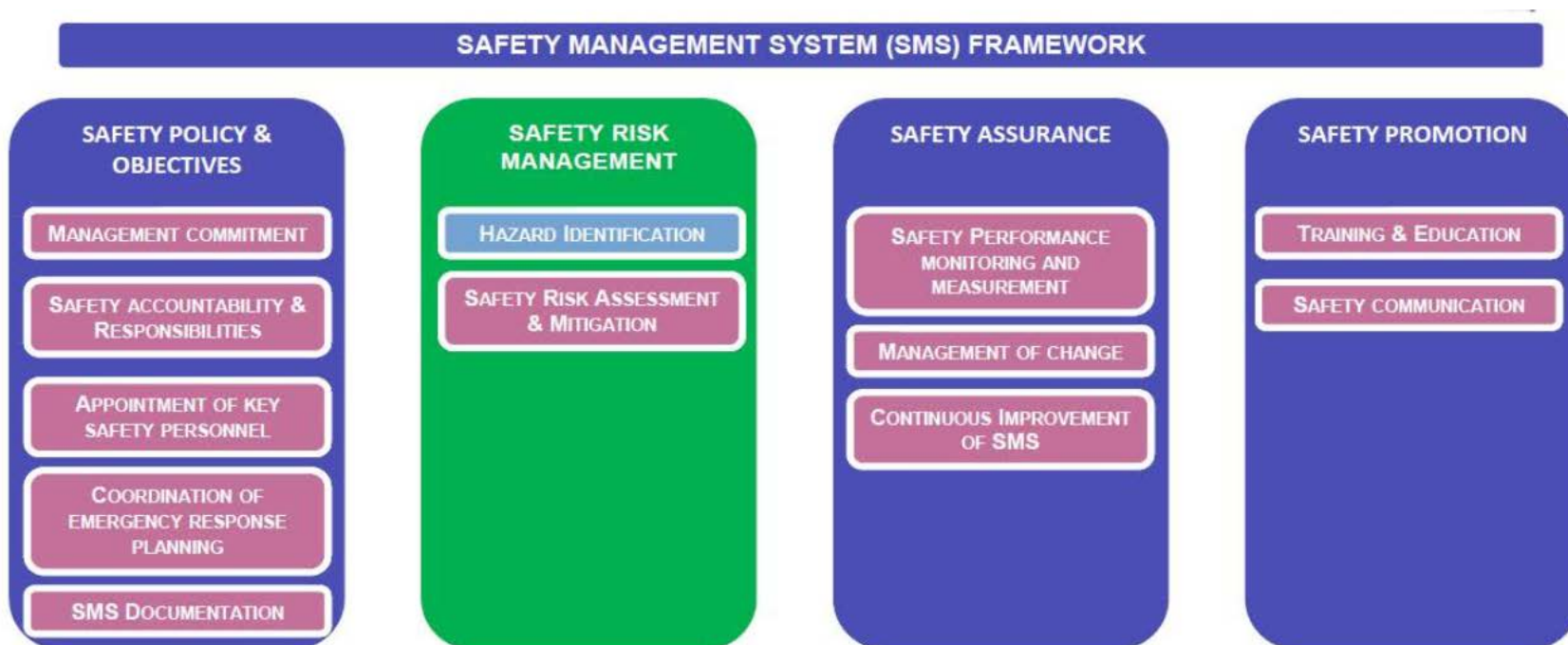
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WHAT IS Safety?

ICAO definition

The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

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Safety policy and objectives

Safety policy outlines the principles, processes and methods of the organization's SMS **to achieve the desired safety outcomes.**

The policy establishes **senior management's commitment** to incorporate and continually improve safety in all aspects of its activities.

The safety policy should:

- reflect organisational commitments regarding safety, including the promotion of a **positive safety culture**
- **encourage personnel to report** errors, incidents & hazards
- recognise the need for all personnel **to cooperate with the compliance monitoring and internal investigations**
- be **endorsed by the accountable manager**
- be **communicated**, with visible endorsement, throughout the organisation
- **be periodically reviewed** to ensure it remains relevant and appropriate for the organisation.

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The safety policy should include a commitment to:

- **comply with all applicable legislation**, to meet all the applicable requirements, and adopt practices to improve safety standard
- **provide the necessary resources** for the implementation of the safety policy
- apply **human factors principles**
- enforce **safety as a primary responsibility** of all managers
- apply **just culture principles** to internal safety reporting and the investigation of occurrences and to
 - not attribute blame
 - not use and information for any purpose other than the maintenance or improvement of aviation safety

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SAFETY POLICY STATEMENT

Safety is one of our core business functions. We are committed to developing, implementing, maintaining and constantly improving strategies and processes to ensure that all our aviation activities take place under an appropriate allocation of organizational resources, aimed at achieving the highest level of safety performance and meeting regulatory requirements, while delivering our services.

All levels of management and all employees are accountable for the delivery of this highest level of safety performance, starting with the [Chief executive officer (CEO)/managing director/or as appropriate to the organization].

Our commitment is to:

- *support* the management of safety through the provision of all appropriate resources that will result in an organizational culture that fosters safe practices, encourages effective safety reporting and communication, and actively manages safety with the same attention to results as the attention to the results of the other management systems of the organization;
- *ensure* that the management of safety is a primary responsibility of all managers and employees;
- *clearly define*, for all staff, managers and employees alike, their accountabilities and responsibilities for the delivery of the organization's safety performance and the performance of our safety management system;
- *establish and operate* hazard identification and risk management processes, including a hazard reporting system, in order to eliminate or mitigate the safety risks of the consequences of hazards resulting from our operations or activities, to achieve continuous improvement in our safety performance;

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- *ensure* that no action will be taken against any employee who discloses a safety concern through the hazard reporting system, unless such disclosure indicates, beyond any reasonable doubt, gross negligence or a deliberate or wilful disregard of regulations or procedures;
- *comply* with and, wherever possible, exceed, legislative and regulatory requirements and standards;
- *ensure* that sufficient skilled and trained human resources are available to implement safety strategies and processes;
- *ensure* that all staff are provided with adequate and appropriate aviation safety information and training, are competent in safety matters, and are allocated only tasks commensurate with their skills;
- *establish and measure* our safety performance against realistic safety performance indicators and safety performance targets;
- *continually improve* our safety performance through continuous monitoring and measurement, regular review and adjustment of safety objectives and targets, and diligent achievement of these; and
- *ensure* that externally supplied systems and services to support our operations are delivered meeting our safety performance standards.

(Signed)

CEO/Managing Director/or as appropriate

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Senior management develops measureable and attainable organization wide safety objectives to be achieved.

The **safety objectives** shall:

- form the **basis for safety performance monitoring and measurement**;
- reflect the **organisation's commitment** to maintain or continuously improve the overall effectiveness of the management system;
- **be communicated** throughout the organisation; and
- **be periodically reviewed** to ensure they remain relevant and appropriate for the organisation.

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Those objectives are generally stated in the safety policy as qualitative parameters, e.g. “Our commitment is to:

- achieve zero accidents and zero serious incidents
- be always compliant with all applicable laws, regulations and procedures
- keep safety a top priority for the management
- promote safety continuously and in an encouraging way

How can qualitative parameters be measured?

Just culture

One key to the successful implementation of safety regulation is to attain a “just culture” reporting environment within. This effective reporting culture depends on how organisation handle blame and punishment.

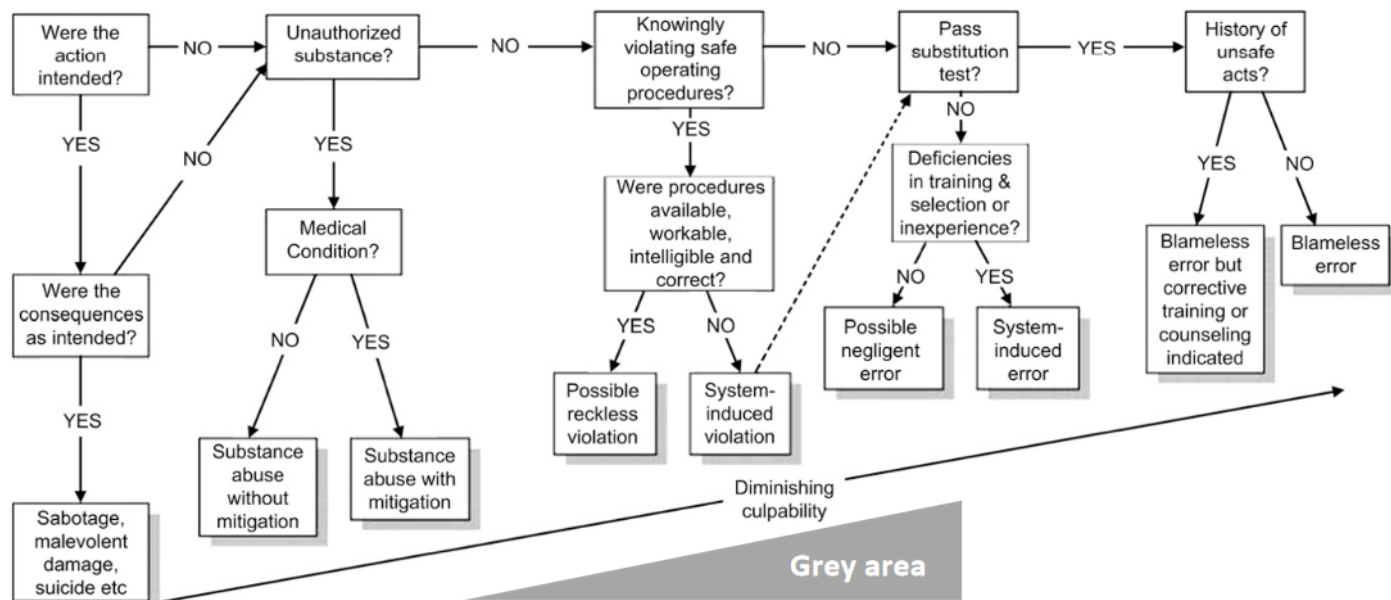
Under “Just Culture” conditions, **individuals are not blamed for ‘honest errors’, but are held accountable for wilful violations and gross negligence.**

People are less willing to inform the organisation about their own errors and other safety problems or hazards if they are afraid of being punished or prosecuted. Such lack of trust of employees prevents the management from being properly informed of the actual risks. Managers are then unable to make the right decisions in order to improve safety.

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ПРАВИЛНИК о пријављивању догађаја у цивилном ваздухопловству

„култура правичности (**just culture**) је култура у којој се непосредни извршиоци или друга лица не кажњавају за радње, пропусте или одлуке које донесу, а које су сразмерне њиховом искуству и обучености, а није реч о грубој непажњи, намерном кршењу прописа и деструктивној радњи“

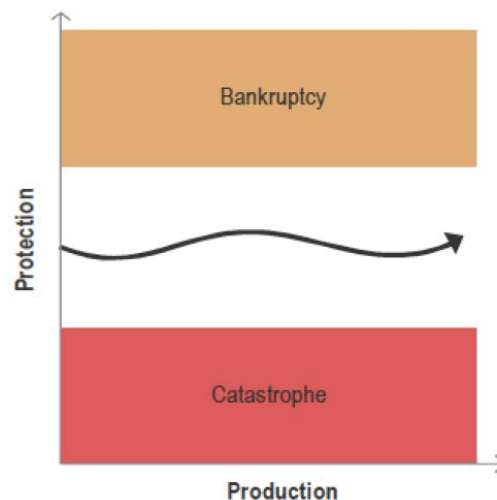


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What are the roles and responsibilities within the SMS?

The successful implementation of an SMS is directly linked to the management position with regard to this new system.

The Accountable Manager (AM) of the organisation needs to play a leading role in this project and come across as **completely committed** to the implementation of this new **SMS**. It is therefore important for the AM to be convinced of the benefits of this SMS approach in order, in turn, to demonstrate conviction about the subject in exchanges with other management echelons and with the personnel as a whole.



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- The senior manager/accountable executive is accountable for establishing the SMS and allocating resources to support and maintain an effective SMS;
- **Management is responsible for implementing, maintaining and adhering to SMS processes in their area; and**
- **Employees are responsible for identifying hazards and reporting them.**

The management system should encompass safety by including a **safety manager**, and a **safety review board** in the organisational structure.

Систем управљања у складу са Делом CAMO

Safety Manager

The functions of the safety manager shall be to:

- (i) **facilitate hazard identification**, risk assessment and management;
- (ii) **monitor the implementation of actions taken to mitigate risks**, as listed in the safety action plan, unless action follow-up is addressed by the compliance monitoring function;
- (iii) **provide periodic reports on safety performance** to the safety review board (the functions of the safety review board are those defined in AMC1 CAMO.A.200(a)(1));
- (iv) ensure the **maintenance of safety management documentation**;
- (v) ensure that there is **safety training available**, and that it meets acceptable standards;
- (vi) provide **advice on safety matters**; and
- (vii) ensure the **initiation and follow-up of internal occurrence investigations**.

Систем управљања у складу са Делом САМО

It may be possible to assign the **Safety Manager** function to the person **already** assuming the role of the **Quality Manager** for the organisation. This solution is often justified by the difficulties faced by these organisations in designating a new manager who is sufficiently independent from the activity of the organisation. It also offers the benefit of a level of consistency that is easier to put into place and maintain between the SMS and the CMS.

If the same person is designated to manage both the compliance monitoring function and safety management-related processes and tasks, the accountable manager, with regard to his or her direct accountability for safety, should ensure that **sufficient resources are allocated to both functions**, taking into account the size of the organisation, and the nature and complexity of its activities.

Систем управљања у складу са Делом САМО

Competency of the Safety Manager

The competency of a safety manager should include, but not be limited to, the following:

- (a) knowledge of **ICAO standards and European requirements on safety management**;
- (b) an understanding of **management systems**, including compliance monitoring systems;
- (c) an understanding of **risk management**;
- (d) an understanding of **safety investigation techniques and root cause methodologies**;
- (e) an understanding of **HF**;
- (f) understanding and **promotion of a positive safety culture**;
- (g) **operational experience** related to the activities of the organisation;

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- (h) **safety management experience;**
- (i) interpersonal and leadership skills, and the ability to influence staff;
- (j) oral and written communications skills;
- (k) data management, analytical and problem-solving skills.

AMC1 CAMO.A.305(c) Personnel requirements

KNOWLEDGE, BACKGROUND AND EXPERIENCE OF NOMINATED PERSON(S)



ПРАВИЛНИК о обезбеђивању континуиране пловидбености и о одобравању ваздухопловно-техничких организација и особља
Прилог 8

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For the person to be nominated as safety manager, in the case where the organisation holds one or more additional organisation certificates within the scope of Regulation (EU) 2018/1139 and that person has already an equivalent position (safety manager) under the additional certificate(s) held, the provisions set out in the first two paragraphs of AMC1 CAMO.A.305(c) point (e) may be replaced by the completion of a specific training programme acceptable to the competent authority to gain an adequate understanding of maintenance standards and continuing airworthiness concepts and principles.

Depending on the size of the organisation and the nature and complexity of its activities, the safety manager may be assisted by additional safety personnel in performing all the safety management tasks as defined in AMC1 CAMO.A.200(a)(1).

If the safety manager does not possess all the skills required for guaranteeing all the tasks linked to the SMS, an safety coordinator needs to be designated in order to assist this safety manager.

Regardless of the organisational set-up, it is important that the safety manager remains the unique focal point for the development, administration, and maintenance of the organisation's safety management processes.

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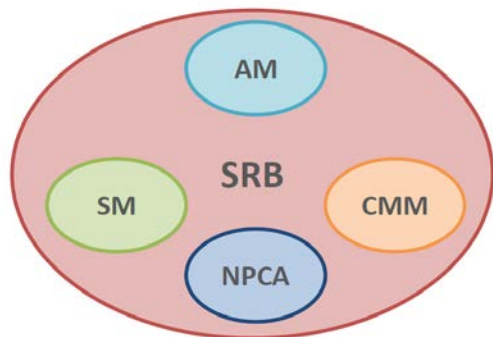
Safety Review Board (SRB)

The Safety Review Board is high level committee that considers matters of strategic safety in support of the Accountable Manager.

The Safety Review Board is chaired by the Accountable Manager and is composed of nominated persons.

The Safety Review Board monitors the safety performance against the safety policy and safety objectives; monitors that any safety action is taken in a timely manner; and that the SMS is effective.

The Safety Review Board ensures that appropriate resources are allocated to achieve the established safety performance.



The safety review board may also be tasked with:

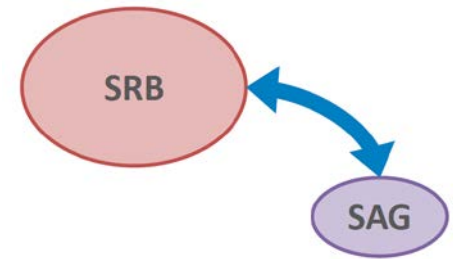
- reviewing the results of compliance monitoring;
- monitoring the implementation of related corrective and preventive actions.

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Safety Action Group (SAG)

The SAG may be tasked to:

- monitor safety performance;
- define actions to control risks to an acceptable level
- assess the impact of organisational changes on safety
- ensure that safety actions are implemented within agreed timescales
- review the effectiveness of previous safety actions and safety promotion



A SAG might be a standing group or ad-hoc group depending on the size of the organisation and the nature and complexity of its activities.

SAG reports to SRB and takes strategic direction from them.

Систем управљања у складу са Делом CAMO

Co-ordination of emergency response planning (ERP)

ERP is only needed for organisations complying with Air Operations, ANS/ATS and Aerodromes.

However, coordination of that ERP with the organisations working at the **interfaces** should be appropriately considered.

A procedure should be implemented to enable the organisation to react promptly if the **ERP is triggered by the operator** and it requires the **support of the CAMO**.

This point also concerns the management of crises and emergency situations.

The organisations should predict crisis situations that could fundamentally call into question their normal operations for a given period and compromise flight safety.

They should prepare for these eventualities and formally establish the basic rules to be followed in these cases by the persons concerned.

Систем управљања у складу са Делом САМО

Examples of crisis situations for a continuing airworthiness management organisation:

- Aircraft monitoring system unavailable for a significant period
- The main Part 145 contractor going into liquidation and rapidly becoming incapable of fulfilling the entire maintenance contract

The objective of this SMS element is to define a mode of organisation for **immediately taking charge of the actions linked to a major event**, while guaranteeing the smooth running of the rest of the activities that are not directly affected by the event in question but which could be disturbed by it.

This function should make it possible to manage this transitional period, and enable a return to a normal situation within a satisfactory time frame.

Систем управљања у складу са Делом САМО

Organisation has to act promptly when it identifies **safety concerns with the potential to have immediate effect on flight safety**, including clear instructions on who to contact at the owner/operator, and how to contact them, including outside normal business hours.

Example: AD that is due but has not been ordered and therefore has not been implemented for A/C which is in service.

САМО.А.155 Хитно реаговање на безбедносни проблем

Организација је дужна:

- а) да спроведе све безбедносне мере које је надлежни орган наложио, како је утврђено у САМО.Б.135.
- б) да поступи у складу са свим релевантним информацијама у вези са безбедношћу које је објавила Агенција.

Систем управљања у складу са Делом CAMO

Documentation

Every organisation must draft and manage an **SMS documentation**.

If an CAMO organisation wishes to describe its SMS in its main organisation manual (**CAME**), it is recommended to refer to the EASA user guide UG.CAO.00162-002 entitled: "EASA Part-CAMO approvals - User Guide for CAME".

The CAME may refer to another manual describing the SMS processes (**SMSM or MSM**).

This **single manual** solution is **recommended** and more suited to continuing airworthiness organisations and maintenance organisations that are integrated into an **AOC holder**.

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The organisation may also choose to document some of the information that is required to be documented in separate documents (e.g. policy documents, procedures). In that case, it should ensure that the manual or the CAME contains adequate references to any document that is kept separately. Any such documents are to be considered as integral parts of the organisation's management system documentation.

САМО.А.220 Вођење евиденције

б) Систем управљања, евиденција о уговарању и подуговарању

1. Организација обезбеђује чување:

- (i) евиденције о кључним процесима система управљања, како је одређено у САМО.А.200;
- (ii) уговора о уговарању и подуговарању, како је одређено у САМО.А.205;

Should reflects existing HAZID & SRM PROCESSES

REPORT

Training records

MoC Documentation



Систем управљања у складу са Делом САМО

Safety Risk Management

It is intended that hazard identification, risk assessment, risk mitigation and risk control become an **integral part of day-to-day business**.

Day-to-day supervision of the operations and therefore safety is the **responsibility of the ‘managers’**.

The **Safety Manager** is responsible for the **supervision and facilitation** of the processes to support ‘managers’ in developing processes, procedures and work instructions for the staff under their supervision to perform their activities in a safe manner.

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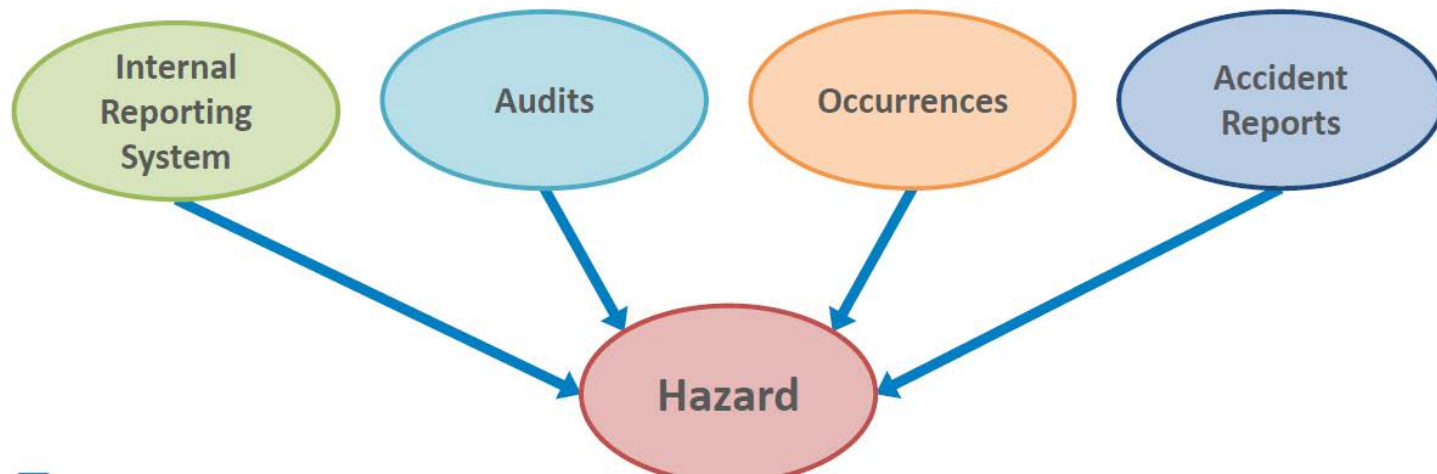
Hazard identification

Hazard is a condition, object, activity or event with the potential of causing injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function.

The **hazard identification** process is the formal means of **collecting, recording, analysing, acting on and generating feedback** about hazards and the associated risks that affect the safety of the Company's operational activities, before they result in aviation accidents and incidents.

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Hazards can be identified from **different internal and external sources** by asking the following question: **What elements, in isolation or in combination, may have contributed or could contribute to an incident or accident?**



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САМО.А.202 Унутрашњи систем извештавања о безбедности

- а) Организација успоставља унутрашњи систем извештавања о безбедности у оквиру свог система управљања како би омогућила **прикупљање и процену података** о догађајима који се пријављују према **САМО.А.160**.
- б) Систем мора да омогући **прикупљање и процену података о интерно пријављеним грешкама, избегнутим грешкама и опасностима**, као и опасностима које нису обухваћене ставом а).

Систем управљања у складу са Делом САМО

ц) У оквиру тог система организација је дужна:

1. да утврди разлоге и факторе који доприносе свим пријављеним грешкама, избегнутим грешкама и опасностима, и да их реши у оквиру управљања безбедносним ризицима у складу са САМО.А.200 став а) тачка 3;

2. да обезбеди процену свих познатих, релевантних информација које се односе на грешке, немогућност поштовања процедура, избегавање грешака и опасности, као и на опасности и, ако је потребно, да утврди начин преношења информација.

д) Организација свакој подуговореној организацији обезбеђује приступ свом унутрашњем систему извештавања о безбедности.

е) Организација сарађује у истрагама о безбедности са сваком организацијом која значајно доприноси безбедности њених активности обезбеђивања континуиране пловидбености.

Систем управљања у складу са Делом САМО



Систем управљања у складу са Делом САМО

The internal information collection system should:

- be confidential
- collect information reported by the organisation's personnel
- ensure just culture application
- encourage personnel to report

Information to collect:

- potentially safety-related occurrences including incidents such as errors or near misses
- safety issues
- identified hazards

Систем управљања у складу са Делом САМО

A **Root Cause Analysis (RCA)** should be initiated covering:

- technical issues
- organisational or managerial issues
- human factor issues
- any other contributing factor related to the occurrence, incident, error or near miss that was identified

If adapted to the size and complexity of the organisation, analysing the collective data can show the trends and frequencies of the contributing factor.

Систем управљања у складу са Делом САМО

Following the RCA, a **Corrective Action Plan (CAP)** should be established.

The CAP should focus on:

Corrections - actions to eliminate detected non-compliance.

Corrective actions - actions to eliminate or mitigate the root cause(s) and prevent the recurrence of an existing detected non-compliance, or other undesirable conditions or situations. Proper determination of the root cause(s) is crucial for defining effective corrective actions to prevent reoccurrence.

Preventive actions - actions to eliminate the cause of a potential non-compliance, or other undesirable potential situation.

Систем управљања у складу са Делом САМО

Those reports which require further investigation should be identified.

The scope of **internal safety investigations** should extend beyond the scope of occurrences required to be reported to the competent authority.

Investigations consist of collecting and analysing events, determining causal and contributing factors, drawing up conclusions and making safety recommendations as applicable.

Investigations are carried out in particular in the case of:

- accidents and incidents,
- discovery of new hazards and risks,
- recurrent safety risks.

Систем управљања у складу са Делом САМО

Safety reports are a valid source for safety promotion.

For any safety report a feedback to the reporter should be given.

It should be ensured that **knowledge** of:

- relevant incidents
- safety investigations and
- safety actions

is **shared** so that all personnel within the organisation will benefit from the lessons learned.

This also adds to the requirement of safety promotion.

Систем управљања у складу са Делом САМО

САМО.А.160 Occurrence reporting

As part of its management system the organisation shall implement an occurrence reporting system that meets the requirements defined in Regulation (EU) No 376/2014 and Implementing Regulation (EU) 2015/1018.

The organisation shall ensure that any:

- incident or
- malfunction or
- technical defect or
- the exceeding of technical limitations or
- any occurrence that would highlight inaccurate or incomplete or ambiguous information contained in data established in accordance with Annex I (Part-21) to Regulation (EU) 748/2012 or...
- any other irregular circumstance that has or may have endangered the safe operation of the aircraft and that has not resulted in an accident or serious incident

is reported to the competent authority and to the organisation responsible for the design of the aircraft.

Систем управљања у складу са Делом САМО

Reports shall be made as soon as possible, but in any case within **72 hours** of the organisation identifying the condition to which the report relates, unless exceptional circumstances prevent this.

Occurrence Reports shall be made in a form and manner established by the competent authority.

Prijavljivanje događaja :: Direktorat civilnog vazduhoplovstva Republike Srbije

Where relevant, the organisation shall produce a **follow-up report** to provide details of actions it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified.

Систем управљања у складу са Делом САМО

To fulfil this requirement, the organisation should:

- assign responsibility to one or more suitably qualified and authorised persons coordinating action on occurrences and for initiating necessary further investigation follow-up activity.
- if more persons are assigned identify a single person to act as the main focal point ensuring a single reporting channel is established with the accountable manager.

Систем управљања у складу са Делом САМО

Every occurrence identified through internal occurrence reports, voluntary reports or other sources provides the opportunity to draw safety lessons.

Learning from experience is only possible if all events are reported and analysed and their causes and factors (technical, operational, or environmental) are determined and analysed.

On a daily basis, occurrences (down to simple malfunctions) may affect any process. Some of these occurrences are defined as accident precursors. Accident precursors are occurrences which, without appropriate mitigation, can result in incidents or accidents.

The Safety Manager is to record, analyse and monitor these occurrences.

Occurrences are recorded in a database and the database is analysed to identify trends and define recommendations to correct possible deviations and avoid accidents (**proactive approach**).

Систем управљања у складу са Делом САМО

Hazard Identification approach

Reactive (Past)	Proactive (Present)	Predictive (Future)
<i>Responds to events that have already happened, such as incidents and accidents</i>	<i>Actively seeks the identification of hazardous conditions through the analysis of the organisation's processes</i>	<i>Analyzes system processes and environment to identify potential future problems</i>

Систем управљања у складу са Делом САМО

Hazard examples

Examples of management hazards in a CAMO:

- commercial / financial pressure
- poor management
- poor safety commitment
- poor safety culture
- limited resources
- changes or turnover in management or employees
- staffing issues and competence
- management of changes such as growth: new aircraft type, new workplace
- maintenance staff fatigue / alertness

Систем управљања у складу са Делом CAMO

Hazard examples

Examples of technical hazards in a CAMO:

- changes, upgrades or new tools, equipment, processes or facilities
- working environment (noise, lightning)
- inappropriate materials, tools, equipment, maintenance data, procedures
- HF issues such as fatigue – workload / work package/ time pressure / contracts
- wrong maintenance release
- poor identification of critical or complex maintenance tasks
- insufficient trouble shooting and/or poor management of differed items
- inadequate maintenance programme
- insufficient or improper continuing airworthiness management (decision-making, action monitoring, reliability, complex design etc.)
- communication between OPS, CAMO and MROs, including subcontractors
- non-airworthy aircraft not identified during the ARC review/extension

Систем управљања у складу са Делом САМО

Safety risk assessment

Once hazards have been identified, the safety risks of their potential consequences must be assessed.

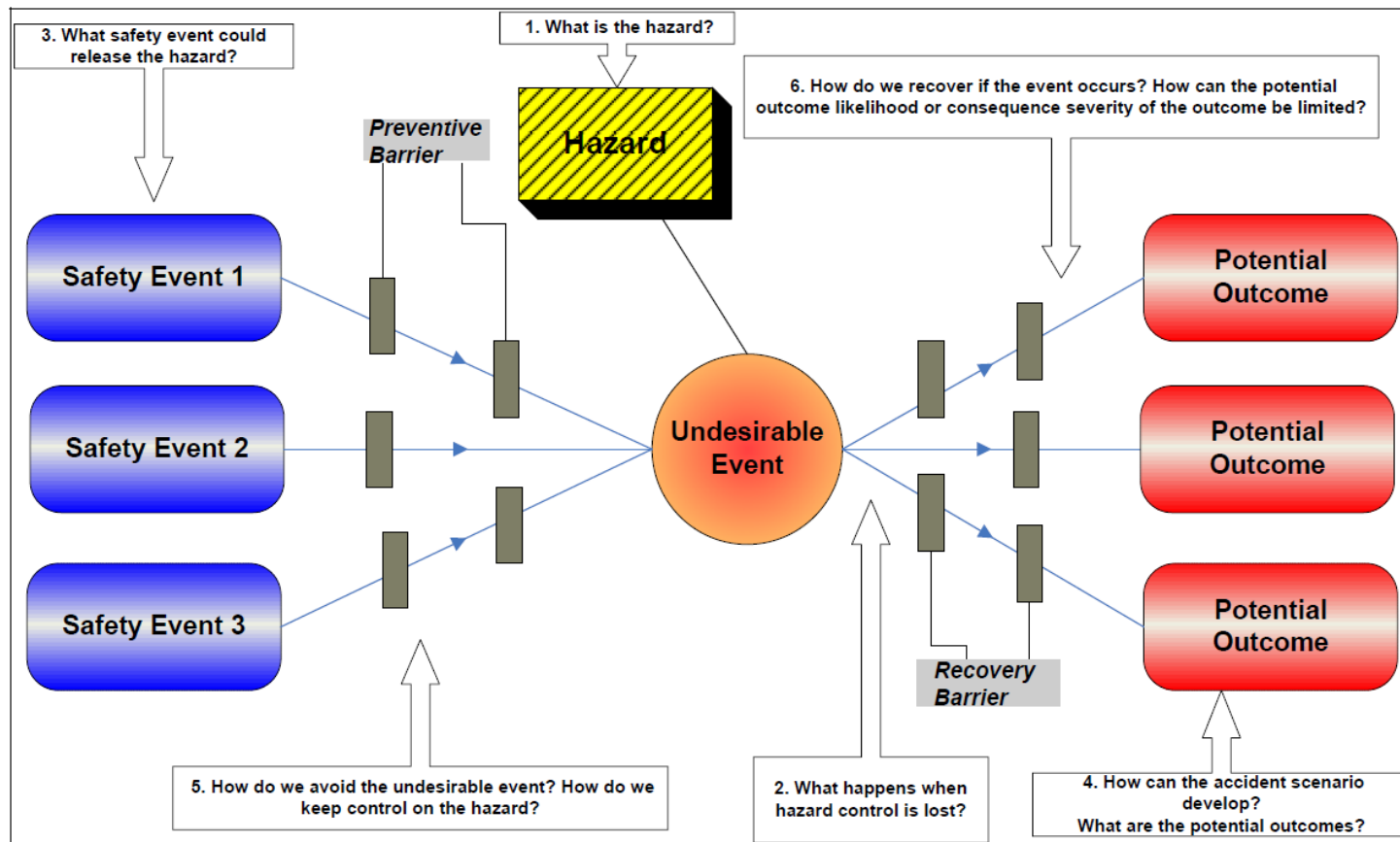


Safety risk is the projected likelihood and severity of the consequence or outcome from an existing hazard .

Both dimensions (likelihood and severity) have to be assessed.

Систем управљања у складу са Делом САМО

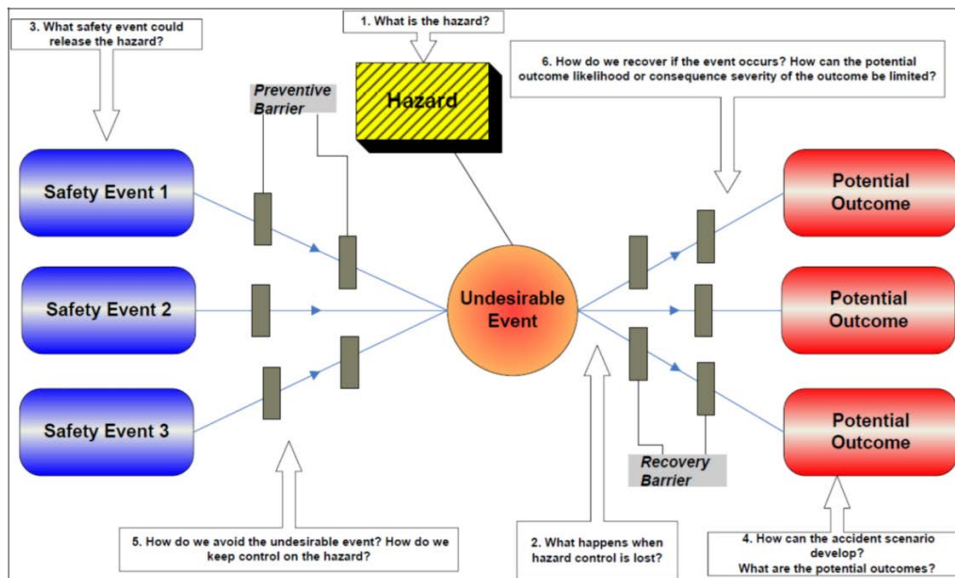
Bow-Tie“ Diagram Illustrating definition of terms



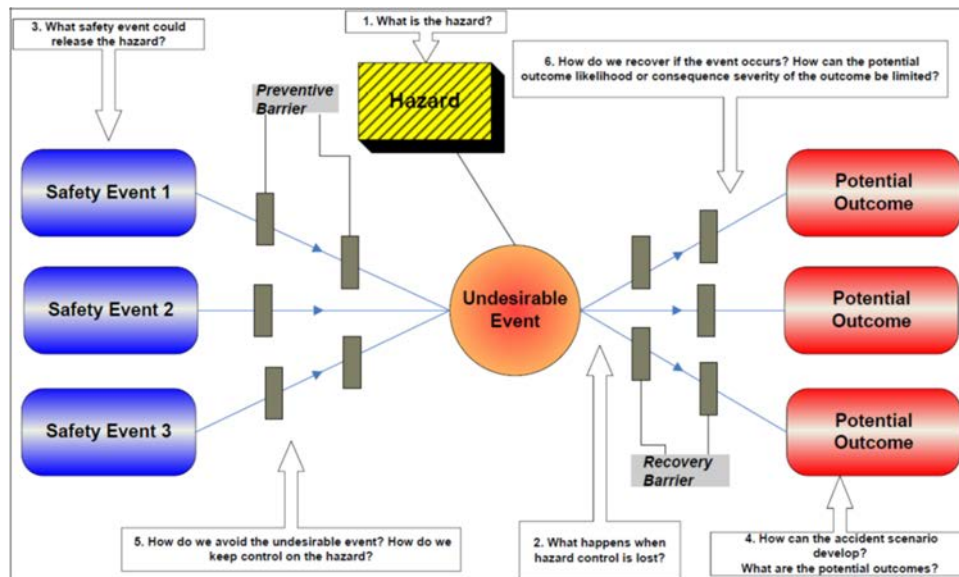
Систем управљања у складу са Делом САМО

Hazard

A condition, object, activity or event with the potential of causing injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function



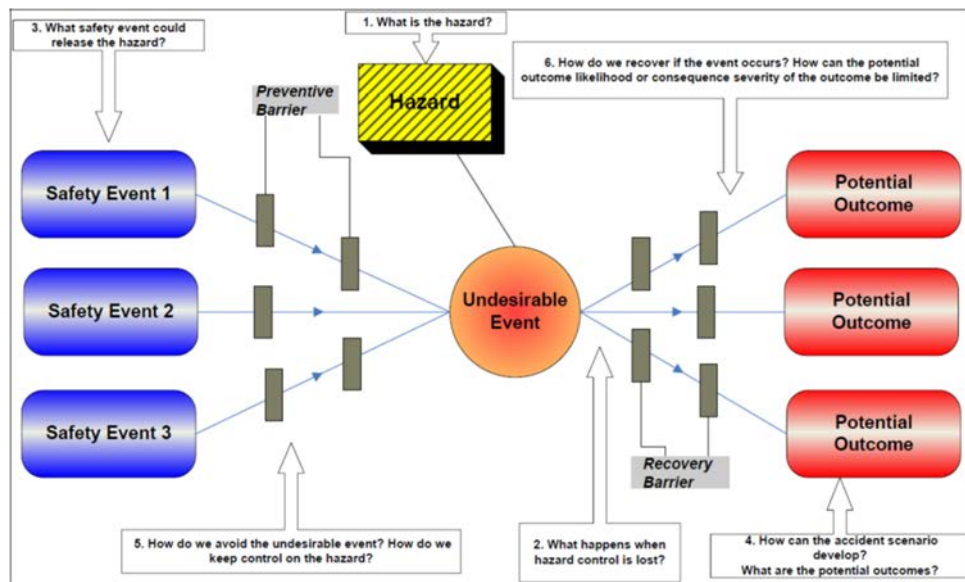
Систем управљања у складу са Делом САМО



Safety Event

A failure condition, causal factor, threat or precursor event which in isolation or in combination with other safety events could result in an undesirable event.

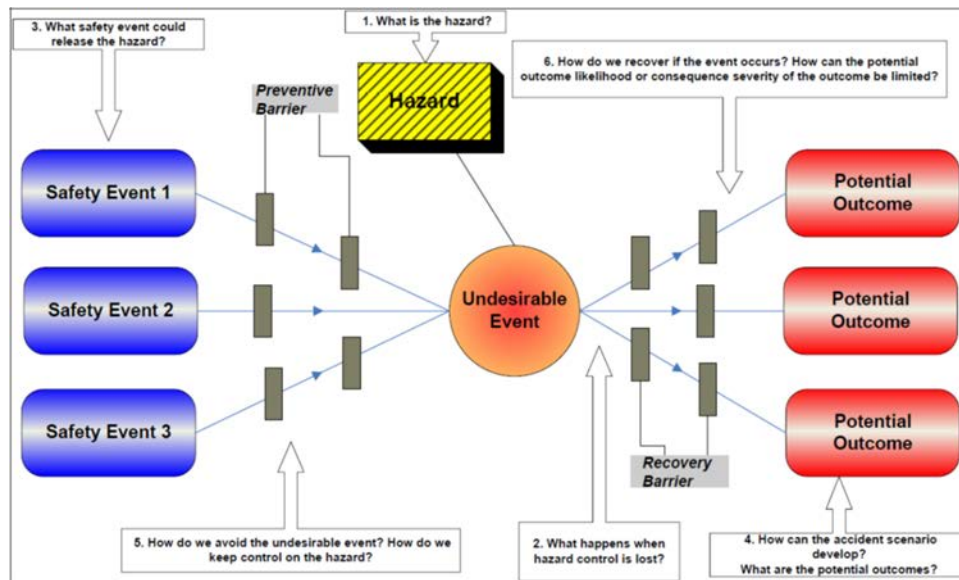
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Undesirable Event

A stage in the escalation of an accident scenario where the accident will occur, unless an active recovery measure is available and is successfully used.

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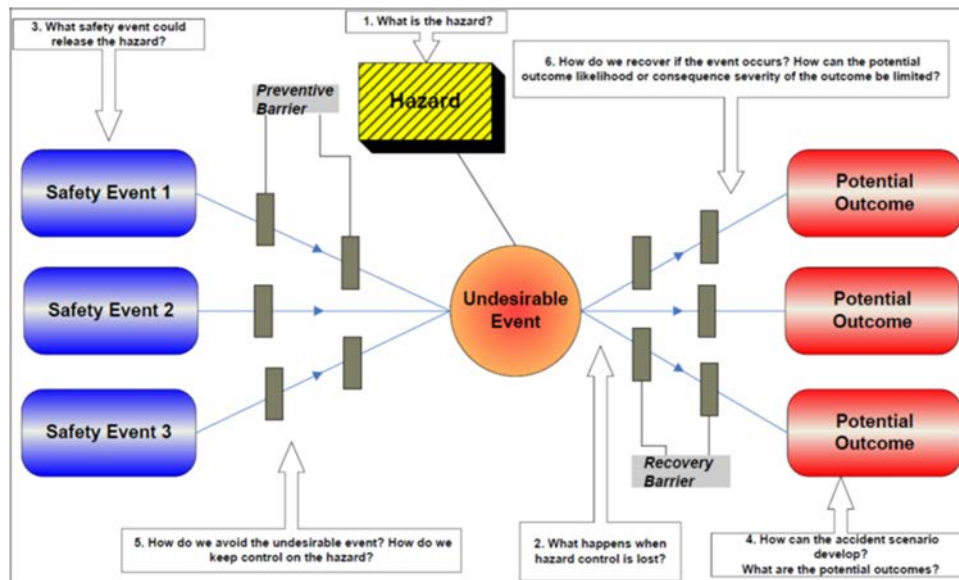


Outcome

A potential end point of an accident scenario which can be assigned a consequence severity.

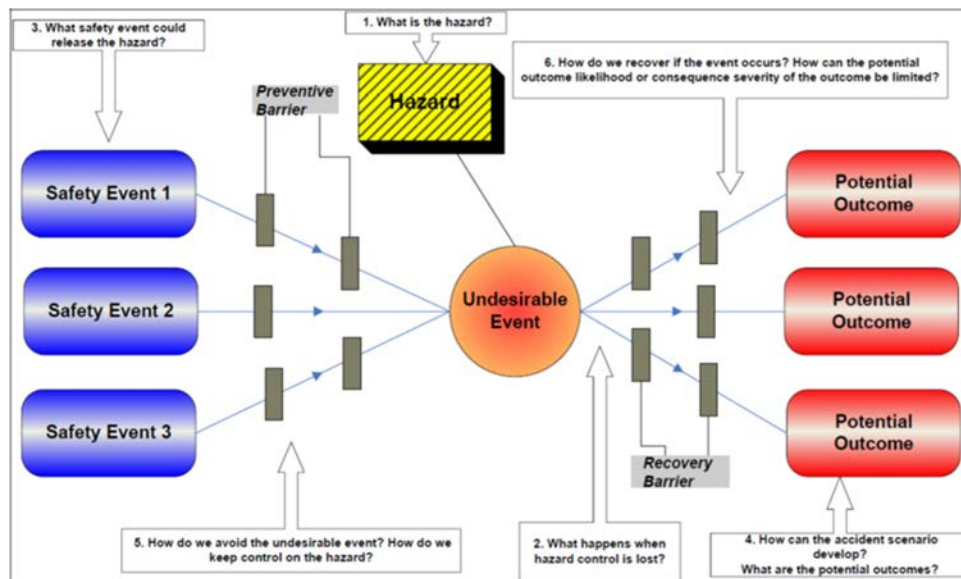
Систем управљања у складу са Делом САМО

Consequence



The degree of injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function arising from an outcome. Consequences have a magnitude.

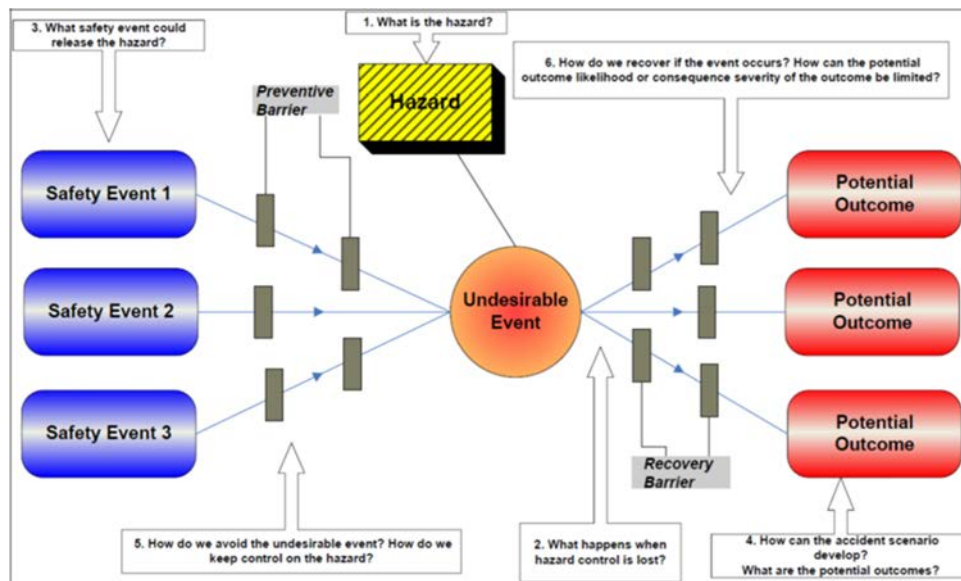
Систем управљања у складу са Делом САМО



Risk

The combination of the predicted frequency and severity of the consequences of hazard(s) taking into account all of the potential outcomes.

Систем управљања у складу са Делом САМО



Risk Controls (Preventive and Recovery Barriers)

A system, activity, action or procedure that is put in place to reduce the risks associated with a hazard.

Систем управљања у складу са Делом САМО

Interfaces

Flight safety is the result of the overall system: design, production, continued airworthiness, operation, traffic management, etc.

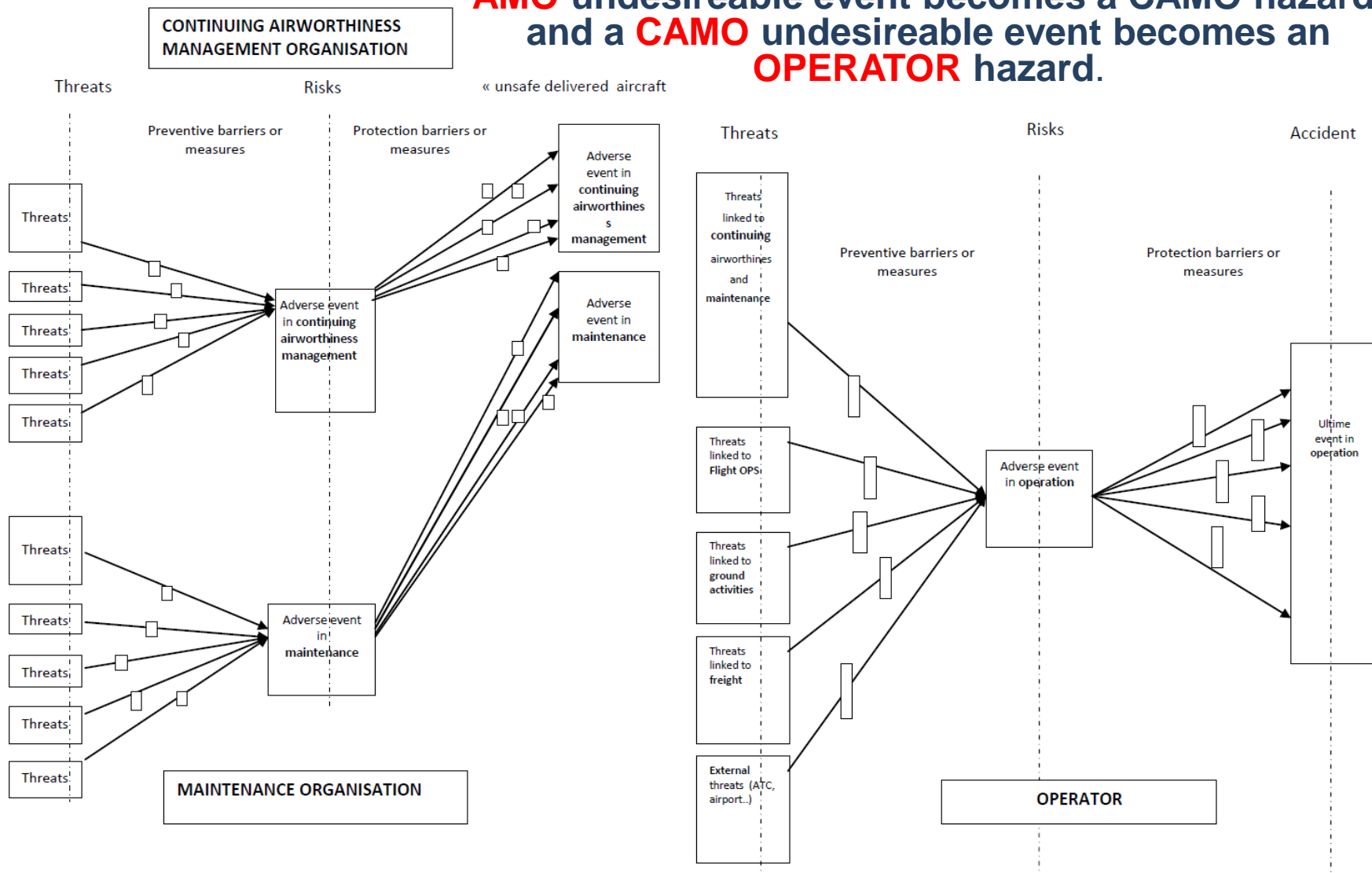
Organizations that are not directly linked to flight operations (maintenance organizations, continuing airworthiness management organizations not associated with an AOC, etc.) contribute positively or negatively to flight safety.

- **AMO undesirable event: CRS after maintenance not properly carried out**
- **CAMO undesirable event : non-airworthy aircraft ready for take-off**
- **Operator undesirable event; unsafe aircraft operation**

A good cooperation between the CAMO/ MRO and the client (operator) is good practice, allowing a mutual sharing and learning process.

Систем управљања у складу са Делом САМО

AMO undesirable event becomes a CAMO hazard,
and a **CAMO** undesirable event becomes an
OPERATOR hazard.



Систем управљања у складу са Делом CAMO

non-airworthy aircraft ready for take-off (Unsafe delivered aircraft by CAMO for operation)

- with a major undetected malfunction on an engine/thrust reverser, flight control assembly, or emergency system resulting from maintenance that has not been ordered and therefore not been carried out
- with an engine that, according to the results of the trend monitoring, should have been replaced before being returned to service"
- with an AD or a CMR, ALI item that is due but has not been ordered and therefore has not been implemented
- with an MRB route 5 or 8 item that is due but has not been ordered and therefore has not been implemented
- with an LLP that has exceeded its service life
- with a scheduled maintenance check launched for performance with a significant exceeded limitation inspection not accepted through a formal exemption

Систем управљања у складу са Делом САМО

- with a non-compliant configuration linked to modifications made (incompatible modifications, unapproved modification, etc.)
- with a major non-compliant repair (repair non-compliant, unapproved, etc.)
- with a large number of faults scheduled for deferred treatment following a basic maintenance inspection, leading to repercussions with regard to operations (aircrew workload)
- with equipment not removed for overhaul/testing according to the maintenance programme

Систем управљања у складу са Делом САМО

САМО EXAMPLE

Систем управљања у складу са Делом CAMO

CAMO EXAMPLE

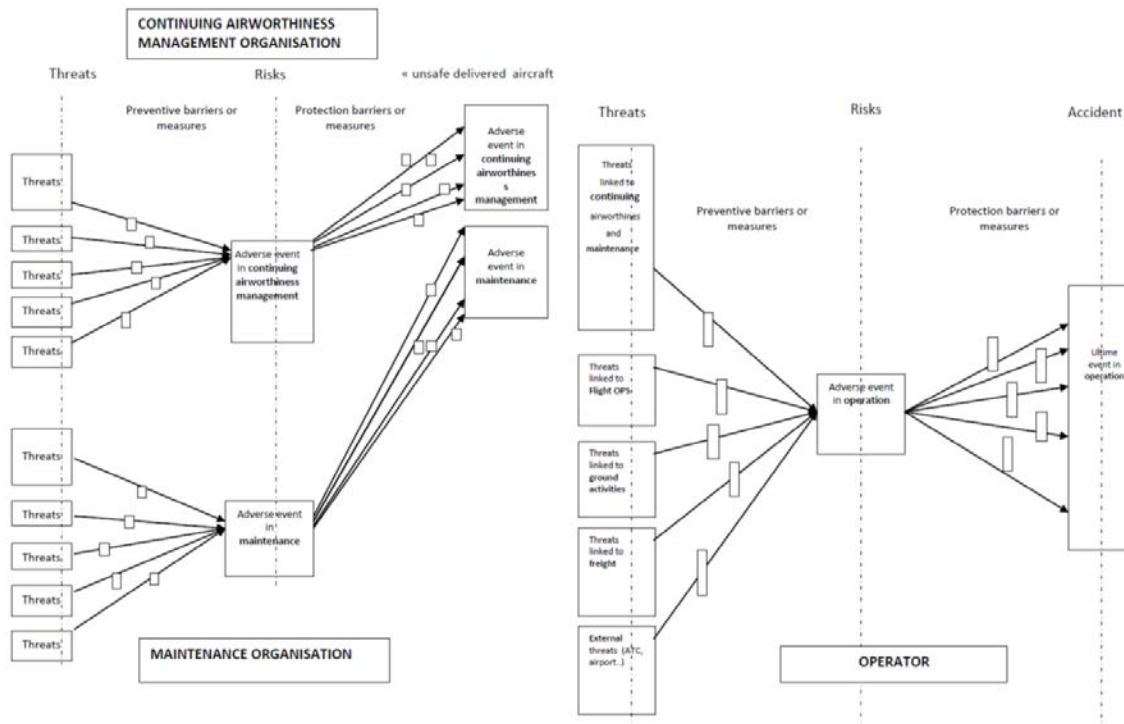
An organization's CAMO is composed of an NPCA and an airworthiness engineer.

The position of nominated manager experiences regular staff rotations leaving the airworthiness engineer alone.

The continued airworthiness management software is experiencing malfunctions.

Considering, for example, the publication of emergency airworthiness directive (A/C AFM update, related to flight control trim) for the fleet that CAMO is responsible, we can analyze associated hazard and risk.

Систем управљања у складу са Делом САМО



HAZARD: Failure to review an emergency AD

Safety Events	Preventive Barriers	Undesirable Event	Recovery Barriers	Potential Outcomes	Consequence Severity
Absence of the NPCA		AD not applied as required		Delivered Non-airworthy aircraft	?
Understaffed CAMO				CAA Level 1 finding	
Absence of software alert					

Систем управљања у складу са Делом САМО

HAZARD: Wrong Take-off Configuration					
Safety Events	Preventive Barriers	Undesirable Event	Recovery Barriers	Potential Outcomes	Consequence Severity
Improper A/C loading	Ground handling staff training	Pilot attempts to take-off with the A/C wrongly configured	Stall Warning	A/C mush/stall (LOC-I)	Multiple Fatalities
Mis-configured flap setting	A/C centre of gravity detection sys (if available)		Aural Mis-configuration Warning	Runway Excursion (RE)	Multiple Fatalities
Improper A/C trim configuration	Check-list item		Simulator training on aborting take-off	Aborted Take-off (RTO)	Aircraft/ground movement delay
	Pilot training				
	Cockpit ergonomics				

Систем управљања у складу са Делом САМО

HAZARD: Failure to review an emergency AD

Safety Events	Preventive Barriers		Undesirable Event	Recovery Barriers		Potential Outcomes	Consequence Severity
Absence of the NPCA			Non-airworthy aircraft ready for take-off due to AD not applied as required	Check-list item	Stall Warning	A/C mush/stall (LOC-I)	Multiple Fatalities
Understaffed CAMO					Aural Mis-configuration Warning	Runway Excursion (RE)	Multiple Fatalities
Absence of software alert					Simulator training on aborting take-off	Aborted Take-off (RTO)	Aircraft/ ground movement delay

Систем управљања у складу са Делом САМО

Severity

The severity of all hazard consequences is analysed.

Worst Foreseeable Scenario that the hazard under assessment could have escalated to.

Note.— This is an example only. The level of detail and complexity of tables and matrices should be adapted to the particular needs and complexities of each organization.

Definition	Aviation Safety	Personnel Health & Safety	Organization	Environment	Value
Catastrophic	<ul style="list-style-type: none"> Equipment destroyed. Multiple deaths. 	Multiple fatalities	Catastrophic financial loss	Massive effects (pollution, destruction, etc.)	5
Hazardous	<ul style="list-style-type: none"> A large reduction in safety margins, physical distress or a workload such that the operation cannot be reliable and tasks cannot be performed accurately or completely. Serious injury or death to a number of people. Major equipment or product damage. 	Fatality	Severe financial loss with long term effects	Effects difficult to repair	4
Major	<ul style="list-style-type: none"> A significant reduction in safety margin, a reduction in the ability of the operation to cope with adverse conditions as a result of an increase in workload, or as a result of conditions impairing their efficiency. Serious incident. Injury to persons. Equipment or product damage. 	Serious injuries	Substantial financial loss	Noteworthy local effects	3
Minor	<ul style="list-style-type: none"> Nuisance. Operating limitations. Use of emergency procedures. Minor incident. 	Light injuries	Financial loss with little impact	Little impact	2
Negligible	<ul style="list-style-type: none"> Little consequence. 	Superficial or no injuries	Financial loss with negligible impact	Negligible or no effects	1

Систем управљања у складу са Делом САМО

Non-aviation safety hazards; Health and safety or environmental related hazards not under aviation safety domain. They may be included but falls under national Regulation.

Систем управљања у складу са Делом САМО

Likelihood

Assessment of likelihood is based on the following two way process:

- hazard consequences are analysed to establish possible causes, contributing factors and existing barriers
- causes, contributing factors and barriers are then further analysed to determine likelihood of an occurrence.

<i>Likelihood</i>	<i>Meaning</i>	<i>Value</i>
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Систем управљања у складу са Делом САМО

Safety risk assessment matrix table

RISK LIKELIHOOD	RISK SEVERITY				
	NEGLIGIBLE (A)	MINOR (B)	MAJOR (C)	HAZARDOUS (D)	CATASTROPHIC (E)
FREQUENT (5)	5 A	5 B	5 C	5 D	5 E
OCCASIONAL (4)	4 A	4 B	4 C	4 D	4 E
REMOTE (3)	3 A	3 B	3 C	3 D	3 E
IMPROBABLE (2)	2 A	2 B	2 C	2 D	2 E
EXTREMELY IMPROBABLE (1)	1 A	1 B	1 C	1 D	1 E

The safety risk severity and likelihood assessment process is used to derive a safety risk index.

The index created consists of an alphanumeric designator, indicating the combined results of the likelihood and severity assessments.

The respective severity/ likelihood combinations are presented in the safety risk assessment matrix table.

Систем управљања у складу са Делом САМО

Safety risk tolerability table

The index obtained from the safety risk assessment matrix must then be exported to a safety risk tolerability table that describes the tolerability criteria for the organization.

ASSESSMENT RISK INDEX	RISK GRADE / INCIDENT POTENTIAL	RISK LEVEL/ TOLERABILITY	RECOMMENDED ACTIONS
5E, 5D, 5C, 4E, 4D, 3E	HIGH RISK	UNACCEPTABLE	Take immediate action to mitigate risk or stop the activity. Perform priority safety risk mitigation to ensure additional or enhanced preventive controls are in place to bring down the safety risk to tolerable.
5B, 5A, 4C, 4B, 4A, 3D, 3C, 3B, 2E, 2D, 2C, 1E	MODERATE RISK	TOLERABLE	Can be tolerated based on the safety risk mitigation. It may require management decision to accept the risk.
3A, 2B, 2A, 1D, 1C, 1B, 1A	LOW RISK	ACCEPTABLE	Acceptable as is. No further safety risk mitigation required.



The levels of management who have the authority to make decisions regarding the tolerability of safety risks should be specified.

Систем управљања у складу са Делом САМО

Safety risks could be assessed as **acceptable (Low Risk)**, **tolerable (Moderate Risk)** or **intolerable (High Risk)**.

Risks assessed as initially falling in the intolerable region are unacceptable under any circumstances. The probability and/or severity of the consequences of the hazards are of such a magnitude, and the damaging potential of the hazard poses such a threat to safety, that immediate mitigation action is required.

Safety risks assessed in the tolerable region are acceptable provided that appropriate mitigation strategies are implemented by the organization. A safety risk initially assessed as intolerable may be mitigated and subsequently moved into the tolerable region provided that such risks remain controlled by appropriate mitigation strategies.

Safety risks assessed as initially falling in the acceptable region are acceptable as they currently stand and require no action to bring or keep the likelihood and/or severity of the consequences of hazards under organizational control.

Систем управљања у складу са Делом САМО

Risk mitigation and management

Safety risk mitigation is “The process of incorporating defences, preventive controls or recovery measures to lower the severity and/or likelihood of a hazard’s projected consequence.”

Safety risk mitigation strategies:

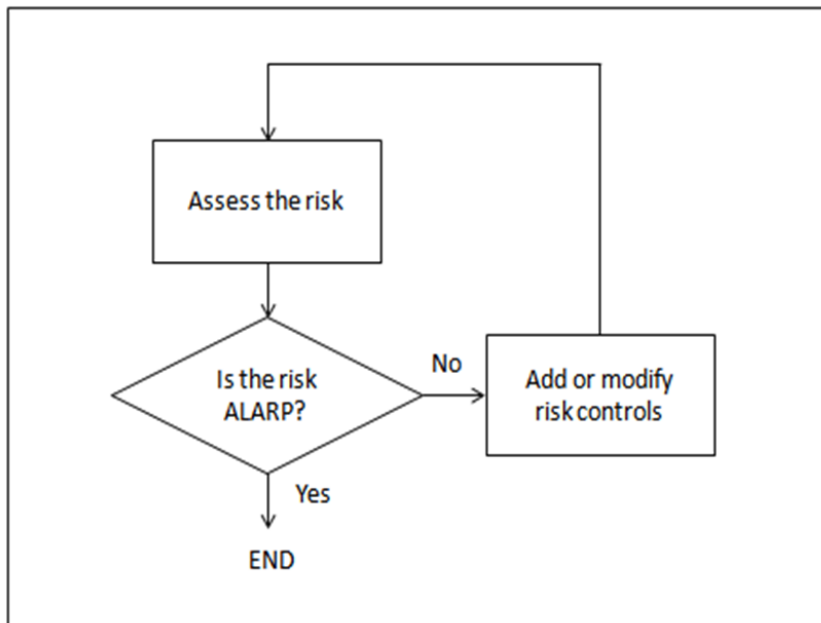
- **Avoidance:** The operation or activity is cancelled or avoided because the safety risk exceeds the benefits of continuing the activity, thereby eliminating the safety risk entirely.
- **Reduction:** The frequency of the operation or activity is reduced, or action is taken to reduce the magnitude of the consequences of the safety risk.
- **Segregation:** Action is taken to isolate the effects of the consequences of the safety risk or build in redundancy to protect against them.

In evaluating alternatives for risk mitigation, not all have the same potential for reducing risks. The effectiveness of each option needs to be evaluated before a decision making. It is important that the full range of possible measures be considered to find an optimal solution. Each proposed risk mitigation shall be examined for:

Систем управљања у складу са Делом САМО

1. **Effectiveness.** Will it reduce or eliminate the identified risk? To what extent do alternatives mitigate the risk?
2. **Cost/benefit.** Do the perceived benefits of the option outweigh the costs? Will the potential gains be proportional to the impact of the change required?
3. **Practicality.** Is it doable and appropriate in terms of available technology, financial feasibility, administrative feasibility, governing legislation and regulations, political will, etc.?
4. **Challenge.** Can the risk mitigation measure withstand critical scrutiny from all stakeholders (employees, managers, stockholders/State administrations, etc.)? Is it temporary or permanent action?
5. **Residual risks.** After the risk mitigation measure is implemented, what will be the residual risks relative to the original hazard? What is the ability to mitigate any residual risks?
6. **New problems.** What new problems or new (perhaps worse) risks will be introduced by the proposed change?

Систем управљања у складу са Делом САМО



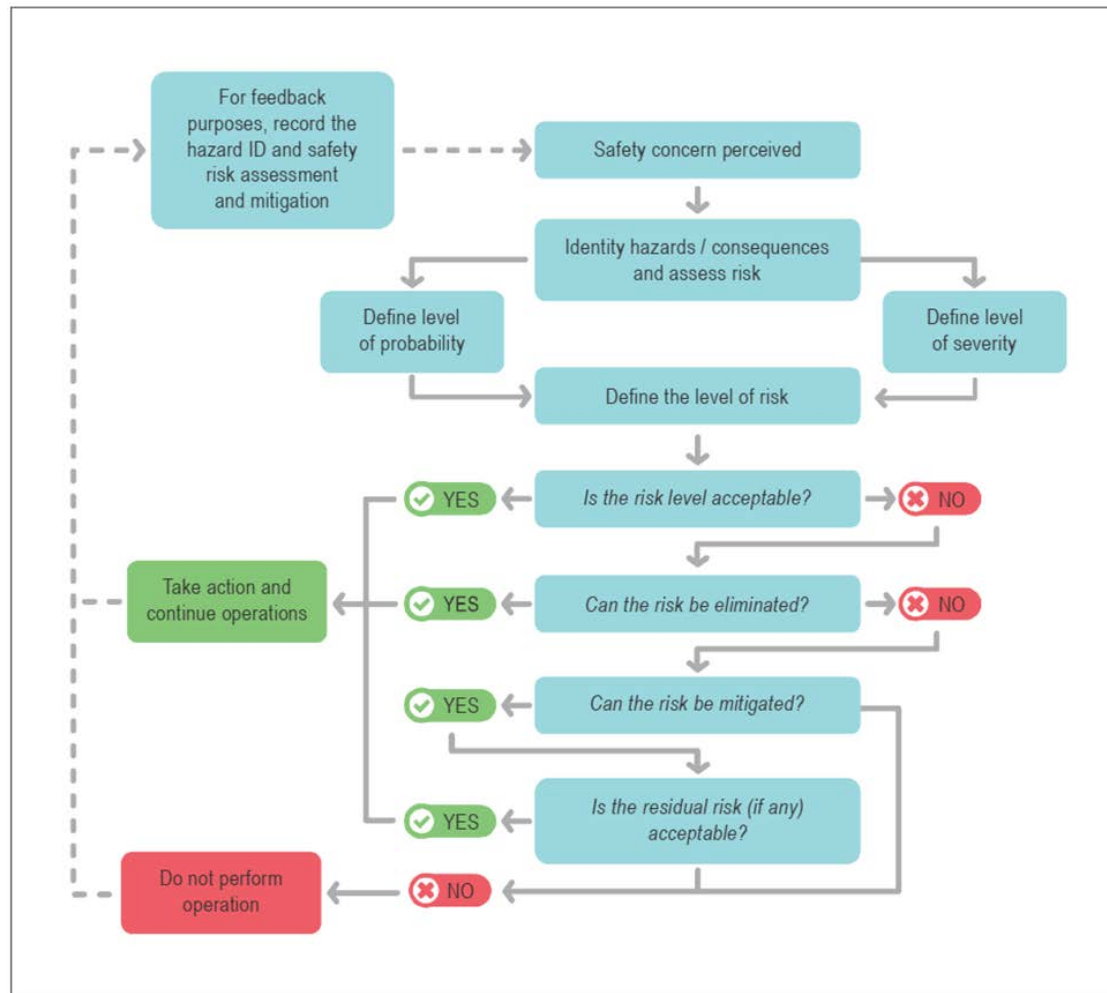
The measures are not necessarily sufficient to bring the risk level back to an acceptable or tolerable level in a first round. So new risk controls are added, or existing risk controls are modified, until the risk is **as low as reasonably practicable (ALARP)**.

The ALARP concept combines the technical feasibility of further reducing the safety risk and the cost.

Demonstrating that the safety risk is ALARP means that any further risk reduction is either impracticable or grossly outweighed by the cost.

Систем управљања у складу са Делом САМО

The safety risk management process



Систем управљања у складу са Делом САМО

CAMO Example

HAZARD: Failure to review an emergency AD

Safety Events	Preventive Barriers		Undesirable Event	Recovery Barriers		Potential Outcomes	Consequence Severity
Absence of the NPCA			Non-airworthy aircraft ready for take-off due to AD not applied as required	Check-list item	Stall Warning	A/C mush/stall (LOC-I)	Multiple Fatalities
Understaffed CAMO					Aural Mis-configuration Warning	Runway Excursion (RE)	Multiple Fatalities
Absence of software alert					Simulator training on aborting take-off	Aborted Take-off (RTO)	Aircraft/ ground movement delay

Likelihood	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Definition	Meaning	Value
Catastrophic	<ul style="list-style-type: none"> Equipment destroyed. Multiple deaths. 	5
Hazardous	<ul style="list-style-type: none"> A large reduction in safety margins, physical distress or a workload such that the operation cannot be reliable and tasks cannot be performed accurately or completely. Serious injury or death to a number of people. Major equipment or product damage. 	4
Major	<ul style="list-style-type: none"> A significant reduction in safety margin, a reduction in the ability of the operation to cope with adverse conditions as a result of an increase in workload, or as a result of conditions impairing their efficiency. Serious incident. Injury to persons. Equipment or product damage. 	3
Minor	<ul style="list-style-type: none"> Nuisance. Operating limitations. Use of emergency procedures. Minor incident. 	2
Negligible	<ul style="list-style-type: none"> Little consequence. 	1

Систем управљања у складу са Делом САМО

Severity: **Catastrophic (E)**

Likelihood: **Occasional (4)**

Risk Index **4E**

RISK LIKELIHOOD	RISK SEVERITY				
	NEGLIGIBLE (A)	MINOR (B)	MAJOR (C)	HAZARDOUS (D)	CATASTROPHIC (E)
FREQUENT (5)	5 A	5 B	5 C	5 D	5 E
OCCASIONAL (4)	4 A	4 B	4 C	4 D	4 E
REMOTE (3)	3 A	3 B	3 C	3 D	3 E
IMPROBABLE (2)	2 A	2 B	2 C	2 D	2 E
EXTREMELY IMPROBABLE (1)	1 A	1 B	1 C	1 D	1 E

Систем управљања у складу са Делом САМО

HAZARD: Failure to review an emergency AD

Safety Events	Preventive Barriers		Undesirable Event	Recovery Barriers		Potential Outcomes	Consequence Severity
Absence of the NPCA			Non-airworthy aircraft ready for take-off due to AD not applied as required	Check-list item	Stall Warning	A/C mush/ stall (LOC-I)	Multiple Fatalities
Understaffed CAMO					Aural Mis-configuration Warning	Runway Excursion (RE)	Multiple Fatalities
Absence of software alert					Simulator training on aborting take-off	Aborted Take-off (RTO)	Aircraft/ ground movement delay

Систем управљања у складу са Делом САМО

HAZARD: Failure to review an emergency AD

Safety Events	Preventive Barriers		Undesirable Event	Recovery Barriers		Potential Outcomes	Consequence Severity
Absence of the NPCA	Evaluation of the management principles	Independent AD review (external, quality, etc.)	Non-airworthy aircraft ready for take-off due to AD not applied as required	Check-list item	Stall Warning	A/C mush/stall (LOC-I)	Multiple Fatalities
Understaffed CAMO	Improved attractiveness and opening of a second position				Aural Misconfiguration Warning	Runway Excursion (RE)	Multiple Fatalities
Absence of software alert	Software Developer Support or Software replacement				Simulator training on aborting take-off	Aborted Take-off (RTO)	Aircraft/ ground movement delay

Likelihood	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Definition	Meaning	Value
Catastrophic	<ul style="list-style-type: none"> Equipment destroyed. Multiple deaths. 	5
Hazardous	<ul style="list-style-type: none"> A large reduction in safety margins, physical distress or a workload such that the operation cannot be reliable and tasks cannot be performed accurately or completely. Serious injury or death to a number of people. Major equipment or product damage. 	4
Major	<ul style="list-style-type: none"> A significant reduction in safety margin, a reduction in the ability of the operation to cope with adverse conditions as a result of an increase in workload, or as a result of conditions impairing their efficiency. Serious incident. Injury to persons. Equipment or product damage. 	3
Minor	<ul style="list-style-type: none"> Nuisance. Operating limitations. Use of emergency procedures. Minor incident. 	2
Negligible	<ul style="list-style-type: none"> Little consequence. 	1

Систем управљања у складу са Делом САМО

Severity: **Catastrophic (E)**

Likelihood: **Improbable (2)**

Risk Index **2E**

RISK LIKELIHOOD	RISK SEVERITY				
	NEGLIGIBLE (A)	MINOR (B)	MAJOR (C)	HAZARDOUS (D)	CATASTROPHIC (E)
FREQUENT (5)	5 A	5 B	5 C	5 D	5 E
OCCASIONAL (4)	4 A	4 B	4 C	4 D	4 E
REMOTE (3)	3 A	3 B	3 C	3 D	3 E
IMPROBABLE (2)	2 A	2 B	2 C	2 D	2 E
EXTREMELY IMPROBABLE (1)	1 A	1 B	1 C	1 D	1 E

**Risk controls/mitigations reduce risk
ONLY AFTER EFFECTIVE IMPLEMENTATION**

Their **monitoring is therefore essential**, mitigations can be weakened by disruptors: the organization, the management, poorly adapted procedures, individuals, etc.

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Safety Assurance

All planned and systematic actions necessary to afford adequate confidence that a product, a service, an organisation, or a functional system achieves acceptable or tolerable safety.



Safety Performance Monitoring and Measurement

Safety performance monitoring and measurement is the process by which the organisation safety performance **is verified in comparison to the overall safety policy and objectives.**

Safety performance reflects the ability of the organisation to effectively manage risks.

Safety performance is defined as the level of safety achievement against the **Safety Performance Targets (SPTs)**, using specific **Safety Performance Indicators (SPIs)**.

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Safety Performance Indicators (SPI) are used as quantitative parameters to measure the degree to which each safety objective is fulfilled.

Safety performance target (SPT) is the planned or intended objective for safety performance indicator(s) over a given period.

There is no single safety performance indicator that is appropriate in all circumstances. The indicator chosen must be matched to the application in which it will be used, so that it will be possible to make a meaningful evaluation of safety.

The process for determining quantitative safety performance targets for a given period consists of:

- Measuring the baseline against which safety improvements are to be assessed;
- Fixing reasonable, yet ambitious targets; and
- Monitoring target achievement over time and reviewing targets as necessary.

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Safety Objective	Safety Performance Indicator	SPT	Performance 2024			
			Q1	Q2	Q3	Q4
achieve zero accidents and zero serious incidents	Number of Mandatory Occurrence Reports (MORs)	3 or less				
	Number of airworthiness incidents (as defined in SMM)	1 or less				
	In-flight turn backs or diversions due to technical issues	1 or less				
be always compliant with all applicable laws, regulations and procedures	Number of internal audits performed	2				
	Number of audit findings per internal audit	2 or less				
	Number of audit findings per competent authority audit	1 or less				
	Number of findings closed within rectification time	Min. 80 %				
keep safety a top priority for the management	Number of Safety Review Board (SRB) meetings	2				
	SRB attendance of key personnel	Min. 80 %				
promote safety continuously and in an encouraging way	Number of safety newsletters issued	2				
	Number of Safety surveys	1				

Систем управљања у складу са Делом САМО

Nr.	ID	Category	SPI				
			Name	Description	Acceptable (target)	Tolerable (alert level)	Not Acceptable
1	ACC	Operational	Accidents	Accidents due to maintenance, p/Y	0	>0	1
2	TIR	Operational	TIR	Technical Incident Reports, p/10 ⁶ FH, Curr	<1	1-2	>2
3	ISD	Operational	IFSD	Engine Inflight Shutdowns, p/10 ⁴ FC, Curr	<1	1-2	>2
4	MEL	Operational	MEL Extensions	Requested extensions for MEL items, p/Y	<10	10-13	>13
5	ADI	Operational	AD Irregularities	Airworthiness Directives irregularities, p/Y	<1	1-2	>2
6	RSK	Operational	Risk Level	Average risk level determined for all occurrences, Curr	Low	Minimal	>Minimal
7	UER	Maintenance	Engine Removals	Unscheduled Engine Removals, p/Y	<2	2	>2
8	CON	Maintenance	Convenience Removals	Component removals for convenience, p/Q	<80	80-100	>100
9	EEF	Maintenance	Emergency Equipment Failures	Failures in emergency equipment during programmed tests, p/Q	<2%	2%-5%	>5%
10	VOR	Operational	Voluntary Reports	Voluntary Occurrence Reports, p/Y	>80	60-80	<60

Систем управљања у складу са Делом САМО

Safety performance monitoring and measurement process may include, as appropriate to the size, nature and complexity of the organisation:

- **safety reporting**, addressing also the status of compliance with the applicable requirements;
- **safety reviews**, including trends reviews, which would be conducted during the introduction of new products and their components, new equipment/technologies, the implementation of new or changed procedures, or in situations of organisational changes that may have an impact on safety;
- **safety audits** focusing on the integrity of the organisation's management system, and on periodically assessing the status of safety risk controls; and
- **safety surveys**, examining particular elements or procedures in a specific area, such as problem areas identified, or bottlenecks in daily continuing airworthiness management activities, perceptions and opinions of management personnel, and areas of dissent or confusion.

Систем управљања у складу са Делом CAMO

Management of Change (MOC)

Any changes to an organisation may introduce new hazards or threaten existing safety risk controls. The **Management of Change (MOC)** should be a **documented process** to **identify external and internal changes** that may have an adverse effect on the safety of its continuing airworthiness management activities.

The MOC should make use of the organisation's existing **hazard identification, risk assessment and mitigation** processes.

The MOC process should be used for both...

...changes that shall require prior approval and...

...changes not requiring prior approval...

...according CAMO.A.130 Changes to the organisation.

Систем управљања у складу са Делом CAMO

Acc. CAMO.A.130 the following **changes need prior approval** from the competent authority:

- changes affecting the scope of the certificate or terms of approval of the organization
 - the name of the organisation and/or the organisation's principal place of business
 - additional aircraft type/series/group
 - additional subcontracted organisation
 - the accountable manager
- changes to the nominated personnel (NPCA, SM, CMM)
- changes to the reporting lines between the nominated personnel and the AM
- the procedure as regards changes not requiring prior approval

The documentation of the **MOC should be** part of the supporting documentation for the change **submitted to the competent authority**.

Систем управљања у складу са Делом CAMO

For changes requiring prior approval, the competent authority should be informed:

- 30 working days ahead for changes affecting the organisation certificate
- 20 working days ahead for planned changes of nominated persons
- as early as possible for unforeseen changes

For **changes not requiring prior approval**, a procedure describing how these changes will be managed and notified to the competent authority shall be part of the documentation for the application of an initial CAMO certificate (see CAMO.A.115).

For changes not requiring prior approval, the documentation of the **MOC should be** part of the documentation of the change and **submitted to the competent authority on request.**

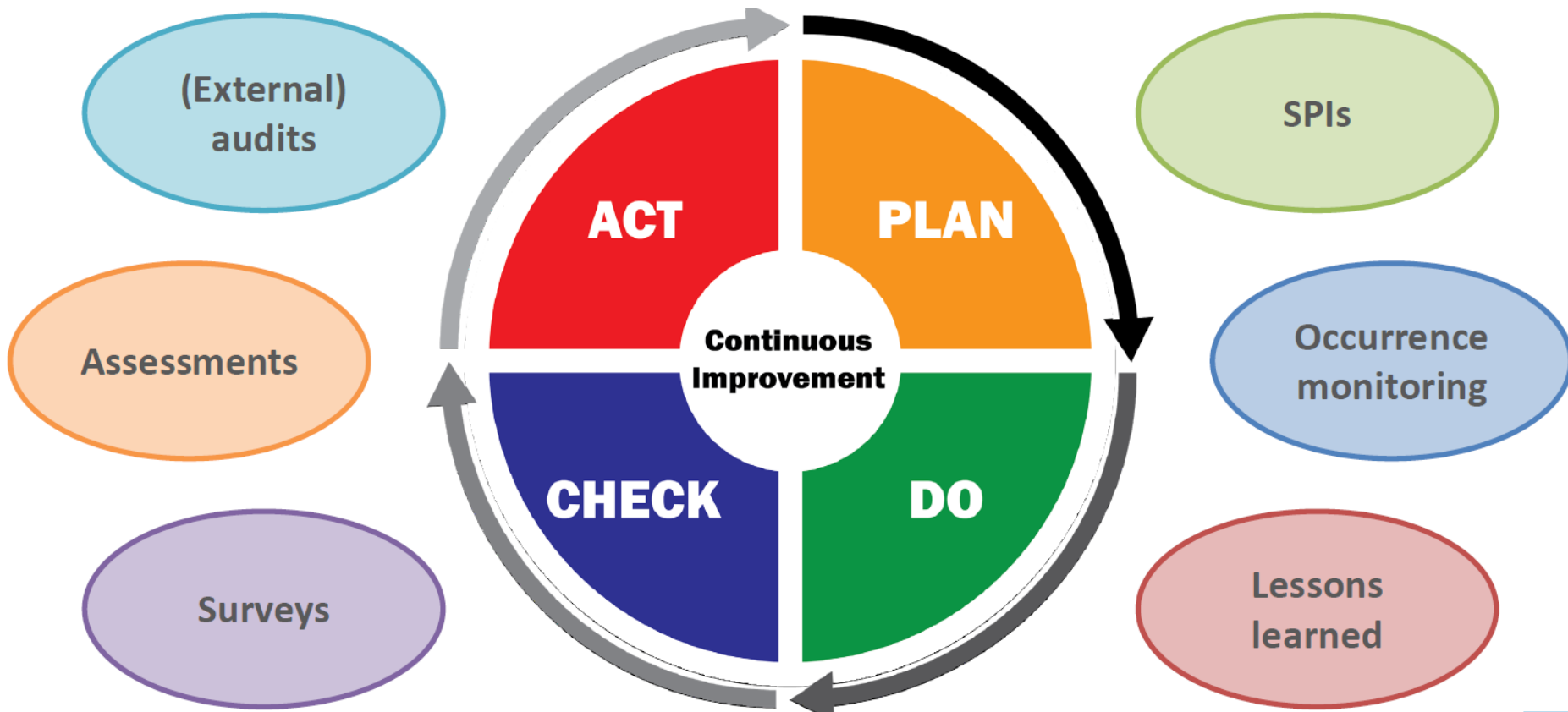
Систем управљања у складу са Делом САМО

Some examples of change which requires hazard identification and risk management process include, but are not limited to:

- (1) changes to the organisational structure;
- (2) the inclusion of a new aircraft type in the terms of approval;
- (3) the addition of aircraft of the same or a similar type;
- (4) significant changes in personnel (affecting key personnel and/or large numbers of personnel, high turn-over);
- (5) new or amended regulations;
- (6) changes in the security arrangements;
- (7) changes in the economic situation of an organisation (e.g. commercial or financial pressure);
- (8) new schedule(s), location(s), equipment, and/or operational procedures; and
- (9) the addition of new subcontractors.

Систем управљања у складу са Делом САМО

Continuous Improvement



Систем управљања у складу са Делом САМО

Organisation should continuously seek to improve its safety performance and the effectiveness of its management system using following processes.

/1/ Audits carried out by external organisations

External organizations are playing a crucial role in this process by conducting independent audits to assess the effectiveness of organisation management system.

External audits ensure that organisation adheres to established standards and best practices. They highlight examples of good practice, allowing organisation to adjust their working practices for continuous improvement.

/2/ Assessments

Assessments are conducting to assess management system. In particular to assess the effectiveness of the safety risk management processes and safety culture.

This is achieved through Safety Audits.

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/3/ Staff surveys

Staff surveys, including cultural surveys, can provide useful feedback on how engaged personnel are with the management system.

/4/ Monitoring the recurrence of incidents and occurrences

This process is essential for maintaining safety and preventing similar issues in the future.

To achieve that goal, in case of incidents and occurrences recurrence internal safety investigation shall be performed.

/5/ Evaluation of safety performance indicators and reviews of all the available safety performance information

This is achieved through Safety Review carried out by SRB.

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/6/ Identification of lessons learned

Continuous improvement involves not only fixing problems but also learning from them to evolve and succeed.

This is the process of reflecting on past occurrences actions, or situations to identify what worked well and what did not.

All lessons learned from occurrence investigations shall be published and made available for all relevant personnel.



Систем управљања у складу са Делом САМО

Safety Promotion

Safety Promotion is a process aimed at **promoting a culture of safety** by ensuring that all personnel in an organisation are aware that, at their level and in their day-to-day activity, they are key players in safety and that everyone, therefore, contributes to an effective SMS.

Managers are important actors of the Company's Safety Management System. In all the activities they manage, they have to demonstrate commitment to safety and take care of safety aspects. They have to **lead by example** and to have an essential role to play for safety promotion.

Training and effective communication on safety are two important processes supporting safety promotion.

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Training

All personnel shall receive **safety training as appropriate for their safety responsibilities** and adequate records of all safety training provided are to be kept.

All personnel shall receive training to maintain their competences. This includes notification of any changes to applicable regulations and rules, Company procedures, and safety-relevant technical matters.

To achieve this, organisation should establish **an initial and recurrent training plan**.

There is a link between training and safety risk management as training and competence development is one of the means through which identified risks can be reduced.

Систем управљања у складу са Делом САМО

SAFETY TRAINING (INCLUDING HUMAN FACTORS)

With respect to the understanding of the application of safety management principles (including HF), all organisation personnel should be assessed for the need to receive initial safety training.

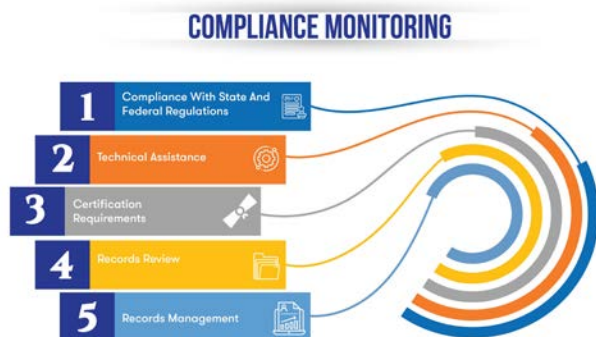
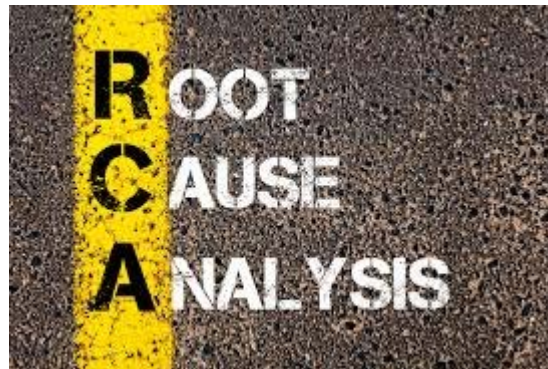
Personnel involved in the delivery of the basic continuing airworthiness management services of the organisation should receive both initial and recurrent safety training, appropriate for their responsibilities.

This should include at least the following staff members:

- nominated persons, line managers;
- persons involved in any compliance monitoring and/or safety management related processes and tasks, including application of HF principles, internal investigations and safety training;
- airworthiness review staff;
- technical support personnel such as, planners, engineers, and technical record staff;
- personnel involved in developing and amending/reviewing the AMP, in assessing its effectiveness and/or working on reliability programme; and
- contract staff in the above categories.

Систем управљања у складу са Делом САМО

More in-depth training, for staff directly involved in safety management and compliance monitoring processes.



Систем управљања у складу са Делом САМО

Communication

The organisation shall establish an **effective communication system regarding safety related matters** that:

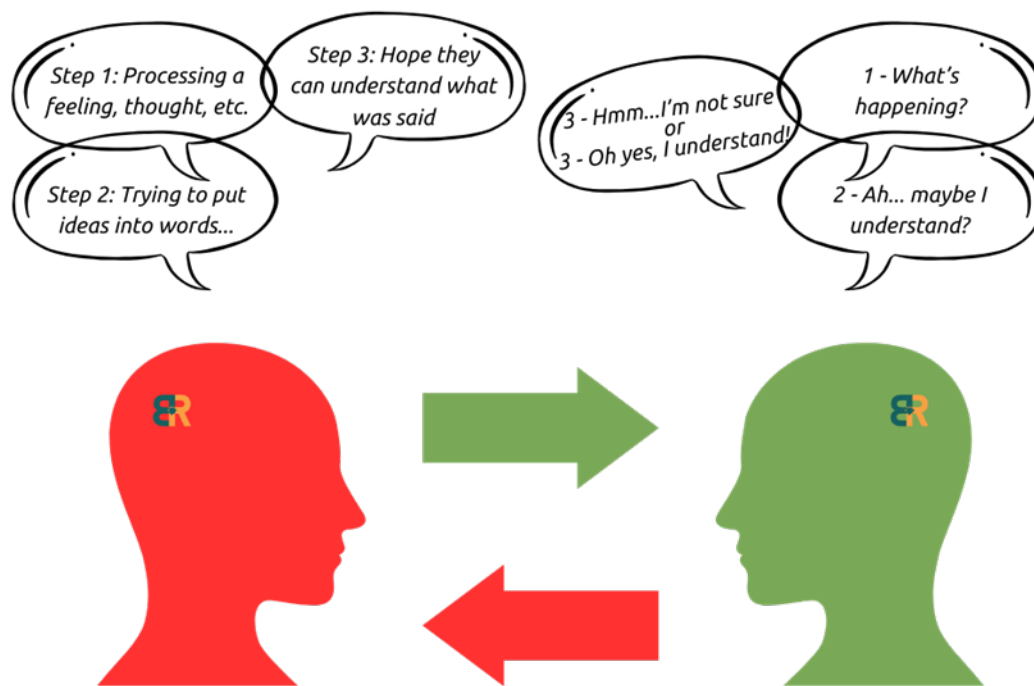
- ensures that all **personnel are aware of safety management activities** as appropriate to their safety responsibilities;
- **conveys safety critical information**, especially related to assessed risks and analysed hazards;
- **explains why** particular **actions are taken**; and
- **explains why** safety procedures are introduced or changed.

Communication shall be **open**. It shall **encourages discussion**, develops the organisation Safety Culture and makes the most of the lessons learned from running the SMS.

Communication reinforces the commitment of everyone to report hazards and occurrences and provides **feedback to the reporters** (an essential condition for sustained reporting).

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Communication is a **two way process**, meetings, e-mails and other interactive methods allow for the provision of feedback from the personnel and can generate discussion.



Систем управљања у складу са Делом CAMO

Compliance Monitoring

The primary objectives of compliance monitoring are to:

- provide an **independent monitoring function** on how the organisation ensures compliance with the applicable requirements, policies and procedures, and
- to request action where non-compliances are identified.

To ensure independence, audits and inspections should be carried out by personnel who are not responsible for the functions, procedures or products that are audited or inspected.

All aspects of Part-CAMO compliance should be verified every year according to an audit plan.

Систем управљања у складу са Делом САМО



Систем управљања у складу са Делом CAMO

Areas to be audited by the compliance monitoring and covered in the audit plan:

- all applicable aspects of Part-CAMO / Part-M / Part-ML
- all locations
- contract audits
- subcontractor audits
- product samples

How is the compliance monitoring audited?

Depending on the size of the organisation, either by:

- internal auditors who are properly trained but not working at compliance monitoring
- external (contracted) auditors for whom the qualification must be assessed

Систем управљања у складу са Делом САМО

When a non-compliance is found during an audit, the audit report should be sent to the relevant department(s) for corrective action, giving target closure dates.

The compliance monitoring function should:

- ensure that the **root cause(s) and contributing factor(s) are identified**
- ensure that **corrective actions are defined**
- oversee that **all findings are properly investigated and corrected** in a timely manner

The results of form the compliance monitoring shall be reviewed with the Accountable Manager (AM) either...

- ...during regular SRB meetings or...
- ...in regular independent meetings between the Compliance Monitoring Manager (CMM) and the Accountable Manager (AM).



Закључак





Хвала на пажњи!

HAVE A SAFE DAY