

AS-SMS-SM1000 Issue B

SAFETY MANAGEMENT SYSTEM

October 10, 2024



SAFETY MANUAL



Disclaimer: Temporary approval for 1321/2014 Part 145 Certification only ENAC Protocol N°.....

AEROSYSTEMS S.r.I. - Precision Aerospace Components Via San Gottardo 4, 21021 Angera (VA) Italy

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SAFETY MANAGEMENT SYSTEM

Issue B October 10, 2024



AEROSYSTEMS S.r.I. Precision Aerospace Components Via San Gottardo 4, 21021 Angera (VA) Italy <u>www.aerosystems.it</u> NCAGE CODE: AR971

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SAFETY MANAGEMENT SYSTEM

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1. TABLE OF REVISIONS

Issue N°	Issue Date	Date Inserted	Entered By	Note
FIRST	Nov 7, 2023	Nov 7, 2023	AEROSYSTEMS	First Document Issue
A	June 4, 2024	June 4, 2024	AEROSYSTEMS	 Updated Par. 1 Table of Revisions Updated Par. 6.1.1. Management Commitment Updated Par. 6.1.3. Appointment of Key Safety Personnel Updated Par. 6.1.3.2. Safety Action Group Updated Par. 6.1.5.2. SMS Records - Controlled Documentation of the SMS Updated Par. 6.3.2. The Management Of Change Updated Par. 6.4.1. Safety Training and Education Updated Par. 9 Supporting Reference Documentation
В	October 10, 2024	October 10, 2024	AEROSYSTEMS	 Page 5, Change of Date of Issue. Par. 2, updated table with new date of issue. Page 3, added Signature Table. Par. 4.2, updated Glossary, Acronyms and Abbreviations Corrected filename FF312 - AS-SMS-SHIRRMA Safety Hazard Identification and Risk Register Mitigation Analysis Par. 6.1.3. improved text. Page 35 corrected SAG Safety Action Group composition. Par. 6.2.2.1) improved text, added detailed instructions and tables. Par. 6.2.3 improved text, added MOC Form. Par. 6.3.1.1 added reference to DAFOR. Par. 6.4.3 modified acronym ORS (was AORS-AMORS) Par. 9 corrected "Safety Manual", was "Standard". Par. 9 added Aerosystems Documents and Forms. Par. 3 improved text. Par. 5.1 added "SRB" acronym fo Safety Review Board. Par. 5.5. corrected text in "SMS", was "ICAO". Par. 5.6.1 added Ref. Paragraph 6.2 Safety Policy and Objectives. Par. 5.6.3. added Ref. Paragraph 6.2 Safety Policy and Objectives. Par. 5.6.3. added Ref. Paragraph 6.3 Safety Policy and Objectives. Par. 6.1.1. improved text. Par. 6.1.3. improved text. Par. 6.1.3. improved text. Par. 6.1.3. added Ref. Paragraph 6.3 Safety Promotion. Par. 6.1.1. improved text. Par. 6.1.3. improved text. Par. 6.1.1.3. improved text. Par. 6.1.3. improved text. Par. 6.1.3. improved text. Par. 6.1.1.3. improved text. Par. 6.1.3. improved text and added reference to Safety Training; removed text and added contents. Added Paragraph 6.1.3.2 SAG Safety Manual". Par. 6.1.3.1 improved text and added company chart diagram. Par. 6.1.3.1 improved text and added contents. Added Paragraph 6.1.3.2 SAG Safety Manual ". Par. 6.1.



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 Par. 6.2 removed text.
 Par. 6.2.1. improved text "any change" was "substantive" and
added contents.
Par. 6.2.1. updated Hazard list.
 Par. 6.2.2., Par. 7.3.3., Par. 7.4, Par 7.5. improved text added
contents.
 Removed Section 8 SMS Implementation Plan.
Par. 6.2.3 removed text.
Page 47 corrected table.
•
Page 55 improved text.
 Par. 6.3 improved text, removed "monitoring".
 Par. 6.3.1 moved text from par. 6.3.
 Par. 6.3.2 improved text and added contents.
 Par. 6.3.3 corrected text "shall be", was "should be".
 Par. 6.4.1 corrected references.
• Par. 6.4.1.1. removed "ERP".
 Par. 6.4.1.1. updated text and added contents.
 All pages: removed any reference to "ERP".
 Par. 6.4.1.2 updated text, added content and "Syllabus", removed
"ERP".
 Par. 6.4.3 improved text and added contents.
• Par. 7.3.3. added reference to "Par 145".
 Par. 8 added FF143 - RRT Record Retention Table.



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2. LIST OF EFFECTIVES PAGES

Upon receipt of the second and subsequent changes to this manual, personnel responsible for maintaining this publication in current status will ascertain that all prevision changes have been received and incorporated. Action should be taken promptly if the publication is incomplete.

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3. DISTRIBUTION LIST AND CHANGE METHOD

This manual is subject to revisions and changes which will be automatically distributed to all employees of Aerosystems. Revisions and changes will take into account errors, changes discrepancies pointed out and suggestions. To avoid mistakes or misunderstandings manual holders are required to insert changes in the manual immediately upon receipt and to destroy the old manual whenever a revision (new issue) of the same is distributed.

The portion of page affected by the change is indicated by the following change method:

Changed text is indicated by a black vertical line on the outer margin of the page, adjacent to the affected text. The change symbol identifies the addition of either new information, a change procedure, the correction of an error or a rephrasing of the previous information.



4. DEFINITION, GLOSSARY

4.1. SAFETY AND JUST CULTURE

SAFETY DEFINITION

Safety Culture is the way safety is perceived, valued and prioritized in an organization. It reflects the real commitment to safety at all levels in the organization.

It has also been described as "how an organization behaves when no one is watching".

Safety Culture is not something you get or buy ; it is something an organization acquires as a product of the combined effects of Organizational Culture, Professional Culture and, often, National Culture.

Safety Culture can therefore be positive, negative or neutral. Its essence is in what people believe about the importance of safety, including what they think that their peers, superiors and leaders really believe about safety as a priority.

We already have an SMS, why do we need Safety Culture too ?

A Safety Management System (SMS) represents an organization's competence in the area of safety, and it is important to have an SMS and competent safety staff to execute it. But such rules and processes may not always be followed, particularly if people in the organization believe that, for example, 'moving traffic' is the real over-riding priority, even if risks are occasionally taken.

So, organizations need both a SMS and a healthy Safety Culture in order to achieve acceptable safety performance.

If you want to remain safe, you have to know the realities of safety in your organization.

The more robust approach is to carry out a Safety Culture survey which attempts to 'measure' Safety Culture in a way which can be repeated subsequently for comparative purposes.

JUST CULTURE DEFINITION

One key to the successful implementation of safety regulation is to attain a "just culture" reporting environment within aviation organizations, regulators and investigation authorities. This effective reporting culture depends on how those organizations handle blame and punishment.

"Just culture" is an atmosphere of trust in which people are encouraged, even rewarded, for providing essential safety-related information - but in which they are also clear about where the line must be drawn between acceptable and unacceptable behavior.

There is a need to learn from accidents and incidents through safety investigation so as to take appropriate action to
prevent the repetition of such events. In addition, it is important that even apparently minor occurrences are
investigated, in order to prevent catalysts for major accidents.



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CONDITIONS FOR JUST CULTURE

Under "Just Culture" conditions, individuals are not blamed for 'honest errors', but are held accountable for willful violations and gross negligence.

People are less willing to inform the organization 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. However, a totally "no-blame" culture is neither feasible nor desirable. Most people desire some level of accountability when a mishap occurs.

"Just Culture" is a culture in which front-line operators and others are not punished for actions, omissions or decisions taken by them which are commensurate with their experience and training, but where gross negligence, willful violations and destructive acts are not tolerated.

4.2. **DEFINITIONS**

The following definitions are based upon those within the Supporting Reference Documentation listed at paragraph 9.

Accident

An occurrence associated with the operation of an aircraft which takes place between the times any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which :

- 1) A person on board or on ground is fatally or seriously injured.
- 2) The aircraft sustains damage or structural failure.
- 3) The aircraft is missing or is completely inaccessible.

Aircraft

Manned or unmanned aerial system (with or without pilot). (Source: SMS SM-0001 Standard).

Climate of SMS

The perceived value placed on safety in an organization at a particular point in time. (*Source: SMS SM-0001 Standard*).

Continuing Airworthiness Management

A process by which a type certificated aircraft is thereafter kept in a condition where it remains airworthy, being compliant with the technical conditions fixed to the issue of the Certificate of Airworthiness and kept in a condition for safe operation (technically fit for flight).

Continued Airworthiness

The post-certification phase of an aircraft's design life, during which the design approval holder has duties to collect data on "failures, malfunctions and defects" (see 21.A.3) to identify potential threats to the continuing airworthiness of the aircraft, and for which phase the design approval holder is required to make available 'instructions for continued airworthiness' to ensure the safe operation and support the development of the operator's maintenance programs.



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Corporate SMS

Corporate governance, structure and processes to cover some or all elements common across domains (such as accountability, safety policy, hazards identification and safety risks management principles, safety data collection and assessment, safety awareness and training).

Corporate SMS is not compulsory, but could facilitate consistent SMS implementation in companies holding multiple approvals and/or certificates.

(Source: SMS SM-0001 Standard).

Event

Any anomaly in operating an aviation product or in performing an organization's activity. (*Source: SMS SM-0001 Standard*).

Foreseeably

Identification of every conceivable or theoretically possible hazard is neither possible nor desirable; therefore, judgment is required to determine the adequate level of detail in hazard identification. Organizations should exercise due diligence in identifying significant and reasonably foreseeable hazards related to their operations.

Hazard

A condition or an object with the potential to cause or contribute to an aircraft incident or accident.

Incident

An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

Just Culture

A culture where individuals are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, willful violations and destructive acts are not tolerated. (*Source: based on EU No* 376/2014).

Management System

A framework of policies, processes and procedures used by an organization to ensure that it can fulfil all the tasks required to achieve its objectives. (Source: based on ISO 9000:2015).

Occurrence

Any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an accident or serious incident (as defined in ICAO Annex 13). (*Source: EU No* 376/2014).

Organization

Any entity, approved or non-approved, independent of size, performing an activity in Design, Manufacturing or Maintenance (DMM) of aircraft, propellers, aircraft engines or parts and appliances. ICAO is making use of the term "organization" for those organizations. (*Source: SMS SM-0001 Standard*).

Procedure

A specified way to carry out an activity or a process. (*Source: ISO 9000:2015*).



Process

A set of interrelated or interacting activities which transforms input elements into outputs, respecting constraints, requiring resources, meeting a defined mission, corresponding to a specific purpose adapted to a given environment. (*Source: based on ISO 9000:2015*).

Product

A broad term that includes aircraft, aircraft engine, aircraft propeller, aircraft part or appliance or both, their subcomponents (hardware and software) and associated deliverables such as documentation necessary for operation and maintenance (e.g., Instructions for Continued Airworthiness, Aircraft Flight Manual). (*Source: SMS SM-0001 Standard*).

Quality escape

Any product released by an internal or external supplier or sub-tier supplier that is subsequently determined to be nonconforming to contract or product specification requirements or both. *(Source: AS/EN/SJAC 9131).*

Risk

The combination of predicted severity (criticality) and likelihood (probability) of the potential effect of a hazard. (*Source: NAS9927*).

Risk Control

A means to reduce or eliminate the effects of hazards. (*Source: NAS9927*).

Risk Mitigation

The process of incorporating defenses or preventive controls to lower the severity or likelihood of a hazard's projected consequence or both.

Safety

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.

Safety Assurance (SA)

Processes within the SMS that function systematically to ensure the performance and effectiveness of safety risk controls and that the organization meets or exceeds its safety objectives through the collection, analysis, and assessment of information. (*Source: NAS9927*).

Safety Culture

A set of enduring values, behaviors, and attitudes regarding safety management, shared by every member at every level of an organization.

Safety data

Data recorded for further use in SMS activities (e.g., events reports, safety risk assessments).

Such safety data is collected from proactive or reactive safety-related activities, including but not limited to:

- Accident or incident investigations.
- Safety reporting.
- Continuing airworthiness reporting.
- Product operational performance monitoring.
- Inspections, audits, surveys.
- Safety studies and reviews.

Some Safety data can be used as SMS data.



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Safety information

Safety data processed, organized or analyzed in a given context so as to make it useful for safety management purposes.

Safety Management System (SMS)

A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.

SMS data

Data used to measure SMS performance. Examples:

- Hazards report register and samples of reports.
- Outputs of risk assessments.
- Safety performance indicators and related charts.
- Record of completed or in-progress safety assessments.
- SMS internal review or audit records.
- Safety promotion records.
- Personnel SMS/safety training records.
- SMS/safety committee meeting minutes.
- SMS implementation plan (during implementation process).

(Source: SMS SM-0001 Standard).

Safety objective

A measurable goal or desirable outcome related to safety.

Safety performance

Realized or actual safety accomplishment relative to the organization's safety objectives.

Safety policy

An organization's fundamental approach for managing safety that is to be adopted within an organization and further defines the organization management's commitment to safety and overall safety vision.

Safety promotion

A combination of training and communication of safety information to support the implementation and operation of an SMS in an organization enhancing its safety culture.

Safety Risk Management (SRM)

A process within the SMS identifying the hazard, analyzing, assessing and controlling related risks.

(Source: based on SMICG terminology).

Note: SRM is one of the recognized and equivalent names used for the Safety Risk Management/Mitigation process and related tools (e.g. excel spreadsheet). Other common names are:

- SA = Safety Assessment
- SRA = Safety Risk Assessment
- HIRA = Hazard Identification & Risk Assessment
- HIRM = Hazard Identification & Risk Mitigation

Service Provider (or product and service provider)

Any organization providing aviation products and/or services. The term thus encompasses approved maintenance organizations and organizations responsible for type design and/or manufacture of aircraft. (*Source: SMS SM-0001 Standard*).



Substantive Change

A change (internal or external) involving matters of major or practical importance to an organization that could have a consequential impact on product safety. Substantive changes include modification, expansion or contraction of the nature and scope of an organization's structure, operating environment, roles and responsibilities, policies, processes, procedures, products, operations, facilities, and/or human resources. (*Source: SMS SM-0001 Standard*).

System Description

A description of an organizational system including its structure, policies, communications, processes, products and operations to determine the scope and perimeter of the system subject to SRM. This allows the understanding of critical factors or features for the purpose of identifying hazards. It is updated whenever there is a newly introduced element or change to the internal or external situation that could affect safety.

4.3. GLOSSARY, ACRONYMS AND ABBREVIATIONS

- AMO Approved Maintenance Organization
- AS Aerosystems
- CAMO Continuing Airworthiness Management Organization
- CMM Compliance Monitoring Manager
- DO Design Organization
- DOA Design Organization Approval
- ECO Engineering Change Order
- ELO Event Log
- HIRM Hazard Identification & Risk Mitigation
- ICAO International Civil Aviation Organization
- JC Just Culture
- LHD Leonardo Helicopters Division
- MM Maintenance Manager
- MOA Maintenance Organization Approval
- MOC Management Of Change (Form)
- ORS Aerosystems Occurrence Reporting System
- PE Production Engineering
- PM Production Manager
- POA Production Organization Approval
- QM Quality Manual
- QMS Quality Management System
- SA Safety Assurance
- SA Safety Assessment
- SAG Safety Action Group
- SAM Safety Accountable Manager
- SM Safety Manual
- SM Safety Manager
- SMART Specific, Measurable, Achievable, Relevant and Time-bound
- SMS Safety Management System
- SPI Safety Performance Indicator
- SOAR Safety Occurrence Alert Report
- SOD Safety Objectives Database
- SRB Safety Review Board
- SRM Safety Risk Management



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SECTION 0 - EXECUTIVE SUMMARY AND SMS IMPLEMENTATION STRATEGY

5. EXECUTIVE SUMMARY

This Safety Management System (SMS) Manual has been developed to direct all personnel in the safe operations of the organization. The manual defines the policies that govern the operation of Aerosystems.

The main goal of the Company SMS Manual is to ensure an integrated approach to safety management (safety governance) reducing / eliminating gaps in safety analyses and risk based decision making management by departments. Our fundamental safety beliefs are:

- Safety is a core business and personal value;
- Safety is a source of our competitive advantage.

A SMS is a pro-active, integrated approach to safety management. The SMS is part of an overall management process that Aerosystems has adopted in order to ensure that the goals of the organization can be accomplished safely. It embraces the principle that the identification and management of risk increases the likelihood of accomplishing the mission. Hazards can be identified and dealt with systematically through the Occurrence Reporting System that facilitates continuing improvement and professionalism. Auditing and monitoring processes ensures that Aerosystems components and operations are made in such a way as to minimize the risks inherent in flight operations.

The Aerosystems SMS has been developed to consider the broadest scope of potential SMS implementation in design, manufacturing and maintenance. The SMS is being introduced for the purpose of continuous improvement in Aviation Safety. When the term "Safety" is used in this Manual it is defined as 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.

The main objective of an SMS is to manage safety related to, or in direct support of the safe operation of aircraft through the effective management of safety risks. It is a system designed to maintain or improve safety by identifying hazards, collecting and analyzing data and managing safety risks. An SMS seeks to proactively assess and control risks before they result in aviation accidents and incidents.

It is important to recognize that Aerosystems' Design, Manufacturing and Maintenance contribution to aviation safety is through the product delivered into operation. The contribution to aviation safety is essentially defined by their output at the point it is provided for operation. Aerosystems can identify what a safe contribution is - either a design shown to meet a defined safety/certification standard, a fully conforming product, or a set of maintenance activities completed exactly as requested, and SMS shall be considered as the means to consider why that might not be achieved. The Aerosystems SMS is therefore a tool to build upon the existing mature disciplines already aiming to achieve these objectives, by seeking weaknesses in the company systems, and limiting the opportunity for the expected contribution to safety not to be achieved.

SMS can be a complex topic with many aspects to consider, but the defining characteristic of an SMS is that it is a decision-making system, based on the collection and analysis of information that encompasses both reactive and proactive measures. It also aims to maintain or improve the safety performance of organizations by establishing and fostering a positive safety culture. A positive safety culture shall be present at all levels, and be reflected in an active and visible management commitment as well as by individuals' awareness of their role and influence on safety.



I

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An SMS should not be implemented through an additional management system requirement, superimposed onto the existing rules but should be fully consistent with other organization management systems. The SMS may contribute to the discharge of these duties, but does not act as the sole means of compliance. As an example, duties for reporting of certain occurrences to the Aviation Authorities from holders of certain approvals or certificates exist today. The SMS does not re-define the criteria for the selection of such reports or the means to convey them to the Aviation Authorities, but may, through its collection of information and reports, provide additional sources of information from which the organization may identify items required to be reported to the Aviation Authorities.

The structure of Aerosystems SMS has been formalized around four components:

- 1) Safety Policy and Objectives.
- 2) Safety Risk Management.
- 3) Safety Assurance.
- 4) Safety Promotion.



5.1. SCOPE

This SM Safety Manual provides :

- Means of compliance for each of the SMS Framework elements.
- Guidelines to enable the sharing of safety related information and continuing airworthiness through interfaces between organizations having safety management obligations, such as: design, manufacturing, maintenance and training organizations, as well as operators and relevant Aviation Authorities.

This SM Safety Manual also considers Aerosystems corporate structure and processes to cover some or all elements common across domains, such as : accountability, safety policy, hazard identification and safety risk management principles, safety data collection and assessment, and safety awareness and training. Corporate SMS is not compulsory but could facilitate consistent SMS implementation, in companies holding multiple approvals and/or certificates.

This SM Safety Manual is intended to provide a means, but not the only means, of compliance with civil aviation regulations but could be used for compliance with other regulations (e.g., military regulations) when acceptable to the relevant Aviation Authorities.

Intended application:

This SM Safety Manual addresses the implementation of the SMS elements within Aerosystems undertaking design, manufacturing or maintenance responsibilities and activities or both as:

- Approved Production Organization (holding an organization approval POA).
- Approved Maintenance Organization (holding an organization approval MOA).

5.2. SAFETY MANAGEMENT PLAN

Safety holds the key to this company's future and affects everything we do.

This SMS Manual defines the organization's Safety Management Plan. The Aerosystems management is committed to the aviation SMS, and is required to give leadership to the program and demonstrate through everyday actions, the commitment to safety and its priority in the achievements of the organization.

The processes in place in the Safety Management Plan include the active involvement of all managers and supervisors, who, through planning and review, will continue to promote efforts for continued improvement in safety and safety performance. The term "Safety Management" should be taken to mean safety, security, health, and environmental management. The key focus is the safe operations of airworthy aircraft.

5.3. CONCEPT OF SAFETY, SMS AND RELATIONSHIP WITH QMS

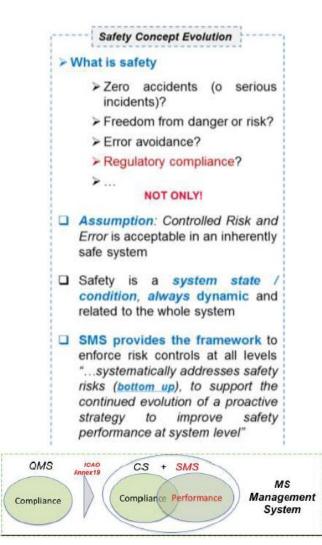
- **Safety** is the state in which the risk of harm to persons or property damage is reduced to and maintained at or below an acceptable level through a continuing process of hazard identification and risk management.
- Safety is a dynamic characteristic of the aviation system, whereby safety risks shall be continuously mitigated.
- Safety Management System (SMS) is a systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.
- SMS is designed to **proactively identify hazards and mitigate the related safety risks** before they result in aviation accidents and incidents.



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SMS in its whole framework cover the 3 types of risk management:

- Reactive: mitigate severity of safety events and threats;
- Proactive: identify safety concerns before safety events happen;
- **Predictive:** anticipate future exposure based on past performance data.



There is a distinction between the concepts of quality management system and safety management system. It is possible to have a quality product or service, as defined by the ISO standards, and still not have a safe product or service.

The adoption of some of the types of tools and techniques used in quality management is also used to manage the safety system. However, it must not be assumed to mean that processes designed to produce a quality product, (repeatedly doing the same thing, without variation) equates to the same thing as repeatedly producing a safe product.

Improving a safety record is not the same as improving safety performance. There are many airlines that have extremely good safety records but are operating with inadequate organizational structures or unsafe performance and have just not had an accident. A good safety record, just like a good quality record, does not guarantee safe performance.



SAFETY MANAGEMENT SYSTEM

Improvements to the QMS process (and Documented Information) are needed to fully meet SMS requirements.

This includes establishing processes to better identify new hazards and establishing processes to measure the effectiveness of safety risk controls. These improvements are developed during the SMS implementation effort. Safety management and Quality management are complementary and work closely together to achieve the overall safety goals of the organization.



QMS and SMS are two complementary systems. Both promote system approach and continuous improvement and may use the same tools and techniques:

- Process mapping / system and process analysis survey;
- Auditing;
- Performance monitoring.

An effective QMS will support the implementation of an effective SMS process. However, QMS focuses on conformity and compliance to the basic requirements, it is prescriptive.

QMS is geared towards customer expectations and contractual/regulatory obligations. However such requirements (external, e.g. Safety Regulations as CS, and internal) can be considered primary risk mitigation actions, based on consolidated "safety knowledge" and not able to intercept the emerging safety issues (not yet captured by rules).

These requirements can be considered as "Necessary, but not Sufficient Conditions".

Processes designed to produce a quality product/service only will not guarantee Safety, where the Safety is not a "component property" but a "system property", always to be considered within a dynamic scenario.



SAFETY MANAGEMENT SYSTEM

5.4. APPLICABILITY OF THE COMPANY SAFETY MANUAL

The Company SMS Manual addresses the implementation of the SMS within the organization undertaking design, manufacturing, training and maintenance responsibilities and activities as Approved Organizations (e.g. DO, PO, MO).

The extent to which SMS is applied to in Aerosystems depends on the organization's scope of approval.

The Aerosystems SMS Manual shall be applied in the organization according to the table illustrated below. For Organization specific requirements refer to the relevant expositions/handbook.

Organization (Type)	Certification	Exposition / Handbook / Manual	SMS Safety Manual
Production Organization (PO)	IT.21G.0073	POE-AS01 Product Organization Exposition signed	
Maintenance Organization (MO)	IT.145.0412	MOE-AS01 Aerosystems Maintenance Organization Exposition	AS-SMS-SM100 Safety Manual
Quality System Approval	UNI EN 9100:2018 UNI EN ISO 9001:2015	QM01 Aerosystems Quality Manual	

Aerosystems SMS requirements are also applicable to the external Organizations (Suppliers) not yet required to have a mandatory SMS. A set of SMS requirements, to be flown down to Suppliers, are defined and introduced in the contractual documentation (Ref. Paragraph 6.3.1.1).



SAFETY MANAGEMENT SYSTEM

5.5. FRAMEWORK

SMS Framework

The Aerosystems SMS framework is in alignment with the regulatory SMS framework.

The Aerosystems Safety Requirements are based upon ICAO Annex 19 Appendix 2 framework, fully adopted by the company, which comprises **Four Components** and twelve elements forming the minimum requirements as follows:

1. Safety Policy and objectives

- 1.1. Management commitment.
- 1.2. Safety accountability and responsibilities.
- 1.3. Appointment of key safety personnel.
- 1.4. Coordination of emergency response planning.
- 1.5. SMS documentation.
- 2. Safety Risk Management
- 2.1. Hazard identification.
- 2.2. Safety risk assessment and mitigation.

3. Safety Assurance

- 3.1. Safety performance monitoring and measurement.
- 3.2. The management of change
- 3.3. Continuous improvement of the SMS.

4. Safety Promotion

- 4.1. Training and education.
- 4.2. Safety communication



ICAO Annex 19 Appendix 2 Note 2 highlights also that interfaces with other organizations can make a significant contribution to the safety of products or services.

By identifying and managing these interfaces, either internal or external, the organization will have more control over any safety risks related to the interfaces. Section 5 of this document will further elaborate on Interface Management.

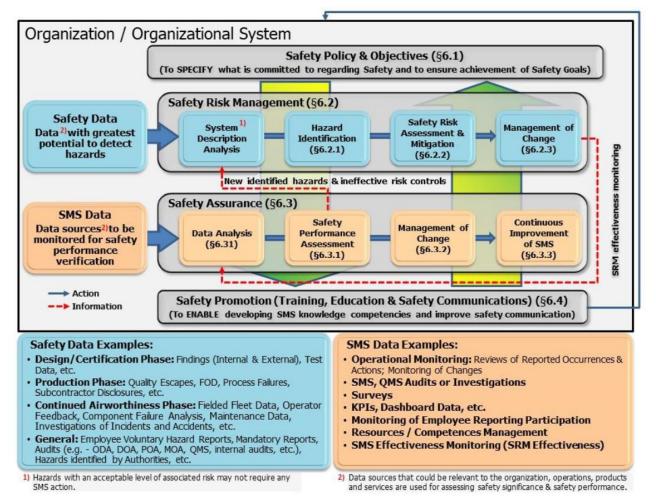


SAFETY MANAGEMENT SYSTEM

5.6. SMS COMPONENTS

This part provides a brief description of the SMS Components. Further details on SMS Components and Elements are detailed in the following pages.

The following figure provides an overview of the SMS components and the interactions among them, with a specific focus on Safety Risk Management and Safety Assurance.



SMS Overview and Interactions between SMS Components (Source: SMS SM-0001 Standard).



5.6.1. SAFETY POLICY AND OBJECTIVES



The first components of the SMS framework focus on creating an environment where safety management can be effective. It is based on a **Safety Policy and Objectives** that describe management's commitment to safety, its goal and the related organization.

Management commitment and leadership is specifically asserted through the safety policy and safety objectives and demonstrated through management decision-making and allocation of resources.

Consistency of decisions and actions with safety policy and safety objectives will help to cultivate a positive safety culture.

Our organization has defined a Safety Policy approved and signed by the Accountable Manager. This first component has the responsibility and commitment to implement and maintain the Safety Management Processes in Aerosystems, in the areas of the following components and their elements:

- Responsibility and Safety accountability of the organization regarding the Policy and the Safety Objectives.
- Obligation of accountability for safety.
- Designation of key safety personnel.
- SMS Documentation.

NOTE:

Aerosystems has not choose to develop a combined safety policy that addresses both « Product & Services Safety » and « HSE Employee Health & Safety ». Distinct requirements for product & services safety and employee health & safety are managed distinct systems and policy statements. Ref. Paragraph 6 - SAFETY POLICY AND OBJECTIVES

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5.6.2. SAFETY RISK MANAGEMENT



The second component of the SMS framework is **Safety Risk Management (SRM)**, which include hazard identification, safety risk assessment and safety risk mitigation.

The SRM process identifies hazards that exist within the context of providing products and/or services.

Hazards may result from systems that are deficient in their design, technical function, human interface or interaction with other processes or systems.

They can be the result of failure of existing processes or the result of changes of the operating environment.

Having a detailed system description will help to understand the operating environment and its interfaces. In fact, hazards may be identified through all the operational life cycle and from internal and external sources.

Safety risk assessment and safety risk mitigation will need to be continuously reviewed to ensure they remain effective.

Our organization has developed its processes considering the essential characteristics of its operations and its environment. Apply this knowledge to identify hazards, analyze them, assess risk and establish the necessary controls. This second component has the responsibility and commitment to implement and maintain the Safety Management Processes in Aerosystems. In the areas of the following components and their elements:

- Hazards Identification.
- The Safety Risks Assessment and Mitigation.

Ref. Paragraph 6.2. - SAFETY RISK MANAGEMENT - HAZARD IDENTIFICATION, CHANGE AND RISK MANAGEMENT PROCESS



5.6.3. SAFETY ASSURANCE



The third component of the SMS framework is **Safety Assurance (SA)** that consists of processes and activities undertaken to determine whether the SMS is operating according to expectations and requirements.

The SA continuously monitors processes as well as the operating environment to detect changes or deviations that may introduce emerging safety risks or the degradation of the existing safety risk controls.

Such changes or deviations may then be re-addressed through the SRM process.

Safety assurance activities include the development and implementation of actions taken in response to any identified issues having a potential safety impact, and continuously improve the performance of the SMS.

Our organization ensures that the measures for the Safety Risks developed as a consequence of the activities of hazard identification and risk management, reach the intended objectives. This third component has the responsibility and commitment to implement and maintain the Safety Management Processes within Aerosystems, in the areas of the following components and their elements:

- Safety performance monitoring and measurement.
- The management of change.
- Continuous improvement of the SMS.

Ref. Paragraph 6.3 - SAFETY ASSURANCE



5.6.4. SAFETY PROMOTION



The fourth component of the SMS framework is **Safety Promotion** that encourages a positive safety culture and helps to achieve the safety objectives through the combination of training and education, effective communication, and information-sharing.

Senior management provides the leadership to promote the safety culture throughout an organization, since effective safety management cannot be achieved solely by mandate or strict adherence to policies and procedures.

Safety promotion affects both individual and organizational behavior, and supplements the organization's policies, procedures and processes, providing a value system that supports safety efforts.

Our organization develops and maintains formal training in Safety and communication activities to create an environment where Safety Objectives can be maintained and achieved. This fourth component has the responsibility and commitment to implement and maintain the Safety Management Processes in Aerosystems, in the areas of the following components and their elements:

- Training and education.
- Safety Communication.

Ref. Paragraph 6.4 - SAFETY PROMOTION

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SECTION 1 - SAFETY POLICY AND OBJECTIVES



6. SAFETY POLICY AND OBJECTIVES

6.1. SAFETY POLICY COMMITMENT

6.1.1. MANAGEMENT COMMITMENT

The Management commitment and safety policy are set out in the Accountable Manager's declarations in paragraph 1.2.1 "Quality and Safety Policy" and 1.4.1 "AM Responsibilities" of the MOE, as provided according to point 21.A.139 of part 21 and 145.A.200 of part 145.

Management commitment to SMS concerns:

- promote a positive safety culture,
- provide the necessary resources for the implementation of the security policy, including reporting procedures,
- indicate the types of behaviour that are unacceptable in relation to aeronautical activities,
- communication within the organization and periodic review of safety policy.

(Source: SMS SM-0001 Standard).

6.1.1.1. SAFETY POLICY

Aerosystems Safety Policy is the foundation of the Company SMS. Safety is identified as a top priority and core value for the organization. The Safety Policy describes the vision of the organization for safety management; how it intends to deal with safety related topics; and how it will create and foster a safety culture at all levels in the organizational structure, with active and visible commitment. Aerosystems has defined the Safety Policy of the organization and communicated it to its collaborators. Aerosystems Safety Policy includes a commitment to continuous improvement, observe all applicable legal requirements, standards and considers best practice.



SAFETY MANAGEMENT SYSTEM

Aerosystems Safety Policy includes the following commitments:

- 1) Design, Manufacture and Maintenance of safe products;
- 2) Superior continued operational safety and performances;
- 3) Safe internal manufacturing operations;
- 4) Proactive employee participation in product/aviation safety and hazard reporting;
- 5) Provide the necessary resources for the implementation of the safety policy;
- 6) **Apply Human Factors** principles, including giving due consideration to the aspect of fatigue;
- 7) Enforce Safety as a primary responsibility of all managers
- 8) Inherent compliance to applicable national and international regulatory requirements, processes, procedures and policies associated with the design, manufacture and continued operational safety of Aerosystems products;
- 9) Comprehensive Safety Risk Management of compliance and conformity assurance processes.
- 10) Ensure that a **positive Safety Just Culture** is maintained at all times.
- 11) Apply Just Culture principles to internal safety reporting and the investigation of occurrences and, in particular, not to make available or use the information on occurrences: to attribute blame or liability to front-line personnel or other persons for actions, omissions or decisions taken by them that are commensurate with their experience and training; or for any purpose other than maintaining or improving aviation safety.

The leadership of Aerosystems commits to providing the necessary resources to ensure implementation of Safety Management System fundamentals, and will:

- Consult, listen, communicate, and respond openly to our staff and customers;
- Ensure personnel competence and accountability. Everyone employed at Aerosystems is responsible for operating
 appropriately and demonstrating compliance with this policy, associated regulatory requirements, and company
 processes and procedures at all times;
- Actively engage in Safety Risk Management and Safety Assurance activities;
- Openly report all aspects of our safety performance;
- Recognize those who contribute to improve product safety performance;
- Ensure that a positive Safety Just Culture is maintained at all times.

NOTE:

- 1) Aerosystems has defined a readable and understandable Safety Policy in accordance with international and national requirements.
- 2) The Safety Policy is signed by the SAM Safety Accountable Manager executive of Aerosystems.
- 3) The SAM Safety Accountable Manager is familiar with the contents of the safety policy.
- 4) The Safety Policy is periodically reviewed to ensure it remains relevant and appropriate to Aerosystems.
- 5) The Safety Policy include a clear statement about the provision of the necessary resources for the implementation of the Safety Policy.
- 6) The Safety Policy is communicated, with visible endorsement, throughout the organization by the means of: Digital Communication (Email, Website, Intranet etc.) or Papercopy (Copies, "Clearly Visible" Posters, Announcements etc.).
- 7) The Safety Policy is communicated to all personnel (including relevant contract staff and organisations) and interested parties.
- 8) People across Aerosystems are familiar with the policy and can describe their obligations in respect of the safety policy.
- 9) The Safety Policy reflect Aerosystems commitment regarding safety, including the promotion of a positive safety culture.
- 10) The SAM Safety Accountable Manager and the management team are promoting their commitment to the Safety Policy through active and visible participation in the safety management system.
- 11) Decision making, actions and behaviours reflect an Aerosystems positive safety culture and there is good safety leadership that demonstrates commitment to the Safety Policy.

Reference: FF300 - AS-SMS SAFETY POLICY (signed by the Accountable Manager)



SAFETY MANAGEMENT SYSTEM

6.1.1.2. SAFETY OBJECTIVES

6.1.1.3. AEROSYSTEMS SAFETY OBJECTIVES

Aerosystems has established Safety Objectives, which are related to high and low impact performance indicators, targets and Safety obligations. Safety Objectives are periodically monitored through the SRB Safety Review Board process is to ensure that the system remains suitable, adequate and effective. As part of the Management Review, safety objectives are updated, which is the responsibility of the Safety Manager and is delivered to the Authority when requested.

Safety objectives are established to continuously improve the safety of aircraft operations and Aerosystems performances with regards to product safety. These safety objectives are meaningful to the organization, and adapted to the type of business and to the volume of collected safety data.

Safety objectives are periodically reviewed and checked for relevance, progress and need for adaptation, as appropriate to Aerosystems needs, and as suited to the nature of the objectives. Safety objectives may not change year-to-year but will likely evolve over time.

These safety objectives shall reflect the identified targets in safety improvements, based on the current situation; they are: **Specific, Measurable, Achievable, Relevant and Time-bound (SMART).**

The safety objectives:

- form the basis for safety performance monitoring and measurement;
- reflect the organization's commitment to maintain and continuously improve the overall effectiveness of the SMS;
- are **periodically reviewed** to ensure that they remain relevant and appropriate to the organization (aligned with the issuance of the safety performance results in terms of achievement of the previous objectives);
- are communicated and known throughout the whole organization.
- a) Aerosystems define safety objectives reflecting the in-service safety performance of its Components products/parts/appliances (e.g., based on the analyses performed through the Continued Airworthiness process) as well as objectives related to the function of the SMS itself. These objectives could include monitoring correct deployment of the SMS, measurement of its activity, and allocation of appropriate means and staff competencies. These safety objectives should reflect the identified improvement in safety, based on the current situation. Safety objectives may consider the management of interfaces within the organization as well as with other organizations.

The **safety objectives are presented as a « standalone document »** to constitute Aerosystems safety performance dashboard, which can also be used to report the safety performance results (an example of safety performance dashboard is given in the document **FF310 - SMS SOD Safety Objectives Database** (Includes Safety Objectives, Indicators and Dashboard)).

- b) The establishment of objectives is intended to drive Aerosystems strategy to maintain or improve safety performance. It is appropriate to set strategic (long term) and tactical (short to medium term) goals and objectives to enable periodic reviews and performance assessment.
- c) The process of communicating the safety policy and associated objectives throughout the organization aim to show the contribution to safety of employees actions. Each employee must be aware of the potential consequences of his/her actions and behaviour and of its positive contribution to the SMS through the understanding of the safety objectives.
- d) Aerosystems SMS include a periodic review of safety objectives, on a yearly basis. This review is aligned with the review of safety performance in terms of achieving the objectives. Aerosystems can establish objectives at an appropriate cycle, review progress periodically, and evaluate to what degree they were achieved. These evaluations can then be the basis of establishing the objectives for the following cycle.



SAFETY MANAGEMENT SYSTEM

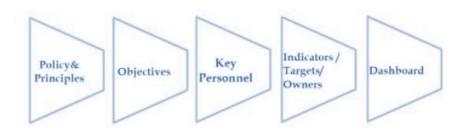
6.1.1.4. FROM SAFETY POLICY TO OBJECTIVES AND TO INDICATORS

Detailed indicators, associated to the objectives, with related targets and owners are defined in the Safety Manual and reviewed annually.

Objectives are identified:

1) High level general objectives that will constitute the minimum content for the SMS.





6.1.1.5. SAFETY AND JUST CULTURE

Aerosystems has implemented internal rules, documented processes and applied them consistently throughout the Organization.

Safety is not only a legal requirement but also a key contributor to sustainable business. Staff working in Aerosystems, at all levels, have a safety responsibility and are key to maintain and improve the implemented Safety Systems.

A safe Aviation System (Aerospace Components) requires that events that affect or could affect aviation safety are reported fully, freely and in a timely manner. This is necessary to facilitate investigation and implementation of lessons learnt.

An important part of the Just Culture is the Safety Training, see paragraph 6.4.1.

"Just Culture lies at the heart of an effective reporting system and such a system is needed to maintain and improve Aviation Safety."

The above Just Culture Declaration:

- Supports existing legislation, in particular Regulation (EU) No 376/2014, on the reporting, analysis and follow-up of occurrences, and;
- Constitutes a set of key principles implemented in the Company Just Culture internal rules.
- The Just Culture principles to internal safety reporting and the investigation of occurrences and, in particular, not to make available or use the information on occurrences: to attribute blame or liability to front-line personnel or other persons for actions, omissions or decisions taken by them that are commensurate with their experience and training; or for any purpose other than maintaining or improving aviation safety.

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SAFETY MANAGEMENT SYSTEM

6.1.2. SAFETY ACCOUNTABILITY AND RESPONSIBILITIES

SAFETY ACCOUNTABLE MANAGER

Aerosystems has identified and appointed a **SAM Safety Accountable Manager** who, irrespective of other functions to, has the ultimate responsibility for the implementation and maintenance of the Safety Management System (SMS).

Reference: FF302 – Appointment Letter for the role Safety Accountable Manager

For this purpose he/she has been designated in the document FF301 - AS-SMS Organization Chart.

Reference: FF301 - SMS Organization Chart

This SAM authority and responsibilities may include, but are not limited to:

- Providing and allocating human, technical, financial or other resources necessary for the effective and efficient performance of SMS;
- Responsibility for the conduct of Aerosystems functions covered by the scope of the SMS, and as described in the system description, if applicable;
- The authority to stop the operations if there is an unacceptable level of safety risk;
- Endorsement, establishment and promotion of the safety policy;
- Ensuring the establishment of the organization's safety objectives and safety targets;
- Acting as the organization's safety champion;
- Accountability for the management of and decision taken with respect and final resolution to safety issues;

and

- Control of the human resources required for the operations authorized to be carried out under the certificate or authorization of operation;
- Direct responsibility to conduct the affairs of Aerosystems ;
- Establishment and maintenance of the organization's competence to learn from the analysis of data collected through its safety reporting system;
- Final responsibility in matters of safety.

(Source: SMS SM-0001 Standard).



SAFETY MANAGEMENT SYSTEM

6.1.3. APPOINTMENT OF KEY SAFETY PERSONNEL

(Source: SMS SM-0001 Standard).

SAFETY MANAGER

Aerosystems has defined the member of the Direction the Safety Manager, who will be responsible for the implementation and maintenance of the Safety Management System (SMS).

Reference: FF303 – Appointment Letter for the role Safety Manager

For this purpose it has been designated in the document FF301 - AS-SMS Organization Chart.

Reference: FF301 - SMS Organization Chart

His specific responsibilities and functions are:

- 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 SRB Safety Review Board;
- 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.
- viii. Guarantee that the necessary processes for the Safety Management System (SMS) are established, implemented and maintained.
- ix. Provide information and advice to the Accountable Manager on matters related to the performance of safe operations;
- x. Ensure the promotion of safety at all levels of Aerosystems.
- xi. Manages the SMS implementation plan on behalf of the AM (upon initial implementation)
- xii. Advises the Organizational AM on safety matters;
- xiii. Manages the Safety Notices issued against other Organizations;
- xiv. Supports the Accountable Manager to prepare the SRB.
- xv. Analyzes and manages the incoming voluntary reports;
- xvi. Prepares SPI Safety Performance Indicators reports (as requested by SAG);
- xvii. Assists in the conduct of Safety audits;
- xviii. Monitors corrective actions definition, planning, implementation and evaluates their results (through SAG);
- **xix.** Ensures that **safety-related information**, including Organization goals and objectives, are made available to all personnel;
- xx. Coordinates and communicates (on behalf of the AM) with the Authority on issues relating to safety;
- xxi. Maintains SMS documentation and records;
- xxii. Administers safety-related surveys and Audits;
- **xxiii. Monitors safety concerns** reported within the aviation community that could affect the Organization or its products/services;
- xxiv. Promotes the Voluntary Reporting, through the "Just Culture" principles;
- **xxv. Defines the hazard matrix** for the Organization and assures it is continuously updated; defines and identifies hazards with the support, if necessary, of the Safety Action Group (SAG) or Subject Matter Experts;
- xxvi. Defines the risk mitigation matrixes and assures their continuous improvement and update;
- xxvii. Plans and facilitates staff safety training;
- xxviii. Promotes Safety Culture.



SAFETY MANAGEMENT SYSTEM

NOTE :

The Safety Manager responsible for administering the SMS does not hold other responsibilities that may conflict or impair his role as SMS manager.

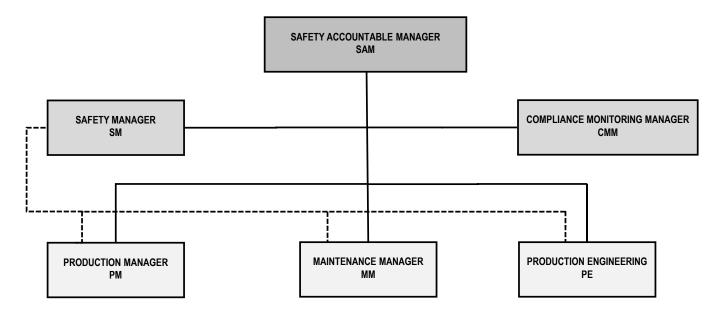
Reference: FF301 - SMS Organization Chart.

See also POE 1.8.5 and MOE 1.4.4 for 21.A.139 and 145.A.200.

Aerosystems has documented and communicated the safety functions and responsibilities; through the different Competency Profiles / Job Descriptions / Competency Descriptions / Safety Responsibility Matrix.

The process owners are detailed below:

PROCESS	PROCESS OWNER
MANUFACTURING / PRODUCTION	PM Production Manager
MAINTENANCE	MM Maintenance Manager
TRAINING	SM Safety Manager
SAFETY COMMUNICATION	SM Safety Manager
DESIGN	PE Production Engineering
SAFETY REVIEW BOARD	SAM Safety Accountable Manager
SAFETY MANAGEMENT SYSTEM	SM Safety Manager
COMPLIANCE MONITORING	CMM Compliance Monitoring Manager



----- Informal Reporting

------ Formal Reporting

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SAFETY MANAGEMENT SYSTEM

6.1.3.1. GROUPS MANAGING THE SAFETY OF AEROSYSTEMS

The following chapters 6.1.3.2 and 6.1.3.3 describe the safety action planning process in place, describing the Safety Action Group (SAG) and the Safety Review Board (SRB) composition, meetings and functions.

6.1.3.2. SAG - SAFETY ACTION GROUP

Aerosystems as part of the functional responsibilities and accountability on safety has established a <u>Safety Action</u> <u>Group (SAG)</u>.

Aerosystems is a simple highly-focused small company and for this reason :

- The Safety Manager periodically summon (every month, 12 times for each year) the SAGM Safety Action Group Meeeting.
- Aerosystem's SAG Safety Action Group is composed by : SAM, SM, CMM, PM, MM and PE.

The SAG Safety Action Group may be tasked or assist with:

- 1) monitoring safety performance;
- 2) defining actions to control risks to an acceptable level;
- 3) assessing the impact of organisational changes on safety;
- 4) ensuring that safety actions are implemented within the agreed timescales;
- 5) reviewing the effectiveness of previous safety actions and safety promotion
- 6) issueing (every month) and sign the "SAGM SAG Meeting Resume" and any related record.

The SAG will review the efficiency of risk mitigation strategies every month. The SM will summon the montly SAG Meeting that will be recorded in the « SAG Meeting Resume » showing all decisions taken during the review.

The SAG will review any Occurrence as detailed in paragraph 6.4.3.

At the « Monthly SAG Meeting » the SAM will sign and approve all Hazards listed in the last updated Hazard Log (SHIRRMA). The Reference to the last updated Hazard Log must include the Date and the Revision.



SAFETY MANAGEMENT SYSTEM

6.1.3.3. SRB - SAFETY REVIEW BOARD

This chapter describe the safety action planning process in place, describing the Safety Review Board (SRB) and Safety Action Group (when applicable) composition, meetings and functions.

The SRB Safety Review Board:

- Is a high-level committee that considers matters of strategic safety in support of the SAM Safety Accountable Manager's safety accountability.
- Is chaired by the SAM Safety Accountable Manager and composed of the person or group of persons nominated in the SAG.

The SRB Safety Review Board shall monitor:

- 1) the safety performance against the safety policy and objectives;
- 2) that any safety action is taken in a timely manner; and
- 3) the effectiveness of the organisation's management system processes.

The SRB Safety Review Board also is tasked with:

- 1) reviewing the results of compliance monitoring;
- 2) monitoring the implementation of related corrective and preventive actions.
- 3) ensure that appropriate resources are allocated to achieve the established safety objectives.
- The Safety Manager periodically summon (every 6 months, 2 times for each year) the SRM Safety Review Meeeting.
- Aerosystem's SRB Safety Review Board is composed by : SAM, SM, CMM, PM, MM and PE.

This SRB Safety Review Board receives counsel from the Safety Manager and together they are responsible for:

- Review Safety performance compared to the safety policy and objectives of Aerosystems;
- Review the effectiveness of the safety management processes of Aerosystems;
- Review the effectiveness of safety oversight of subcontracted operations;
- Ensure that the corresponding resources are allocated to achieve performance in terms of safety; and
- Promote the necessary personnel changes, to maximize the implementation of the system within Aerosystems.
- Supervise safety performance within functional areas;
- Ensure that the corresponding safety risk management activities are carried out;
- Coordinate the resolution of mitigation strategies for the consequences of identified hazards;
- Evaluate the impact of safety related to the introduction of changes;
- Coordinate the implementation of corrective action plans in a timely manner; and
- Review the effectiveness of safety controls and recommendations.
- Evaluate any reported occurrence.
- Individuate any Hazard and associated risks.

The SRB will review the efficiency of risk mitigation strategies every six months. The SAM will summon the SMR Safety Meeting Review that will be recorded in the « SMR Safety Meeting Resume » showing all decisions taken during the review.



6.1.4. SMS DOCUMENTATION

6.1.4.1. SMS DOCUMENTATION

(Source: SMS SM-0001 Standard).

AEROSYSTEMS SAFETY MANUAL

This Safety Manual (SM) communicates to all Aerosystems and accounts for the documentation of all aspects of the Safety Management System, which describes the following:

- 1) Scope and integration of the safety management system;
- 2) The safety policy and objectives;
- 3) The regulatory requirements under which the SMS of [Name of the organization] is conceived.
- 4) The processes and / or procedures of the Safety Management System must be at least the following:
 - Documentation of Safety Management System;
 - Hazard identification;
 - Evaluation and mitigation of safety risks;
 - Observation and measurement of safety performance;
 - Change management;
 - Continuous improvement of the Safety Management System;
 - Training and education; and
 - Safety communication.
 - Control of the contracted activities;
 - Key Safety personnel;
 - Obligations of accountability, functional responsibilities and attributions related to the processes and procedures of the Safety Management System; and
 - Safety Performance indicators.

The procedures and instructions, used to document the management system, are the key instruments to internally communicate and foster the approach in the SMS. They are defined in Aerosystems Safety Manual, which constitutes part of the "Company Operating System" and they are managed and stored in Aerosystems Document Management System

The SMS documentation include:

- Safety Manual with the description of the architecture of the SMS in line with the principles of the Company;
- Safety Policy signed by the AM Accountable Manager;
- AS-SMS-SHIRRMA Safety Hazard Identification and Risk Register Mitigation Analysis;
- AS-SMS-COHIRM Component Safety Assessment Risk Management Hazard Identification and Risk Mitigation;
- AS-SMS-MMERAR Manufacturing Machines and Equipment Risk Analysis and Register;
- AS-SMS-PROSHIRA Product Safety Hazard Identification and Risk Analysis;
- SOD Safety Objectives Database (with Objectives, Indicators and Dashboard);
- SMS Processes, Procedures and Forms described or referenced in the Safety Manual;
- SMS AUDIT (Checklist and Reports);
- AS-SMS-IP Implementation Plan (during implementation phases);
- any other necessary documented information.



SAFETY MANAGEMENT SYSTEM

6.1.4.2. SMS RECORDS - CONTROLLED DOCUMENTATION OF THE SMS

(Source: SMS SM-0001 Standard).

The Controlled Documentation of the SMS is:

- Safety Policy.
- Safety Objectives.
- The requirements, procedures and processes of the Safety Management System (SMS).
- Responsibilities and authority for procedures and processes.
- Safety Management System Performance (SMS).

Aerosystems controls all the documentation of the Safety Management System (SMS) making sure that:

- The current versions of the relevant documents are available in all the places where the operations essential for the
 efficient operation of the system are carried out.
- Easily locatable and retrievable.
- Be periodically revised if necessary, and approved by authorized personnel; and
- Obsolete documents are removed quickly and in a timely manner from all points of use and ensure that they are not used.

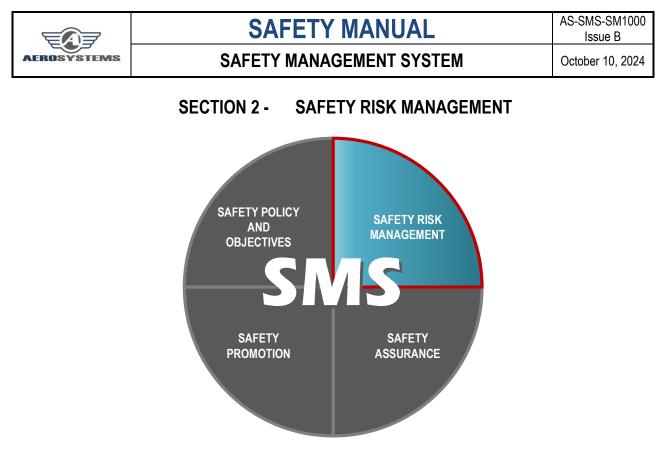
Aerosystems ensures the proper identification of the records of the Safety Management System (SMS) so that they are legible, identifiable and traceable, as well as easy to recover and stored in a manner that ensures that they are protected from damage, deterioration, theft and loss.

Each process that controls the Safety Management System (SMS) defines the retention times of the records for a period acceptable to Aerosystems and in compliance with the regulation.

- 1. The SMS record publishing format is physical and/or electronic and is accessible.
- 2. Retained SMS records are always retrievable in reasonable time.
- Aerosystems Record Retention Policy typically stipulate how long records are to be retained; they are consistent with regulatory requirements and needs of the SMS.

The above is done according to the Transversal/Cross Process Quality Assurance Guideline "GQ02 Records Management" and all records are retained for a period of time specified in the form FF143 RRT Record Retention table; all these records include:

- Contracting and Subcontracting Records;
- Personnel Records: records of the qualification, training and experience of all personnel involved in airworthiness review, maintenance, compliance monitoring and safety management;
- Certifiyng Staff Records: Scope of the Certification Authorizations, details of any maintenance performed.
- Safety records: records of the SMS (general documentation) Safety Manuals and revisions, Safety Policy and revisions, Safety Training Records, Occurrence Records (MOR and VOR), Hazard Log and revisions, Event Log and revisions, MOCs and revisions, SAG and SRB Reviews Records, Contracting and Subcontractiong Safety Records, Safety KPIs and revisions, Flight occurrence reports, Occurrence & Hazard Identification Reports, Event Risk Classifications, Safety Issue Risk Assessment records, Safety Audit Reports
- Any other relevant record.



6.2. SAFETY RISK MANAGEMENT - HAZARD IDENTIFICATION, CHANGE AND RISK MANAGEMENT PROCESS

This section includes the safety reporting and hazard identification process and how hazards and their risks are assessed and then managed and controlled.

The aim of Safety Risk Management (SRM) is to prevent the occurrence of serious aviation incidents or accidents. To that end, SRM identifies hazards, analyses, assesses and controls safety risks. Use of a system description is useful for defining the scope of the SRM application (hazard Identification, safety risk assessment and mitigation).

Aerosystems has developed the processes comprising the essential characteristics of our operations and its environment and we have applied this knowledge to identify the hazards, analyze them, evaluate the risk and establish the necessary controls.

Safety Risk Management (SRM) relies on the following activities (both often named HIRM):

- Hazard Identification (HI);
- Safety Risk Assessment and Mitigation (RM).

The aim of SRM is to prevent the occurrence of serious incidents or accidents.

SRM is a core activity of the Company SMS because it incorporates **decision making tools to provide a formalized approach to safety**.

The result of the SRM is actionable safety intelligence consisting of safety recommendations; this is where a riskbased decision-making process starts. In general, SRM is used to evaluate the need for, and the development of safety risk controls for new and existing safety issues in the Design/Production/Services Systems.

The SRM final goal is to put in place tools for identifying hazards, analyzing them (in terms of probability and severity of the consequences), assessing them (in terms of tolerability) and controlling them through "safety barriers" able to prevent and/or mitigate them.



SAFETY MANAGEMENT SYSTEM

Aerosystems SRM covers the following areas:

- System Description to establish the framework for hazard Identification.
- Hazard Identification to identify hazards according to a generalized method
- Safety Risk Identification to identify safety risks associated with identified hazards.
- Safety Risk Analysis to determine the severity and likelihood of a risk associated with the identified hazard(s).
- Safety Risk Assessment from the risk analysis outcomes, to determine if a risk is unacceptable according to defined criteria.
- **Safety Risk Control** to eliminate, reduce or mitigate a safety risk through action(s) to be defined only when the risk is unacceptable. The final aim is to render it tolerable according to defined Organization criteria.



6.2.1. HAZARD IDENTIFICATION

(Source: SMS SM-0001 Standard).

Aerosystems has developed and maintain formal means of collecting and generating feedback on the hazards of operations, which combine reactive, proactive and predictive methods of safety data. This chapter describe the identification of safety hazards associated with activities, the assessment of the associated safety risks and the investigation process, including the mitigation actions to monitoring of their effectiveness.

The hazard identification process includes the following steps:

- Reports of hazards, events and safety concerns.
- Collection and storage of operational safety data.
- Process for safety data collection; proactive and reactive methods;
- Identification of data sources, external and internal;
- Process for safety data analysis;
- > Procedure(s) for the identification and classification of hazards relevant to the Organisation/activity;
- Records management (hazard log/register);
- Responsibilities and management of the hazard log;
- Internal communication process

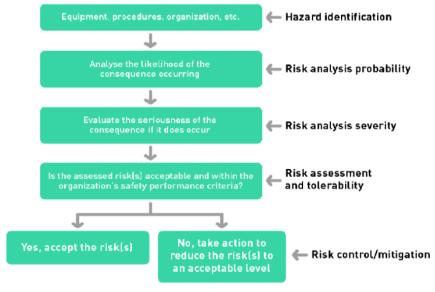
Hazards may also arise from organizational activities such as any change to the following:

- 1) Changes to the organisational structure;
- 2) The organization (relocation of a facility, opening a new facility, etc.);
- 3) Significant changes in personnel (affecting key personnel and/or large numbers of personnel, high turnover);
- 4) Employee responsibilities;
- 5) Operations (in terms of activity, rating, capability list)
- 6) Resources (human and physical);
- 7) Human Factor;
- 8) Organization's privileges or limitations;
- 9) Policies, processes, and/or procedures;
- 10) New or amended regulations;
- 11) The addition of new subcontractors.
- 12) Changes in the economic situation of an organisation (e.g. commercial or financial pressure);
- 13) New schedule(s), location(s), equipment, and/or operational procedures; and
- 14) Substantive changes due to "external or environmental" constraints (e.g. new regulations not linked to Safety), or new sanitary procedures in a pandemic context.

To enhance Hazard identification, Aerosystems has also implemented an employee Occurrence Reporting system, based on the Just Culture policy defined and deployed by the organization.

The Hazards Identification is also carried out according to the transversal/cross process Quality Assurance Guideline "Hazard Identification" GQ11 Risk Management.





Hazard identification and risk management process



SAFETY MANAGEMENT SYSTEM

6.2.2. SAFETY RISKS ASSESSMENT AND MITIGATION

(Source: SMS SM-0001 Standard).

This chapter describe in detail the risk assessment process in place.

Once hazards are identified, the risk of their consequences shall be assessed, analysed and mitigation actions shall be implemented accordingly.

Aerosystems has developed and maintains a formal risk assessment and mitigation process for risk management, which ensures the analysis of risks (in terms of the probability and severity of their being translated into events); its evaluation (in terms of its tolerability); and its control (in terms of its mitigation and / or elimination), so that they remain at an acceptable level of safety.

Aerosystems has defined the administration levels to make risk tolerability decisions and has defined mitigation strategies for each hazard, evaluating each one, and that have taken unacceptable risks. This process has the objective of identifying, analyzing and reducing the different risks related to safety and maintaining them at a level accepted by Aerosystems.

A formal safety risk management process should be developed and maintained considering the following:

Analysis process (e.g. in terms of the probability and severity of the consequences of hazards and occurrences)

- Severity evaluates the seriousness of the consequences;
- Likelihood identifies the possibility (and frequency) of the occurrence;
- > The likelihood and severity are clearly defined.
- > Aerosystems has customized the risk assessment matrix so as to reflect the operational profile.

Tolerability assessment

Aerosystems assess the acceptability of the potential consequences associated with the potential occurrences and hazards identified.

Mitigation actions

- > Control (in terms of mitigation) of risks to an acceptable level
- Decision-making process, including responsibilities
- Implementation of actions
- > Monitoring of the effectiveness of the implemented actions

Mitigation is the process of incorporating risk barrier controls (for example, preventive controls or recovery controls) to reduce the severity and/or the likelihood of the identified hazard, therefore reducing the risk to an acceptable level, and, if possible, to eliminate the risk.

- Those risk controls shall be: Specific, Measurable, Agreed, Realistic and Time constrained.
- Human Factors shall be considered as part of the development of risk controls.
- The responsible person/position in charge of the implementation and management of mitigation measures shall be identified (including follow-up procedure).
- Effectiveness of mitigations shall be monitored. When necessary, risk controls shall be changed as a result of that
 assessment.



SAFETY MANAGEMENT SYSTEM

Aerosystens has defined the following:

1) GENERAL SAFETY RISK ANALYSIS FOR SAFETY MANAGEMENT SYSTEM

SMS General Risk Management Safety Hazard Identification and Risk Register Mitigation Analysis FF312 - AS-SMS-SHIRRMA

Safety risk assessment can be performed on steady-state operations to provide assurance that the risks associated with day-to-day operations remain tolerably safe. It can also be performed on proposed changes to a system or operation to ensure that the risks from any additional hazards or any impacts on existing hazards, introduced by the change remain acceptably safe.

Hazards may be identified through a data-driven (quantitative) methodology or qualitative process such as discussions, interviews and brainstorming.

There are various types of recorded observations which may be used to identify hazards. Sources for hazards identification can be company audits, staff surveys, hazard reports, non-conformities and others. Investigation and reports of past occurrences may provide rich material as to existing hazards as well as, alternative to these, hazards which may arise.

Hazards may be identified through a qualitative process, either formal (part of safety assessment) or informal based on discussions, interviews and brainstorming. Informal qualitative methodologies are heuristic processes based on expert judgement. They often allow identifying hazards that other approaches can't detect. Using both approaches in combination will provide better and more comprehensive results.

Within published literature, it is recognised that hazards identification must be done methodically in order to ensure that all areas of operation where hazards may exist have been identified. It is recommended that among others; design, organisational, work environment factors, as well as procedures and operating practices are taken into account in the identification process (Ref. ICAO SMS Training Manual; Ref. 4 - ICAO Safety Management Manual).

The group-based approach involves the SAG, a group of experts conducting the identification exercise.

It should be recognised though that it is very difficult to declare a hazards identification process as complete. For this reason, the hazard identification is periodically reviewed. If there is a significant change in the operations, the organisation or its staff; the process should be repeated. Also, it is recommended that hazards identification be repeated when mitigation measures have been identified in order to detect unforeseen interactions between mitigation measures and other elements of the system or in the light of the outcomes of internal investigations.

The outcome of the hazard's identification process is documented in the form of a hazard log called FF312 SHIRRMA Safety Hazard Identification and Risk Register Mitigation Analysis.

With the SHIRRMA Aerosystems maintain a centralised log of all identified hazards. The hazard log is a relational database linking hazards to mitigations, responsibilities and actions (as part of an integrated safety risk management process).



SAFETY MANUAL SAFETY MANAGEMENT SYSTEM

The following information is included in the hazard log SHIRRMA:

Letter	Instructions	Higl Level Field	Low Level Field (Italiano)	Low Level Field (English)	References
А	This is a unique series of numbers that will identify each particular hazard		NUMERO	HAZARD ID	ECCAST SMS-WG Par. 5 The Hazard Log Unique hazard reference number against each hazard
В	Scope short description.		AMBITO	SCOPE	
С	Hazard Type short description.		TIPO DI PERICOLO	HAZARD TYPE	
D	Hazard Factors Definitions.		TIPO DI PERICOLO	HAZARD FACTOR TYPE	
E	This field is used to indicate the Hazard Title in a few words. (Also known as SI Safety Issue)		TITOLO FATTORE DI PERICOLO	HAZARD TITLE	
F	This field is used to indicate a brief textual description of the Hazard.		FATTORE PERICOLO (DESCRIZIONE)	HAZARD FACTOR DESCRIPTION	ECCAST SMS-WG Par. 5 The Hazard Log Hazard Description
XYZ	Indication of how the hazard was identified		RIFERIMENTO A COME E' STATO INDETIFICATO IL PERICOLO	HAZARD INPUT REFERENCE	
G	This field is used to indicate a textual description of the context analysis.	HAZARD IDENTIFICATION	ANALISI DEL CONTESTO	CONTEXT ANALYSIS	ECCAST SMS-WG Par. 3.4 Interfaces between Systems and Stakeholders The aviation system involves a complex interaction between different technical and human centred sub- systems operated by a wide range of different stakeholders (Airlines, Airports, ANSP and MRO etc.). Each organisation must manage the hazards that fall within their managerial control, but should also co- operate with other stakeholders to help manage interactions and interfaces. In this complex hierarchy of systems, a safety outcome in one system could cause hazards in another system. It is therefore important that hazards identification involves representatives from all relevant stakeholder organisations where appropriate.
L	This field serves to illustrate, through a textual description of the interested parties: Ownership/Management, Customers/Partners, Suppliers, Employees, Operators, Airlines etc.		PARTI INTERESSATE	INTERESTED PARTIES (STAKEHOLDERS)	
Q	This field is used to indicate, through a textual description, the Hazard Element		ELEMENTO DI PERICOLO	HAZARD ELEMENT	ECCAST SMS-WG Par. 5 The Hazard Log Indication of the potential causes of the hazard (safety events)
R	This field is used to indicate, through a short textual description, the Origin of the Cause of the Hazard (if known), Safety Events (Causes or Threats)		CAUSA DEL PERICOLO (ORIGINE)	HAZARD CAUSE (ORIGIN)	
s	This field is used to indicate, through a short textual description, the Impact of the Risk. For the purposes of full understanding it is important that in describing a risk both cause and impact statements are made.	RISK IDENTIFICATION	IMPATTO DEL Rischio	RISK IMPACT	ECCAST SMS-WG Par. 5 The Hazard Log Indication of responsibilities in relation to the management of the risk controls (Hazard Owner)
М	The Risk Owner is the person nominated to develop and manage the action plan and monitoring for the risk.		RESPONSABILE	RISK OWNER RESPONSIBLE FOR SAFETY MONITORING	
Н	This Default Numeric field (not editable) is used to indicate the impact of the Risk Probability (also translated as Severity) on a scale of increasing severity values from 1 to 5. Predefined Risk Probability (Likelihood)	P=Probabilità	INDICE DI RISCHIO (RISK INDEX)	RISK PROBABILITY (LIKELIHOOD)	



SAFETY MANAGEMENT SYSTEM

I	This numeric field (to be filled in) is used to indicate the probability of occurrence on a scale of subjective vision values. Subjective view of the probability of occurrence (1 to 5) Severity.	S=Severità		RISK IMPACT (SEVERITY)	
J-K	Risk Index (Risk Value) = is a value derived by multiplying the Severity values by the Probability (obviously in numerical form).	P+S (RI)		RISK INDEX	
w	Classification: See legenda. (Tolerable, Non Tolerable, Acceptable)		CLASSIFICAZIONE DEL RISCHIO	RISK CLASS (TOLERABILITY)	
т	This text field is used to indicate the Decision made in a summary of a few words. For example: to Monitor, to Reduce, to xxxxxxxxxxxx		DECISIONE	DECISION	
U	This text field serves to illustrate the Treatment Decision made with an explanation.	RISK ASSESSMENT	DECISIONE (TRATTAMENTO)	RISK TREATMENT DECISION	
N	This text field serves to illustrate with a summary explanation of the actions (activities) that will eliminate the risk or reduce it to an acceptable level. Explanation of treatment actions decided as Risk Mitigation.	AJJEJJWENT	AZIONE DI MITIGAZIONE DEL RISCHIO (PIANO DI AZIONE)	ACTION PLAN (RISK MITIGATION ACTIONS)	
V	Action (Planned/Estimated) Due Date (also expiration date).		ENTRO IL	PLANNED DUE DATE	
RI	Identical Value of the Risk Index (taken from Field J-K)	RI		RISK INDEX	
MF	Mitigation factor. See Legenda.	MF	RISCHIO RESIDUO	MITIGATION FACTOR	
RR	RR Residual Risk = RI/MF	RR		RESIDUAL RISK	
RRC	Description of Residual Risk: NEGLIGIBLE, LOW to MEDIUM, MEDIUM to HIGH	RRC	DESCRIZIONE DEL RISCHIO RESIDUO	RESIDUAL RISK DESCRIPTION	
Y	Description of System Impact (if any)		IMPATTO SUL SISTEMA	SYSTEM IMPACT	
x	Record here a brief statement on the achievements, reasons for any delay to the Action Plan and recovery activities.		VERIFICA DELL'EFFICACIA	VERIFICATION EFFECTIVENESS OF THE ACTION PLAN (OR FURTHER ACTION)	
Z	Effective Date of the Last Update		DATA ULTIMO AGGIORNAMENTO	DATE OF LAST UPDATE	
NO	Notes and OFI Opportunity Of Improvement		NOTE E OPPORTUNITA'	NOTES AND OFI OPPORTUNITY FOR IMPROVEMENT	
NO	Annotations		NOTE	NOTES / OPPORTUNITA' DI MIGLIORAMENTO (OFI)	

The FF312 SHIRRMA Safety Hazard Identification and Risk Register Mitigation Analysis allows the recording and exporting of each single Hazard in the form of a Hazard Log Card FF318.



SAFETY MANAGEMENT SYSTEM

The FF312 SHIRRMA Safety Hazard Identification and Risk Register Mitigation Analysis is based on the following criteria and calculations for the identification and the management of Hazards and Risks.

Severity (I) (Severità)	Severity (I) (Severità) Value		Designated Letter
Catastrophic 5		Aeromobile/equipaggiamento distrutto; Diversi decessi.	а
Hazardous	4	Forte riduzione dei margini di sicurezza, malessere fisico o carico di lavoro tale che le organizzazioni non possono svolgere i propri compiti con precisione o completezza; Lesioni gravi o decesso per un certo numero di persone; Danno maggiore all'equipaggiamento.	b
Major	3	Significativa riduzione dei margini di sicurezza, riduzione nella capacità delle organizzazioni di far fronte alle avverse condizioni operative a causa di un aumento del carico di lavoro o come risultato di condizioni che possano compromettere la loro efficienza; Inconveniente grave; Lesioni alle persone.	C
Minor	2	Fastidio. Limitazioni operative; Uso di procedure emergenza; Inconveniente minore.	d
Negligible	1	Conseguenze minime.	e

Likelihood (H) (Probabilità)	Value	Qualitative definition	Quantitative definition
Frequent	5	Likely to occur many times (has occured frequently)	≥ 1 time per week
Occasional	4	Likely to occur sometime (has occured infrequently)	≥ 1 time per month < 1 time per week
Remote	3	Unlikely but possible to occur (has occured rarely)	≥ 1 time per year < 1 time per month
Improbable	2	Very unlikely to occur (not known to have occured)	≥ 1 time every 10 years < 1 time per year
Extremely Improbable	1	Almost inconceivable that the event will occur	≥ 1 time every 100 years < 1 time every 10 years



SAFETY MANAGEMENT SYSTEM

P+S (RI) Risk Index		Severity (I) (Severità)					
		Catastropich	Hazardous	Major	Minor	Negligible	
lità)	Frequent	25	20	15	10	5	
robabii	Occasional	20	16	12	8	4	
Likelihood (H) (Probabilità)	Remote	15	12	9	6	3	
	Improbable	10	8	6	4	2	
	Extremely Improbable	5	4	3	2	1	

TOLERABILITY	Indice di valutazione del rischio		
NON TOLLERABILE	=>15	Non Tolerable	
TOLLERABILE	=> 5 <= 14	Tolerable	
ACCETTABILE	=< 4	Acceptable	

Calcolo del Rischio Residuo						
RESIDUAL RISK CALCULATION						
Risk Index	RI	Indentical Value to risk criticality RI (Max value 16)				
Mitigation Factor	MF	see table below for Descriptions				
Residual RIsk	RR =	RV/MF				
0 to 4	ACCETTABILE					
5 to 14	TOLLERABILE					
14 to 25	NON TOLLERABILE					



SAFETY MANAGEMENT SYSTEM

Fattore di Mitigazione (Riduzione)	Descrizione del Fattore di Mitigazione (Riduzione)
Mitigation Factor	Mitigation Factor Description
1	L'azione pianificata non è stata attuata.
2	L'azione pianificata non è stata completata ed il rischio non è stato ridotto / mitigato.
3	L'azione pianificata è stata completata solo in parte ed il rischio non è stato ridotto / mitigato.
4	L'azione pianificata è stata completata solo in parte ed il rischio è stato ridotto / mitigato solo in parte.
5	L'azione pianificata è stata completata in ritardo ed il rischio è stato ridotto / mitigato come da aspettative.
8	L'azione pianificata è stata completata nei tempi ed il rischio è stato ridotto / mitigato come da aspettative.

The SHIRRMA also include a section called ELO Event Log (Register) that is a register managed by the Safety Manager.

- When the Safety Manager receives a Reported Occurrence (from the Aerosystems Safety Portal or other media, internal or external, see paragraph 6.4.3) he immediately records the occurrence in the ELO and made a first evaluation check in order to check the Severity of the occurrence reported.
- 2) The SM immediately summon the SAG Meeting that will evaluate the Occurrence and if a Hazard is confirmed.
- 3) If the Hazard is confirmed by the SAG decision, the SM will insert the hazard in the SHIRRMA in order to evaluate, calculate and take necessary actions (also evaluationg impacts and any MOC), including other necessary communication of the occurrence to the DOA and the Authority.

Feedback to Reporter: in any case the SM will give written feedback to the Reporter about the decision taken by the SAG about the occurrence reported (see paragraph 6.4.3).



SAFETY MANAGEMENT SYSTEM

2) SAFETY RISK ANALYSIS FOR AEROSPACE COMPONENTS

A Safety Risk Assessment Analysis for AEROSPACE Components (Products) in accordance with the DOA, in order to determine and evaluate the potential causes and hazardous consequences of a system's functional failures (at AC Level).

Ref. UNI EN 9100 Management of safety critical items: Aerosystems has defined and implemented a monitoring control plan for critical items identified through FMEA and safety analysis.

FF308 - AS-SMS-COHIRM

COHIRM - Component Safety Assessment Risk Management Hazard Identification and Risk Mitigation

AEROSYSTEMS PART NUMBER	Manufacturer Part Number and Revision
CUSTOMER PART NUMBER	Customer Part Number
DESCRIPTION	Component Description
CUSTOMER NAME	Customer Name
ТҮРЕ	Component Type (COTS, VENDOR)
AEROSYSTEMS DRAWING and REVISION	Manufacturer Drawing Number and Revision
CUSTOMER DRAWING AND REVISION	Customer Drawing Number and Revision
STATUS OF TECHNICAL DATA	Manufacturer Status completion ot Technical Data
STATUS OF DOC.	Manufacturer Status completion ot Technical Documents
STATUS OF APPROVAL	Manufacturer Approved Technical Data
CRITICALITY (CRIT)	Customer Criticality Classification (from BOM)
FUNCTION DESCRIPTION	Customer Component Function Description (can be more than one - add rows as necessary)
FUNCTIONAL FAILURE HAZARD (FHA)	Customer Functional Hazard Analysis (FHA) is an inductive hazard analysis method used to evaluate the potential causes and hazardous consequences of a system's functional failures.
Classification Severity Level (C=Catastrophic, H=Hazardous, MJ=Major, MI= Minor)	Customer Classification of Failure Condition. If no criticality/severity level is shown for a given function, it shall be assumed that failure of the subject function will reult "Minor" consequences at aircraft level.
REMARKS	Customer Remarks (Observations)
ASSUMPTIONS ON REMARKS	Customer Assumptions on remarks
RISK MITIGATION ACTION	Insert planned Risk Mitigation Actions (measures)
EVIDENCE	Documented Evidence of the Mitigation Actions
RESULT	RAG (Red, Amber, Green indication of the status of the Action Plan (Closed, Running and Open)
NOTES	Verification of SCD Sheets and Available BOM

The risk assessment and the establishment of control measures are carried out according to the Safety Manual and transversal/cross process Quality Assurance Guideline "Risk and Change Management" GQ11 Risk Management.



SAFETY MANAGEMENT SYSTEM

3) SAFETY RISK ANALYSIS FOR MACHINERY AND WORK EQUIPMENT

A Safety Risk Assessment Analysis for the internal Manufacturing processes (Production) Machines and Equipment with specific analysis of hazards and risks, and determination of mitigations, in order to determine and evaluate potential causes and hazardous consequences of failures. Hazards arising from Machinery and other Work Equipment.

FF309 - AS-SMS-MMERAR

MMERAR Manufacturing Machines and Equipment Risk Analysis and Register

RISK ITEM NR Hazard Item Number Unique Hazard (Risk) Identification Number RISK TITLE Hazard Title The title should indicate the name of the Risk (Hazard) in a words. RISK TITLE Hazard Title Risk Titles incudes (but not limited to): Machine Position, Machine Manual (Documentation), Warn Information, Rotating Parts, Electrical Emergency Stop, Mac Keys, Cutting Parts, Sharp Edges, Electrical Hazard, Therm Hazard, Training, Noise Hazard, Weight Nameplate, other s hazard. RISK DESCRIPTION CAUSE The fit to be the main of the store of the s	ing Visual chine าล
RISK TITLE The title should indicate the name of the Risk (Hazard) in a words. RISK TITLE Risk Titles incudes (but not limited to): Hazard Title Machine Position, Machine Manual (Documentation), Warm Information, Rotating Parts, Electrical Emergency Stop, Mac Keys, Cutting Parts, Sharp Edges, Electrical Hazard, Therm Hazard, Training, Noise Hazard, Weight Nameplate, other s hazard.	ing Visual chine าล
RISK DESCRIPTION CALLSE	
Hazard Description This field describe a risk and the eventual cause.	
HAZARD GROUP The Hazard Group defines the Risk Family	
TYPICAL HARM SCENARIO This field describe the Typical Harm Scenario	
POTENTIAL CONSEQUENCES - NEGATIVE This field describe the Potential and/or Consequences (Neg effect)	lative
RISK IMPACT Predefined Value (1 to 4) Risk Impact	
RISK PROBABILITY Subjective view of the probability of occurrence (1=low 4=hi Probability	igh)
RISK CRITICALITY AND PRIORITY LEVEL (RISK Evaluation for each Risk (risk Criticality) Risk Criticality is a derived from the multiplication of the Impact and Probability	
RISK TREATMENT Description of Risk Treatment to be performed	
ACTION PLAN This is a summary of the programme and activities that will the risk or reduce it to an acceptable level. Progress of the treatment Risk Mitigation	
PLANNED DUE DATE Planned/estimated date of completion, if not planned write I	V/A
IMPACT Impact (Consequence) – If something bad were to occur, we be the consequences to the organization?	
LIKEHOOD Likelihood (Probability) – What is the probability that someth could occur?	hing bad
EXPOSURE For businesses, technology risk is governed by one equation Likelihood x Impact. This means that the total amount of risk exposure is the probability of an unfortunate event occurring multiplied by the potential impact or damage incurred by the for businesses, technology risk is governed by one equation	k g, e event.
VERIFICATION PROGRESS OF THE ACTION PLAN (OR FURTHER ACTION)Record of a brief statement on the achievements, reasons f delay to the Action Plan and recovery activities (e.g. Risk Acceptance, etc.).	or any
STATUS RAG Red, Amber, Green indication of the status of the Action Pla	an.
CLOSURE DATE Final Closure Date	



SAFETY MANAGEMENT SYSTEM

4) SAFETY RISK ANALYSIS FOR PRODUCT SAFETY

A Safety Risk Assessment Analysis related to Product Safety in order to verify the state in wich a product is able to perform to its desiged or intended purpose without causing unacceptable risk of harm to persons or damage property with specific analysis of hazards and risks, and determination of mitigation actions:

- Aerosystems is committed to the design and manufacture of products in a safe and compliant manner, and the company conduct regular assessments to verify that the products continue to meet applicable safety, compliance, and regulatory requirements.
- Adherence to applicable regulatory requirements and to product safety and quality expectations is a core element of
 the design phase of new and updated products and is tested through relevant development stages to ensure
 compliance prior to product launch.

Product Safety – UNI EN 9100 Citations

The state in wich a product is able to perform to its desiged or intended purpose without causing unacceptable risk of harm to persons or damage property (9100 – 9110).

Maintaining the state of product so that it is able to perform to its designed or intended purpose without causing unacceptable risk of harm to persons or damage property (9120).

UNI EN 9100 Definition – 3.4 The state in wich a product is able to perform to its desiged or intended purpose without causing unacceptable risk of harm to persons or damage property

UNI EN 9100 Clause 7.3g – Awareness: The organization shall ensure that persons doing work under the organization's control are aware of their contribution to product safety.

UNI EN 9100 Clause 8.1a – Operational Planning and Control: The organization shall plan, implement, and control the processes needed to meet the requirements for the provision of products and services, and to implement the actions determined in clause 6 by determining the requirements of products and services that should include considerations of: Personal and Product Safety.

UNI EN 9100 Clause 8.1b - Operational Planning and Control: The organization shall plan, implement, and control the processes needed to meet the requirements for the provision of products and services, and to implement the actions determined in clause 6 by establishing criteria for: Design Verification (Reliability, Maintainability and Product Safety).

UNI EN 9100 Clause 8.1.3 – Product Safety: The Organization shall Plan, implement and control the processes to ensure product safety during the product life cycle as appropriate to the company and the product. Example of these processes include: hazard identification, management of associated risks, management of safety critical items, analysis and reporting of occurred safety-related events, safety training of staff.

UNI EN 9100 Clause 8.4.3 – Information for External Providers: The Organization shall ensure the adequacy of requirements prior their communication to external provider. The Organization shall communicate to external providers its requirements for: their contribution to product safety.



SAFETY MANAGEMENT SYSTEM

FF311 - AS-SMS-PROSHIRA PROSHIRA Product Safety Hazard Identification and Risk Analysis

AEROSYSTEMS PART NUMBER	AEROSYSTEMS Part Number
CUSTOMER PART NUMBER	Customer Part Number
DESCRIPTION	Description
PROBABILITY	ELIMINATED, LOW, MEDIUM, SERIOUS, HIGH
PROBABILITY LEVELS (Product Safety Level)	ELIMINATED, LOW, MEDIUM, SERIOUS, HIGH (from 0 to 20)
SEVERITY (Category)	NEGLIGIBLE, MARGINAL, CRITICAL, CATASTROPHIC (from 1 to 4)
SEVERITY (Levels)	NEGLIGIBLE, MARGINAL, CRITICAL, CATASTROPHIC (from 1 to 4)
RISK ASSESSMENT	PROBABILITY, FREQUENT, PROBABLE, OCCASIONAL, REMOTE, IMPROBABLE, ELIMINATED
RISK LEVELS	from 0 to 20
RISK NAME (IDENTIFICATION)	A brief description for the Risk to be identified
RISK MITIGATION (MEASURES)	A planned Risk Mitigation actions (measures)
RISK TREATMENT	Risk Treatment to be performed MANUAL
ACTION PLAN	This is a summary of the programme and activities that will eliminate the risk or reduce it to an acceptable level. Progress of the defined treatment Risk Mitigation
PLANNED DUE DATE	Planned/estimated date of completion, if not planned write NONE
VERIFICATION PROGRESS OF THE ACTION PLAN (OR FURTHER ACTION)	Record of a brief statement on the achievements, reasons for any delay to the Action Plan and recovery activities.
STATUS RAG	Red, Amber, Green indication of the status of the Action Plan (Closed, Running and Open)
LESSON LEARNED ALLISS (Reference)	Lesson Learned Reference to ALLIS
CLOSURE DATE	Final Closure Date



SAFETY MANAGEMENT SYSTEM

6.2.3. THE MANAGEMENT OF CHANGE

Aerosystems has developed and maintains a formal process to manage the change, which includes:

- Identify changes within Aerosystems that may affect the level of safety risk associated with products (or services), as well as established processes, procedures and services by inserting in the ECO Engineering Change Order (FF53 ECO Engineering Change Order) a specific point of Safety Control of Change;
- Establish the measures adopted to ensure the effectiveness of safety before implementing any change by the use of the FF313 Form MOC Report that is showed below.
- Eliminate or modify safety risk controls that are no longer necessary or effective, due to changes or modifications in the operational environment; and
- Apply the safety risk management process for any planned change to be made.

AEROSYSTEMS	MOC Management of Change Report					FF313 First Issue	
A – GENERALITIES							
Identification Safet		ant:					
Name			Fur	oction			
Attached documen	ts:						
Ref	Date	Title					
1							
2							
B - SCENARIO / SC	OPE						
⊠ Permanent			Date:				
Actual context							
Operation process	description						
Impacted area							
	Managemer				ng Air	worthiness	
AS Department	Production operations			□ Training □ Security			
AS Department	 Maintenance operations Compliance 			□ Security □ Safety S	MC		
	Compliance Product safety program			☑ Other: Quality Assurance			
	Suppliers	ety program					
External area	Authority			□ Other:	÷1		
Applicable rules	- A lationly						
••							
Specific Informatio	n / Authorisatio	n / Annroval					
NAA information of the second seco			Interna	Approval			
□ NAA Authorization			Other				
☑ NAA approval							
Documentation imp	pacted						
		Tempor	ary	□Perman	ent	⊠ Not impacted	
		Tempor		□Perman	ent	⊠ Not impacted	
		Tempor	-	□Perman		⊠ Not impacted	
		Tempor		⊠Permanent □ Not impacted			
		Tempor	ary	□Perman	ent	Not impacted	
Other Impact description							
impact description							
Feedback from sim	ilar Risk assess	sment					
N/A							

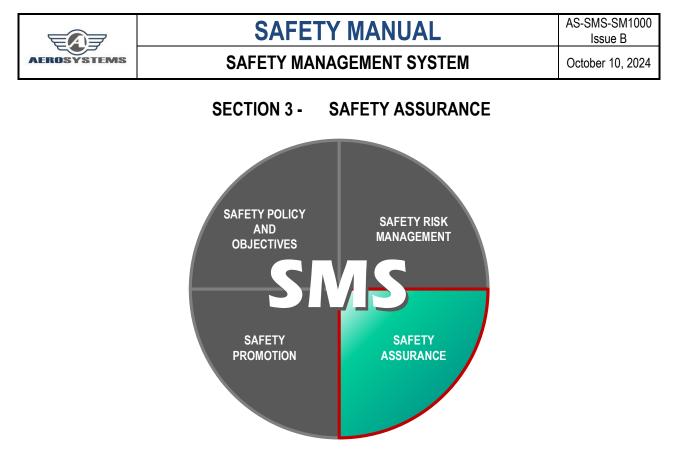


SAFETY MANAGEMENT SYSTEM

1 - Hazard description If there is more than one Hazard to the Operation/ Process, use separate Worksheet to address each Hazard]						
	2 TOP Event – Unsafe event: If there is more than one Top Event to the Hazard, use separate Worksheet to address each UE combination]					
3 – Ultimate Conse address each UC	3 – Ultimate Consequence: If there is more than one UC to the Hazard, use separate Worksheet to address each UC					
	4 – Risk assessment before mitigation					
4-1 – Initial risk Pro	bability					
1 EXTREMELY IMPROBABLE	2 IMPROBABLE	3 REMOTE	4 OCCASIONAL	5 FREQUENT		
4-2 – Initial risk Sev	4-2 – Initial risk Severity					
E NEGLIGIBLE	D MINOR	C MAJOR	B HAZARDOUS	A CATASTROPHIC		
4-3 – Total risk leve	4-3 – Total risk level = (4-1+4-2)					
	E D 1E	5D-5E 4C 4D 4E 3B <mark>3C</mark> 3D 2A 2B 2C 1A	5 A 4	5B 5C A 4B 3A		

Risk Index	Tolerability	Action Required		
5A, 5B, 4A 5C, 4B, 3A	UNACCETABLE	Action required: STOP OPERATION OR PROCESS IMMEDIATELY. The risk is unacceptable and major mitigation measures are required to reduce the level of risk to as low as reasonably practicable: Prohibit/suspend the operation. Operation may be resumed only when risk level is returned to tolerable or acceptable Management levels: Operations cannot be authorized.		
5D 5E 4C 4D 4E 3B 3C 3D 2A 2B 2C 1A	REVIEW	Action required: REVIEW The level of risk is of concern and mitigation measures are required to reduce the level of risk to as low as reasonably practicable (ALARP). Management levels: Operations can be mitigated.		
3E 2D 2E 1B 1C 1D 1E	ACCEPTABLE	Action required: MONITOR. Risk is considered sufficiently controlled and no additional risk mitigation measures are required. However, in line with the ALARP concept, actions may still be taken to further reduce the risk level if feasible and reasonable. Additionally, any assumptions used to make an assessment must be monitored to ensure they remain valid. Management levels: NIL		
Comments:				
MITIGATIONS:				
Probability:				
Severity:				
Residual Risk Index:				
	SM – P	ierluca Fossa		
Action:		AM – Stefano Zambra		

- All MOC Reports will be signed by the SM and the AM, and recorded in the MOC Register.
- The SHIRRMA (Hazard Log and Risk Register) shall be updated with new MOC harzard(s) and risk(s).



6.3. SAFETY ASSURANCE

Aerosystems has developed and maintains formal processes to verify the safety performances of our organization, achieve the objectives for the risks control, as well as the investigation of events that do not require to be investigated by the Aviation Authorities to identify the causes of the possible low efficiency of the Safety Management System (SMS), its implications and eliminate the causes.

As part of the monitoring and performance measurement system in terms of safety and being a core activity of the Safety Management System (SMS), internal evaluations or audits and internal audits are carried out periodically through the "Safety Audit Annual Plan", taking into consideration the following:

- Internal evaluations or audits of each of the activities, processes or operational procedures are conducted and are conducted by those responsible for the technical operational processes.
- Internal audits are carried out with duly qualified internal auditors.

The records of all audits must be kept for at least 5 years from the date of the last audit; they must be sent to the Safety Manager for purposes of updating the base of the audit and the statistics and procedures of the Safety Management System (SMS).

Identify the causes of low efficiency of the Safety Management System (SMS), determine the implications in their operations and eliminate such causes. (*Source: SMS SM-0001 Standard*).



SAFETY MANAGEMENT SYSTEM

6.3.1. SAFETY PERFORMANCE MONITORING AND MEASUREMENT

The monitoring of safety performance is made according to the performance indicators which are related to the objectives, goals and action plans of Aerosystems including a range of indicators of both high impact and low impact. The safety performance monitoring and measurement includes:

- Safety Reports;
- Safety Studies;
- Safety Reviews;
- Safety Audits;

• Safety Investigations. (Source: SMS SM-0001 Standard).

6.3.1.1. RESPONSIBILITY REGARDING CONTRACTED ACTIVITIES

Our organization makes sure to control externally contracted activities by identifying them with the support of the Supplier Evaluation Process or the Risk Management Matrix and the Contracted Activities Control.

Aerosystems ensures that our Safety Management System (SMS) interacts effectively with safety systems or subcontractors that provide products or services relevant to the safe operation of the (components) aircraft, likewise in this way we assume responsibility for the safety performance of the products or services provided by subcontractors that do not require the acceptance of a Safety Management System (SMS).

The interface between our Safety Management System (SMS) and the safety system of the contracted subproduct or sub-service provider includes the identification of hazards, risk assessment and the development of risk mitigation strategies, as appropriate.

Aerosystems shows the control of our suppliers by keeping records that show that this was done. These records can be of different types depending on the type of control. Aerosystems guarantees that:

- It has established the flow of responsibility and authority for safety between the service provider and the subcontractor; by communicating and updating the AS-QRS-01- Quality Requirements for Aerosystems Suppliers (that includes Safety Requirements) available on Aerosystems Website under the Supplier Portal.
- 2) The subcontractor has a safety notification system; all Aerosystems subcontractors can use:
 - the Website Supplier Portal
 - the ORS AEROSYSTEMS OCCURRENCE REPORTING SYSTEM
 - or the SOAR Safety Occurrence Alert System
 - and the AEROSYSTEMS SAFETY PORTAL
- 3) This system must be commensurate with its scope and complexity.
- 4) The SAG of Aerosystems includes the representation of the subcontractor, as applicable;
- 5) Safety / Quality indicators have been created to monitor the performance of the subcontractor, as appropriate; One specific Safety Indicator is integrated in the SPI Supplier Performance Index (DAFOR Database Fornitori) with the name of SSI Supplier Safety Index that it is calculated on the basis of the presence of safety issues, events, or occurrences.
- The Safety Promotion Process ensures that the subcontractor's employees have the corresponding safety communications from Aerosystems; by communications from Aerosystems Website Supplier Portal and Safety Portal and,
- 7) Any role, responsibility and function of the relevant subcontractor has been developed.



SAFETY MANAGEMENT SYSTEM

6.3.2. THE MANAGEMENT OF CHANGE

Changes in organisational structure, facilities, scope of work, personnel, documentation, policies and procedures, can result in unintended consequences and the inadvertent introduction of new hazards, exposing the organisation to new or increased safety risk(s).

The introduction of a change is the trigger for the organisation to perform their hazard identification and risk management process.

Aerosystems evaluates the System periodically through the review by the Safety Review Board, leaving the activity recorded in the Minute of the Meeting (Impact of Changes).

The following diagram describes the Management of Change Process.

	INITIATION		PLANNING		EXECUTION		MONITORING
1	Describe the scope of the change	3	Develop and agree an assurance plan for changes	5	Develop a risk management strategy	7	Monitor and verify the performance of the system
2	Describe the safety impact of the change	4	Develop a supporting communications plan		Develop, agree and implement the change		

	BEST PRACTICES FOR MANAGEMENT OF CHANGE PROCESS				
	INITIATION STAGE				
1	Describe the scope of the change, including why the change is taking place and how it aligns with organizational goals and plans.				
2	Describe the safety impact of the change to the product and services. Establish a baseline safety performance and identify an initial set of indicators to measure the impact of the change. This should also consider the individuals and organizations affected.				
	PLANNING STAGE				
3	Develop and agree on assurance plan for change, including identifying rolesand responsibilities of individuals and organizations that will be affected by the change.				
4	Develop a supporting communications plan to increase awareness and acceptability of the change. This will encourage people to 'buy in' to the change.				
	EXECUTIONSTAGE				
5	Develop a risk management strategy encompassing the outcomes of previous activities and assess the safety risk against the risk tolerability levels.				
6	Develop, agree and implement the changes and associated actions to mitigate safety risk.				
	MONITORING STAGE				
7	Monitor and verify the performance of the system during the implementation of the change and once it is complete, to determine the effectiveness of the risk management strategy and the success of the change.				



SAFETY MANAGEMENT SYSTEM

Some examples of change include, but are not limited to:

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

The change management process shall consider:

- Identification and description of the change
- Assessment of the criticality and impact
- Existing controls and implementation of new controls
- > Change implementation and transition period
- > Monitoring the effectiveness of the change implementation

Aerosystems has developed and maintain a process to identify and assess changes which may affect the level of safety risk associated with its services and to identify and manage the safety risks that may arise from those changes. The Management Of Change is a documented process to identify external and internal changes that may have an adverse effect on the safety and compliance of its continuing airworthiness management activities.

The introduction of a change is a trigger for Aerosystems to perform their hazard identification and risk management process.

- Regardless of the magnitude of the change, large or small, its safety implications shall always be proactively considered.
- This is primarily the responsibility of the team that proposes and/or implements the change.
- The magnitude of a change, its safety criticality, and its potential impact on human performance should be assessed in any change management process.
- A change may have the potential to introduce new, or to exacerbate pre-existing, human factors issues.
- The purpose of integrating human factors into the management of change is to minimise potential risks by specifically considering the impact of the change on the people within a system.

This process also considers business related changes (organisational restructuring, resources, IT projects, etc.) and interfaces with other organisations/departments.

For the Management Of Change a template is used by Aerosystems, the **MOC Report Form** Management Of Change Form for risk analysis, mitigation and management (see paragraph 6.2.3).



SAFETY MANAGEMENT SYSTEM

6.3.3. CONTINUOUS IMPROVEMENT OF THE SMS

(Source: SMS SM-0001 Standard).

Aerosystems has developed and maintains formal processes to achieve the continuous improvement of the Safety Management System (SMS), to identify the causes of low efficiency of the System, determine the implications in its operations, and eliminate such causes.

Aerosystems as part of the safety assurance activities of the Safety Management System (SMS), has developed and maintains the formal processes to identify the causes of a poor performance with respect to the Safety Management System (SMS), determine the consequences of these deficiencies in their operations, and rectify situations by eliminating the identified causes to achieve the continuous improvement.

Aerosystems has developed and maintains a formal process for the Continuous Improvement of the SMS considering safety performance measurements and defining continuous improvement actions for the SMS. Aerosystems ensure that:

- Analysis of data at the organizational level is done to establish an action plan.
- Improvement actions are collected and implemented.
- Best practices and lessons learned are considered to improve the SMS. Furthermore, these best practices shall be disseminated across the organization through safety promotion activities (and the use of the sytems named ALLIS – Aerosystems Lesson Learned Information Sharing System).

The continuous improvement of the Safety Management System (SMS) includes:

- Proactive evaluations of facilities, equipment, documentation and procedures to verify the effectiveness of safety risk control strategies;
- Proactive evaluation of the efficiency of individuals, to verify compliance with safety responsibilities;
- A reactive evaluation to verify the effectiveness of risk control and mitigation systems, for example: investigations of accidents, incidents and significant events; and
- A predictive evaluation, studying and analyzing reactive, proactive and external elements; anticipating incidents or accidents.

For the above Aerosystems has the following processes:

- Risk and Change Management.
- Hazard identification.
- Internal Investigations.
- Implementation of Actions.



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SECTION 4 - SAFETY PROMOTION



6.4. SAFETY PROMOTION

Safety Promotion utilizes various methods to supplement the organization's policies, procedures, and processes to provide an enduring value system and enable a robust safety culture within the organization.

Safety promotion consists of training, and communication elements, in order to enable the dissemination of safety information and support the implementation, operation and continuous improvement of the SMS.

Aerosystems has developed and maintains a formal safety and communication activities training to create an environment where safety objectives can be achieved. This section details how the organization promote, train and communicate safety to the personnel.

Safety Promotion is strictly linked to the strategy to develop the Safety Culture within the organization. Safety Culture is also an enabler for the continuous improvement in safety performance.

Positive safety culture is characterized by values, attitudes and behavior that are committed to Aerosystems' safety efforts. This is achieved through the combination of technical competence, continually enhanced through training and education, management behavior examples, effective communications and information sharing. This strategy, to support the implementation and the operations of the SMS, shall address the following main tasks:

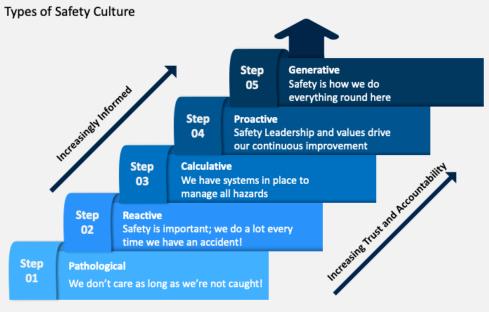
Training and Education Communication of safety information

Safety training, combined with safety communication and information sharing is part of safety promotion.

The Final goal is the creation of a real Company Safety Culture.







Safety Maturity Model



Safety Culture Wheel



6.4.1. SAFETY TRAINING AND EDUCATION

(Source: SMS SM-0001 Standard).

Aerosystems has developed and maintains a formal safety training program that guarantees that the personnel has the instruction and competencies necessary to carry out their functions within the framework of the Safety Management System (SMS).

The scope of the safety training program is appropriate for the type of participation that each person has in the Safety Management System (SMS). And it is independent of the company's training program.

Aerosystems has ensured that its Accountable Manager has received instruction in safety knowledge regarding:

- Safety policy and objectives;
- Functions and responsibilities in the SMS; and
- Safety Assurance.

Ref. Paragraph 3.12.6.3 on POE and paragraph 3.6 on MOE.

6.4.1.1. RECORDS OF THE EXECUTION OF AEROSYSTEMS TRAINING PROGRAM

The purpose of recurrent safety training is primarily to ensure that staff remain current in terms of **SMS Principles and Human Factors** and also to collect feedback on Safety and Human Factors issues. Consideration shall be given to involving compliance monitoring staff and the key safety management personnel in this training to provide a consistent presence and facilitate feedback.

Aerosystems ensure that feedback is formally reported by the trainers through the internal safety reporting scheme to initiate action where necessary.

Recurrent safety training shall be delivered either as a dedicated course or integrated within other training. It shall be of an appropriate duration in each 2-year period in relation to the relevant compliance monitoring audit findings and other internal/external sources of information available to the organisation on safety and human factors maintenance issues.

The training program of Aerosystems record the records of its execution and includes:

- Initial Indoctrination.
- Recurrent training.
- Promotion instruction.
- Self Information Knowledge on HSE Health Safety and Environment (available for all employees on Aerosystems Website).
- Emergency Drills.

Initial training (that is compliant with the approved organization's training standards) **is provided to all personnel** within 6 months from joining the company, unless their competency assessment justifies that there is no need for such a training. Personnel who are recruited from another company and temporary staff, are assessed whether they need to receive any additional safety management training.

Recurrent safety training is delivered either as a dedicated course, or integrated within other training. It is of an appropriate duration and **repeated in each 2-year period**

Records of the safety training are managed as detailed in paragraph 6.1.4.2.



SAFETY MANAGEMENT SYSTEM

6.4.1.2. CONTENTS OF AEROSYSTEMS TRAINING PROGRAM

Safety training, combined with safety communication and information sharing, forms part of safety promotion. Aerosystems ensure that:

- All staff are able to demonstrate an understanding of safety management principles including Human Factors, related to their job function.
- All staff are familiar with the safety policy and the procedures and tools that can be used for internal safety reporting.
- Staff who have been designated safety management responsibilities are familiar with the relevant processes in terms of hazard identification, risk management, and the monitoring of safety performance.

For that purpose, personnel involved in all operations of the organization shall receive both initial and recurrent safety training, appropriate for their responsibilities. This shall include at least the following staff members:

- nominated persons, line managers supervisors;
- certifying staff, operators and mechanics;
- Technical support personnel such as planners, engineers, technical record staff;
- Persons involved in compliance monitoring and/or safety management-related processes and tasks, including the application of human factors principles, internal investigations and safety training;
- Stores, warehouse and department staff, purchasing department staff;

Initial safety training shall cover all the topics of the training syllabus specified below either as a dedicated course or else integrated within other training.

- The syllabus may be adjusted to reflect the particular nature of Aerosystems.
- The syllabus may also be adjusted to suit the particular nature of work for each function within Aerosystems.

Training shall be provided to management and staff at least:

- during the initial implementation of safety management processes;
- for all new staff or personnel recently allocated to any safety management related task;
- on a regular basis to refresh their knowledge and to understand changes to the management system;
- when changes in personnel affect safety management roles, and related accountabilities/responsibilities; and
- when performing dedicated safety functions in domains such as safety risk management, compliance monitoring, internal investigations.



SAFETY MANAGEMENT SYSTEM

TRAINING SYLLABUS FOR SAFETY TRAINING (INCLUDING HUMAN FACTORS)

The training syllabus below identifies the topics and subtopics to be addressed during the safety training.

- Aerosystems may combine, divide or change the order of any of the subjects in the syllabus to suit its own needs, as long as all the subjects are covered to a level of detail appropriate to the organisation and its personnel, including the varying level of seniority of those personnel.
- Some of the topics may be covered in separate training courses (e.g. health and safety, management, supervisory skills, etc.) in which case duplication of training is not necessary.
- Where possible, practical illustrations and examples shall be used, especially accident and incident reports.
- Topics shall be related to existing legislation, where relevant. Topics shall be related to existing guidance/advisory material, where relevant.
- Topics shall be related to the maintenance activities of Aerosystems to the greatest extent possible; too much unrelated theory shall be avoided.

1. General/Introduction to safety management and human factors

- 1.1. Need to address safety management and human factors
- 1.2. Statistics
- 1.3. Incidents
- 1a. Safety risk management
- 1a.1. Hazard identification
- 1a.2. Safety risk assessment
- 1a.3. Risk mitigation and management
- 1a.4. Effectiveness of safety risk management

2. Safety Culture/Organisational factors

- 2.1 Justness/trust
- 2.2 Commitment to safety
- 2.3 Adaptability
- 2.4 Awareness
- 2.5 Behaviour
- 2.6 Information
- 3. Human Error
- 3.1. Error models and theories
- 3.2. Types of errors in maintenance tasks
- 3.3. Violations
- 3.4. Implications of errors
- 3.5. Avoiding and managing errors
- 3.6. Human reliability

4. Human performance & limitations

- 4.1. Vision
- 4.2. Hearing
- 4.3. Information-processing
- 4.4. Attention and perception
- 4.5. Situational awareness
- 4.6. Memory
- 4.7. Claustrophobia and physical access
- 4.8. Motivation
- 4.9. Fitness/health
- 4.10. Stress
- 4.11. Workload management
- 4.12. Fatigue
- 4.13. Alcohol, medication, drugs



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4.14. Physical work 4.15. Repetitive tasks/complacency 5. Environment 5.1. Peer pressure 5.2. Stressors 5.3. Time pressure and deadlines 5.4. Workload 5.5. Shift work 5.6. Noise and fumes 5.7. Illumination 5.8. Climate and temperature 5.9. Motion and vibration 5.10. Complex systems 5.11. Other hazards in the workplace 5.12. Lack of manpower 5.13. Distractions and interruptions 6. Procedures, information, tools and practices 6.1. Visual inspection 6.2. Work logging and recording 6.3. Procedure - practice/mismatch/norms 6.4. Technical documentation - access and guality 6.5. Critical maintenance tasks and error-capturing methods (independent inspection, reinspection, etc.) 7. Communication 7.1. Shift/task handover 7.2. Dissemination of information 7.3. Cultural differences 8. Teamwork 8.1. Responsibility 8.2. Management, supervision and leadership

8.3. Decision-making

9. Professionalism and integrity

- 9.1. Keeping up to date; currency
- 9.2. Avoiding error-provoking behaviour
- 9.3. Assertiveness

10. Organisation's safety programme

- 10.1. Safety policy and objectives, just culture principles
- 10.2. Reporting errors and hazards, internal safety reporting scheme
- 10.3. Error investigation process
- 10.4. Action to address problems
- 10.5. Feedback and safety promotion

These includes as part of the training program, their respective validation activities, that measure the effectiveness of the training.

The training is carried out according to the "Safety Training" process and the performance is evaluated according to the "Competency Evaluation" process and is carried out according to the transversal/cross process Quality Assurance Guideline GQ05 Knowledge Management.

Syllabus evaluation and Safety Trainer skills checks are made by the SM with possible support from the CMM for issuing the Safety Trainer qualification assessment (both external or internal).



6.4.2. SAFETY COMMUNICATION

(Source: SMS SM-0001 Standard).

Aerosystems, as part of Safety Promotion activities, has developed and maintains means for Safety Communication to ensure that personnel are fully aware of the Safety Management System (SMS).

A safety communication process has been developed that guarantees full knowledge of the Safety Management System (SMS) in accordance with the position it occupies. Critical safety information is disseminated in which it explains why measures are taken and safety procedures are introduced or modified through generic safety information.

Communication is essential to build a positive safety culture through, for instance, hazard reporting or sharing of safety information. In particular, Aerosystems will communicate its safety objectives as well as the achievement status.

6.4.3. FORMAL MEANS OF SAFETY COMMUNICATION

Aerosystems SMS Organization maintains a formal channel for safety communication that:

- ensures personnel are aware of the SMS to a degree commensurate with their positions;
- **conveys safety critical information**, especially related to matters that could expose Aerosystems to safety risk; in particular to staff required to enact the necessary actions;
- explains why particular safety actions are taken;
- explains why safety procedures/improvements are introduced or changed;
- promotes a positive safety culture and **encourages personnel to identify and report hazards** (safety is a two-way communication);
- provides feedback to personnel submitting safety reports on what actions have been taken to address any identified concern;
- ensures organizational knowledge so that safety decisions are incorporated into the organization learning.

The Formal means of communication of Safety of Aerosystems is:

• A specific webpage is available for internal and externals (Employees, Suppliers, Customers and any other Stakeholder) with all Safety Contents on Aerosystems Website: **AEROSYSTEMS SAFETY PORTAL**

Formal means of communication of safety of Aerosystems include, among others:

- Bulletins; Text (e.g., newsletter, email); Visual media (e.g. posters, short videos);
- Crew or team briefings;
- Notice circulars;
- Official publications;
- Aerosystems Site or Web pages (also Intranet);
- Intranet;
- Internal magazines; and
- Posters or billboards.

The safety communication is made according to the process " Safety Communication".



SAFETY MANAGEMENT SYSTEM

SAFETY REPORTING SCHEME

As part of its management system, Aerosystems established an Internal Safety Reporting Scheme to enable the collection and evaluation of occurrences to be reported:

Through this scheme, Aerosystems shall:

- 1) identify the causes of and contributing factors to any errors, near misses, and hazards reported and address them as part of safety risk management process
- 2) ensure evaluation of all known, relevant information relating to errors, the inability to follow procedures, near misses, and hazards, and a method to circulate the information as necessary.

The scope of this Internal Safety Reporting Scheme named **AEROSYSTEMS SAFETY PORTAL** is to collect and share in one place the results of the statistical analysis of the safety data in the **ORS Aerosystems Occurrence Reporting System** and for other safety issues.

Confidentiality and safety promotion

The ORS is a confidential reporting system and enable and encourage free and frank reporting of any potentially safetyrelated occurrence, including incidents such as errors or near misses, safety issues and hazards identified. This is facilitated by the establishment of the Aerosystems just culture.

- The Aerosystems Safety Portal include a Voluntary Occurrence Reporting (VOR) Form for reporting safety issues to the company.
- The form is an **anonymous and confidential** employee reporting system to capture safety concerns.
- The portal provides criteria for reporting safety issues, noncompliance findings, nonconformities and occurrences.
- The portal encourages promotion of reporting and exchange / sharing of safety data; proactive employee participation in product/aviation safety and hazard reporting;
- The portal has specific section tho show company safety reporting policies confidentiality, "non-punitive".
- The portal assures open and proactive reporting of potential and identified safety hazards from internal and external sources and enterprise-wise responsiveness to proactively assess and address.
- <u>NOTE : the SM is the first person that receive all Occurrences reported to Aerosystems (via ORS) for first.</u> All personnel forming the SAG is subscribed to ECCAIRS System.
- NOTE: Feedback by the receiving company to the originator of the voluntary reporting is compulsory; feedback is granted to the originator.
- NOTE: Aerosystems transfer its own model/tool of voluntary reporting to the organization without an SMS establishing an open communication channel (eg. Suppliers);

Safety investigation process

The process to investigate occurrences is performed by the SAG and include: criteria to identify occurrences to be investigated, investigation report, methods to identify of production and maintenance errors, investigation process, corrective actions in response to investigation findings, follow-up system, feedback to staff, etc.)

Production and maintenance errors identified to be used for internal human factors training and for amendment of the procedure for production and maintenance tasks.

In line with its Just Culture and Safety Policy, Aerosystems has defined how to investigate incidents such as errors or near misses, in order to understand not only what happened, but also how it happened, to prevent or reduce the probability and/or consequence of future recurrences.

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



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The internal safety reporting scheme include a detailed process:

- to identify those reports which require further investigation; •
- to classify occurrences against the mandatory reportable criteria and decide on further actions accordingly;
- to investigate all the causal and contributing factors, including any technical, organisational, managerial, or Human • Factor issues, or any other contributing factors related to the occurrence, incident, error or near miss
- to analyse the collective data showing the trends and frequencies of the contributing factor; •
- to identify, implement and monitor the effectiveness of the appropriate corrective and preventive actions based on • the findings of investigations.

Additional considerations include:

- Initial and recurrent training requirements for staff involved in internal investigations;
- Coordination and cooperation with the customer/operator on occurrence investigations by exchanging relevant • information to improve aviation safety;
- Recurrent training updates, in accordance with the established training policy and procedures, whilst maintaining • appropriate confidentiality;
- Feedback loop to reporters and other production/maintenance staff.



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SECTION 7 - INTERFACES BETWEEN ORGANIZATIONS

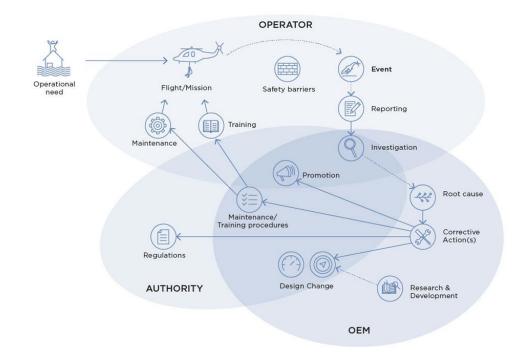
7. INTERFACES BETWEEN ORGANIZATIONS

(Source: SMS SM-0001 Standard).

7.1. INTERFACE PRINCIPLES

(Source: SMS SM-0001 Standard).

Interface principles - In the context of an SMS, interface management shall encompass the four components (Safety Policy and Objectives, SRM, SA and Safety Promotion).



7.2. TYPES OF INTERFACES

The following paragraphs describe examples of interfaces, which may be considered.

The interfaces between organizations can be expressed:

- Externally with separate Companies;
 - o having implemented an SMS (e.g. operators, PO, MO);
 - o not having implemented an SMS;
- Externally with Aviation Authorities as required by applicable regulations.

NOTE - Externally with Aviation Authorities: As required by applicable regulation, certain information may need to be provided to the Authority by the organization. However, Aviation Authorities may receive from other channels (operators, other National Aviation Authorities, various entities under their jurisdiction) valuable information related to the safety of a product or they may have access to generic safety data (e.g., recommendations from official investigation bodies). These may be potential sources of information for the organizations. (Source: SMS SM-0001 Standard).



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7.2.1. COLLABORATION

Safety requires collaboration with all stakeholders. Aerosystems is an active partner in all the main ambitions and contexts involved in promoting safety and a proactive player in numerous initiatives in ours.

This collaboration allows to always be updated on the latest developments on the subject and guarantees full involvement in all the most important national and international discussions and projects that aim to promote and improve safety.

The collaborative approach places safety at the heart of Aerosystems' operations and those who use its products.

AEROSYSTEMS and EASA

The <u>EASA Rotorcraft Together4Safety</u> project aims to update the helicopter community with all the latest safety related news, information and recommendations. Joining the relevant Community Area allows you to receive updates via email notifications. Aerosystems is an active partner of Together4Safety and helps generate and review the content. Sharing information and best practices is a key element in improving flight safety.

AEROSYSTEMS and ENAC

The **ENAC "Safety Portal"** is updated yearly with the Safety Report, which summarizes the result of the analysis of the safety data collected with particular regard to the trend of the Safety Performance Indicators (SPI). The Safety Report has been made available online, in the form of a web portal (Safety Portal) to allow easier consultation both from a PC and on a tablet/mobile phone. Furthermore, thanks to this design choice, the Safety Report can be promptly enriched whenever new safety analyzes are available without having to wait for the annual publication cycle of the paper document. In addition to the SPI trend, other data analyzes relating to dangerous goods, unruly pax, unreliable airspeed and clear air turbulence events were introduced. In the individual pages of the safety data analysis - where available - useful links to related safety promotion material have also been included.

The new <u>European Occurrence Reporting System ECCAIRS</u>, developed by EASA on a mandate from the European Commission, definitively replaces the ENAC eE-MOR system, which will still remain accessible for consultation to already registered users.

AEROSYSTEMS and EHA

The <u>European Helicopter Association (EHA)</u> is a non-profit association which represents the interests of helicopter operators in European and international institutions. It provides support to the European Aviation Safety Agency (EASA) and to all major European and international agencies and institutions in the sector: the European Defense Agency (EDA), the European Commission (EC), the European Parliament (EP), Eurocontrol, the SESAR Joint Undertaking (SJU), the Joint Regulators for Remotely Piloted Systems (JARUS), the International Civil Aviation Organization (ICAO), the International Partnership Program (IPP), etc.

The EHA influences safety standards and the growth of the European aviation industry, creating new opportunities for its members. Aerosystems is a registered user of EHA with which it shares the primary objective of improving helicopter safety through newsletters.

Aerosystems maintain and updates a register named « ORA Occurrence Reporting Advisor » with all above subscriptions and all data of Aerosystems registered users.



7.3. TYPE OF INFORMATION EXCHANGED

Again, depending on the organization, many safety related information exchanges may be considered.

7.3.1. SAFETY POLICY AND OBJECTIVES

When considered appropriate, safety policies and objectives may be shared between interfacing organizations to facilitate a better understanding of SMS approaches. Such an exchange is normally for information only, as policies and objectives are mostly specific to each organization, and if any particular aspects are to be managed across the interface, these will be <u>covered in contractual arrangements described in 7.1</u> to ensure consistent SMS approaches.

7.3.2. SAFETY RISK MANAGEMENT

Safety risks in one organization may impact other organizations through the potential consequences of the risks or the management of their mitigation.

These Safety Risks will be communicated, using the Safety Action Request Form (SAR e.g. LHD) between the interfacing organizations.

Risks that are shared between interfacing organizations shall be reported among those organizations and acknowledged by each of them based on an agreed risk assessment model. Both organizations' HIRM shall report the relevant the required evaluation and the million projection projection and the million projection projection and the million projection and the million projection projection

risk with the required evaluation and the mitigating actions reciprocally shared and agreed. Safety risks can result from interactions between organizations (e.g. due to gap or overlap of interactions) or lack of

interface management (e.g. absence of monitoring).

7.3.3. SAFETY ASSURANCE

Safety assurance activities are focused first on data exchanges necessary for continued airworthiness which are subject to regulatory requirements (e.g., Part 145, Part 21, EU 376/2014). These exchanges are usually governed by contractual requirements.

Safety performance is considered in the assessment of suppliers (for initial qualification and/or continuous monitoring) and represent a contractual requirement for each of them. (Ref. AS-QRS-01).

NOTE: Aerosystems scenario (no external maintenance, neither contracted nor sub-contracted).

7.3.4. SAFETY PROMOTION

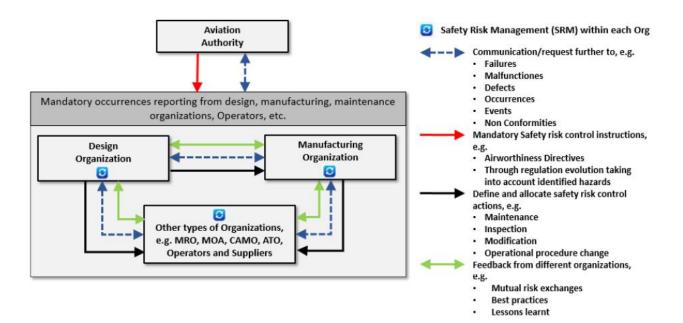
Safety promotion principles and priorities are shared between interfacing Organizations to ensure consistent SMS approaches (e.g. regular sharing of safety policies, top safety objectives and risks, best practices).

7.3.5. EXAMPLE OF INTERFACES BETWEEN ORGANIZATIONS FOR PRODUCT SAFETY

The following Figures depicts general cases of possible exchange of data between interfacing organizations. The interface applies both proactively and reactively.



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SSG					
Safety & Objectives	SMS	SMS	SMS	SMS	
Safety Risk Management Safety Assurance	Design	Production	Maintenance	Customer support training	Elect to Comply SMS
Safety Promotion					
• • • • • • • • • • • • • • • • • • •	2				
• • • • • • • • • • • • • • • • • • •		-			
EXTERNAL NETWORK					



SAFETY MANAGEMENT SYSTEM

7.4. LIMITATION OF INFORMATION FLOW

Although it is desirable that organizations work collaboratively through their interfaces, in order to better identify their inherent hazards (and possibly detect emerging ones), assess associated safety risks and develop mitigations, there is a need for guidelines on limitations to be applied to the flow of information.

In a world with increased interactions between a large number of stakeholders in aerospace, unlimited exchanges with an obligation of reciprocity, hold the threat of generating multiple inquiries, over multiple links, thereby increasing the level of "unnecessary noise". More specifically, the flow of information queries, both up and down, along single or even multiple-tier supplier arrangements needs to be properly controlled.

SMS is dealing with the inner working of each organization and it may not be necessary or useful to propagate all hazard and risks analyses across interfaces: at some point it is sufficient to know that the risk is assessed and controlled by the relevant people.

The level and details of data exchanges is adapted and commensurate to the complexity and safety risks of the products, services and Aerosystems interfacing organizations. It also is adapted to the maturity of Aerosystems with regard to safety management.

Exchange and management of safety or SMS data exceeding the needs for continued airworthiness should be agreed upon between organizations and documented. This should prevent excessive system interaction between organizations (e.g., an operator in the context of its own SMS requesting to audit a TC holder's SMS). (Source: SMS SM-0001 Standard).

7.5. SAFETY INTERFACE DOCUMENTATION

When relevant, the interface between organizations for safety management shall be documented and maintained.

This documentation shall consider the following objectives:

- To support the understanding of the organization's boundaries and their interactions;
- To clarify how the organizations (with or without implemented SMS) are interfacing;
- To address the management of relevant safety issues/items.

The interface between Organizations for safety management is documented and maintained in the following documents:

- Organization's Handbook and Expositions
- Procedures
- Arrangements (DO-PO)
- Policy
- Quality Assurance Plan
- SMS Documents: SM Safety Manual

The flowdown of responsibility and authority for safety between Aerosystems and its suppliers is made by communicating and updating the **AS-QRS-01- Quality Requirements for Aerosystems Suppliers** (that includes Safety Requirements) available on Aerosystems Website under the Supplier Portal.



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This documentation contains the following elements for the interfacing topics and activities:

- Organization and responsibilities (e.g., rights and duties to report issues, defects or occurrences, accountabilities and ownership for hazard identification and risk control, clear identification of interfacing focal points);
- Processes and deliverables descriptions (directly or indirectly through cross-reference to procedures);
- Criteria for reporting safety issues, noncompliance findings, nonconformities and occurrences. These criteria should focus on early communication of safety occurrences and potential safety issues;
- Agreed means for timely safety issue reporting between organizations;
- Periodic reviews of the interface.



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8. SUPPORTING REFERENCE DOCUMENTATION

The following documents have been considered during the development and update of this Safety Manual:

- SMS SM-0001 International Industry Standard, Revision B dated 31 March 2022.
- EU regulation No 2018/1139 (for basic safety aspects);
- EU regulation No 376/2014 (for reporting aspects) and ASD Just Culture declaration.
- EU regulation No 2021/1963 amending Regulation (EU) No 1321/2014 as regards safety management systems to be established by maintenance organizations (Part 145);
- EU regulation (EU) No 2022/201 amending Regulation (EU) No 748/2012 as regards safety management systems to be established by design and production organizations (Part 21);
- International Standards (EN/AS9100 & EN/AS9110, ISO 31010);
- ENAC State Plan for Aviation Safety, 2021-2025 edition
- ENAC Safety Performance Indicators 2nd edition, July

Other support documents:

- ICAO Annex 19, Second Edition-Amendment 1 effective July 2016;
- ICAO Annex 13 (Amendment 18, effective July 2020);
- Safety Management Manual (Doc 9859 4th edition published October 2018);
- Safety Management International Collaboration Group (SMICG) documentation (e.g. SMS evaluation tool, riskbased decision, SMS terminology);
- FAA 14 CFR Part 5
- GAMA/AIA outcomes on SMS for D&M organizations starting with the AIA NAS9927 (1st issue dated May 31, 2016), including the FAA documentation on SMS in other domains;
- ISO/IEC Directives Part 2 Principles and rules for the structure and drafting of ISO and IEC documents.
- State Safety Programme Italy, 4th edition
- ECCAST ECCAST SMS-WG Guidance on Hazards Identification

AEROSYSTEMS Documentation and Forms:

- FF300 AS-SMS Safety Policy
- FF301 SMS Organization Chart
- FF302 Appointment Letter for the role Safety Accountable Manager
- FF303 Appointment Letter for the role Safety Manager
- FF308 AS-SMS-COHIRM Component Safety Assessment Risk Management Hazard Identification and Risk Mitigation
- FF309 AS-SMS-MMERAR Manufacturing Machines and Equipment Risk Analysis and Register
- FF310 SMS SOD Safety Objectives Database
- FF311 AS-SMS-PROSHIRA Product Safety Hazard Identification and Risk Analysis
- FF312 AS-SMS-SHIRRMA Safety Hazard Identification and Risk Register Mitigation Analysis
- FF313 MOC Management Of Change (Form)
- FF318 Hazard Log Card
- FF53 ECO Engineering Change Order
- FF143 RRT Record Retention Table
- AS-ELO Event Log Register



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6.1.5 SMS Documentation	6.1.5.1 SMS Documentation
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1.0 Outputate Olivio Apploauti	IW/A



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8.1 General	8.1 General
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