SRS-101

Safety Requirements for Suppliers

with no SMS

LEONARDO

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Approved by	Head of SSG	R.Pias	

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CHANGES LOG

Issue	Approval Date	Main changes	Interested Paragraphs
00	September 2022	First issue	All

APPLICABLE DOCUMENTS

This document shall be applied together with the main document (SRS-01 Safety Requirements for Suppliers).

Contents

1. Introduction

Leonardo Helicopter is one of the world's leading helicopters manufacturers which designs, manufactures and supports Aircrafts (commercialized under the brand of AgustaWestland) and associated Articles for various Civil and Military Customers to the maximum Safety level.

It is Leonardo Helicopter strong commitment to be "the safest rotorcraft manufacturer and service provider in the world".

Safety is a fundamental key that allows LH to maintain its competitiveness in the global market. In accordance with the European regulations, LH has implemented the latest Safety requirements, introducing the Safety Management System (SMS) in its own approved organizations in order to achieve the updated certifications by the Authorities.

LH is expecting from Suppliers a supportive commitment to ensure a high contribution to Safety by collaborating to such Safety approach, the cornerstone for the continuous improvement of Aviation Safety.

Accordingly, LH would require the certification of Suppliers at the highest levels as an important factor for the achievement of Safety objectives.

In fact, the absence of such certifications represents additional workload, responsibilities and consequently cost for LH since these Suppliers with no certification will need to work under the scope of approval of an LH certified organization. LH will therefore consider this aspect as a maximum priority in the selection of Suppliers.

2. Scope

The purpose of this document is to provide the LH Safety requirements to the Suppliers directly contracted by LH involved in Design, Manufacturing, and Maintenance of LH Products and Services.

This document is intended to enable the Suppliers to implement the LH Safety requirements consistent with Annex 19 (Second Edition - Amendment 1) to the Convention on International Civil Aviation, as adopted by the International Civil Aviation Organization's (ICAO). Where ICAO Annex 19 establishes Standards and Recommended Practices (SARPs) applicable to safety management functions related to, or in direct support of, the safe operation of aircraft.

3. Applicability

This SRS module is applicable to all the Suppliers providing Articles and Services to LH who have neither an approved organization (e.g., DAO, DOA, ODA, POA, AMO/MOA) nor are certificate holder (e.g., TC, PC, PMA holder), and work under the scope of approval of an LH subcontracting organization.

LH requires these Suppliers to implement a set of Safety rules and tasks in order to support the LH approved organizations and related SMS. In this context, these Suppliers will act as Safety Related Units (SRU) of the LH SMS.

In accordance, this SRS module provides a minimum set of Safety requirements that should be implemented by the Suppliers in its own organization to support LH SMS.

The Supplier is required to create a Safety Implementation Plan to be shared with LH for the progress and monitoring of LH Safety requirements aligned with implementing priorities detailed in Section 8.

Suppliers providing Products and/or Services for LH UAS applications are excluded from the implementation of LH Safety Requirements until further notice.

4.   Effective date

Issue date

5.   Reference Documentation

See SRS-01 Section 5.

6.   Acronyms, definitions and abbreviations

6.1   Acronyms and abbreviations

See SRS-01 Section 6.1.

6.2   Definitions

See SRS-01 Section 6.2.

7. ICAO Framework

The LH Safety Requirements for Suppliers are based upon ICAO Annex 19 Appendix 2 framework, fully adopted by LH, which comprises four components and twelve elements 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 9 of this document will further elaborate on Interface Management.
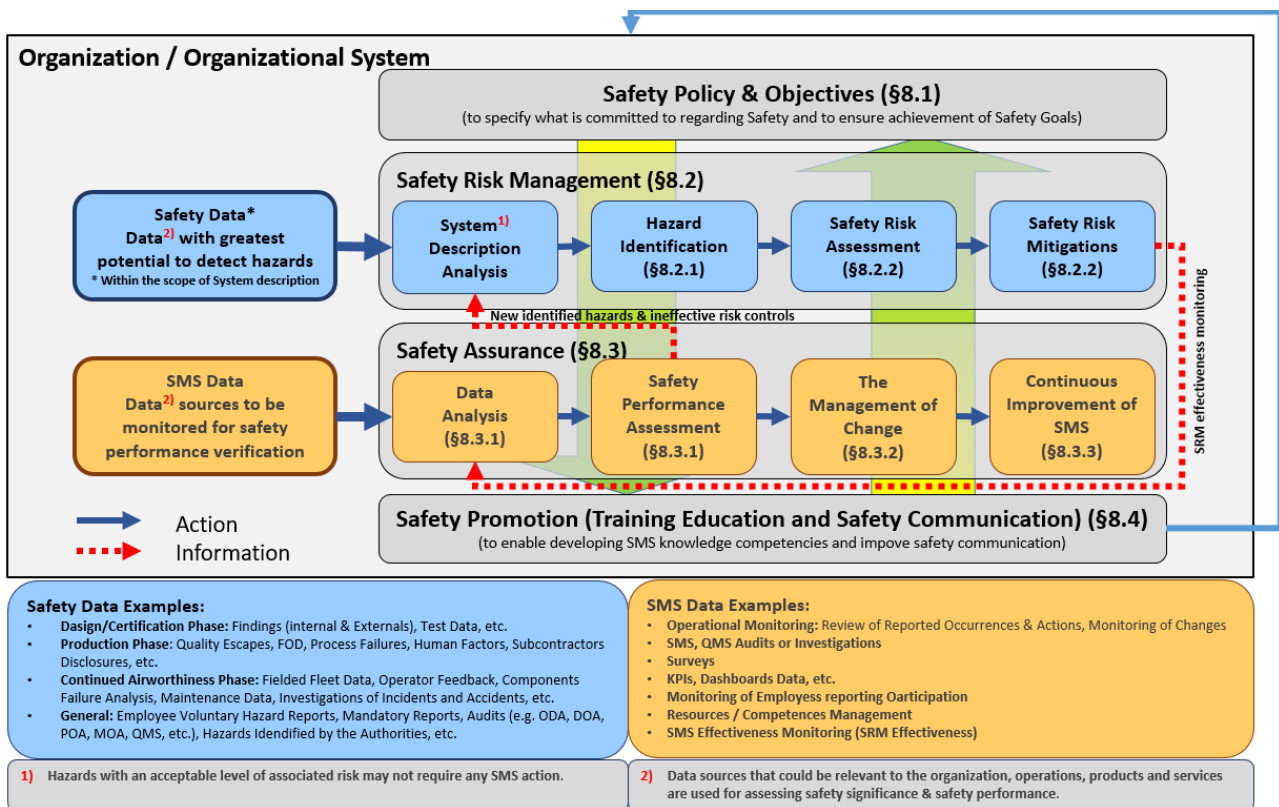
8.   LH Safety Requirements

This section provides further details to the SMS Components and Elements and to the relevant LH Safety Requirements.

Figure 1 provides an overview of the SMS components and the interactions among them, with a specific focus on Safety Risk Management and Safety Assurance.

Figure 1: SMS Overview and Interactions between SMS Components

The components and elements shown in Figure 1 and the related paragraphs and references are further described in this section.

The structure of this section and relevant paragraphs is as follows:
- First part: Principles and understanding of the relevant Safety element.
- Second part: Brief status of LH SMS and description of the relevant LH Safety Requirements applicable to LH, the Supplier and Sub-tier Suppliers, and relevant implementing priorities as follows:
  o Phase 1 or Basic Level
  o Phase 2 or Advanced Level

8.1 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.

8.1.1 Management Commitment

8.1.1.1 Safety Policy

The organization is required to establish its own Safety Policy. This shall be visibly endorsed by senior management and signed by the Accountable Executive.

To reflect the organization's commitment to safety, the Safety Policy shall include a commitment to:
    a) continuously improve the level of safety performance;
    b) promote and maintain a positive safety culture within the organization;
    c) comply with all the applicable regulatory requirements;
    d) provide the necessary resources to deliver a safe product or service;
    e) ensure safety is a primary responsibility of all managers; and
    f) ensure it is understood, implemented and maintained at all levels.

It shall be management's responsibility to communicate the Safety Policy throughout the organization to ensure all personnel understand and work in accordance with it. This can be done via any means of communication and through the alignment of the activities to the Safety Policy itself.

The Safety Policy shall also refer to the safety reporting system to encourage the reporting of safety issues, and to inform personnel of the disciplinary policy applied in the case of safe events or safety issues that are reported, including a reference to a non-punitive approach.

LH Safety Requirements

LH, in establishing the SMS in its own organizations, has already issued its own LH Safety Policy signed by the LH Managing Director that includes Safety and Just Culture principles.

Phase 1

LH will extend its own LH Safety Policy principles to the Supplier working under the scope of approval of an LH subcontracting organization. LH will share such documentation with the Supplier to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH will also inform the Supplier of any change in its own policy principles in a timely manner.

LH Safety Policy including Safety/Just Culture principles can be downloaded from the Leonardo Helicopter website at supplier section.

Phase 2

The Supplier should share the same values and principles and define its own Safety Policy, consistent with LH Safety Policy, signed by the Accountable Executive and communicated with visible endorsement throughout the organization.

8.1.1.2   Safety Objectives

With reference to the Safety Policy, the organization shall also establish Safety Objectives.

Safety Objectives shall be short, high-level statements of the organization's safety priority and shall address its most significant safety risks. Safety Objectives will define what the organization intends to achieve in term of safety.

Safety Performance Indicators (SPIs) and safety performance targets (SPTs) will be used to monitor the achievement of the Safety Objectives, see Section 8.3 Safety Assurance.

The Safety Policy and Safety Objectives shall be periodically reviewed to ensure they remain current and regularly updated.

LH Safety Requirements

LH, in establishing the SMS in its own organizations, has already issued its own Safety Objectives.

Phase 1

LH will extend its own Safety Objectives principles to the Supplier working under the scope of approval of an LH subcontracting organization. LH will share such documentation with the Supplier to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH will inform also the Supplier of any change in its own objectives principles in a timely manner.

LH Safety Objectives can be downloaded from the Leonardo Helicopter website at supplier section.

Phase 2

The Supplier should share same values and principles and define its own objectives, consistent with LH Safety Objectives, to be communicated throughout the organization.

8.1.2 Safety Accountability and Responsibilities

Accountable Executive

The Accountable Executive, typically the Chief Executive Officer, is the person who has ultimate authority over the safe operation of the organization. The Accountable Executive establishes and promote the Safety Policy and safety objectives that instill safety as a core organizational value. He/she shall:
   a) have the authority to make decisions on behalf of the organization;
   b) have control of resources, both financial and human;
   c) be responsible for ensuring appropriate actions are taken to address safety issues and safety risks; and
   d) be responsible for responding to accidents and incidents.

In case of large complex organizations with multiple entities, it is important that the person selected is organizationally situated at the highest level of the organization, thus ensuring the right strategic decision regarding safety are effective. Where this is not possible, individual accountable executives shall be identified for each organization and clear lines of accountability defined; it is also important to identify how their safety accountabilities will be coordinated.

Specific safety accountabilities of all members of management shall be defined and responsibility, accountability and authorities shall be documented and communicated throughout the organization.
Note: Safety responsibility can be delegated (cascade down) within the scope of the defined job responsibilities, provided such delegation is documented, but the ultimate accountability remains with the identified Accountable Executive.

One of the most effective way the Accountable Executive can be visibly involved, is by leading regular executive safety meetings.

Furthermore, the Accountable Executive shall ensure there is an appropriate organizational structure delegated to manage and operate Safety. However, the Accountable Executive cannot delegate neither the accountability for the system nor decisions regarding safety. For example, the following safety accountabilities cannot be delegated:
   a) ensuring safety policies are appropriate and communicated;

b) ensuring necessary allocation of resources (financing, personnel, training, acquisition); and

c) setting of the acceptable safety risk limits and resourcing of necessary controls.

The Accountable Executive shall have a minimum set of safety accountabilities as follows:
a) provide financial and human resources for Safety implementation;
b) promote a positive Safety Culture;
c) establish and promote the Safety Policy;
d) establish the organization's safety objectives;
e) ensure safety decisions, actions and controls are properly implemented and performing to requirements; and
f) monitor the continuous improvement of safety in the organization.

The Accountable Executive's authorities will include, but not limited to, having final authority:
a) for the resolution of all safety issues; and
b) over operations under the certificate, authorization or approval of the organization, including the authority to stop the operation or activity.

The organization shall also define the authority to make decision regarding safety risk tolerability, including who can make decisions on the acceptability of risks as well as the authority to agree that a change can be implemented. This authority may be assigned to an individual, a management position or a committee.

LH Safety Requirements

LH, in establishing the SMS in its own organization, has already identified the LH Safety Accountable Executive, as the Leonardo Helicopters Managing Director.

Phase 1

The Supplier should identify its own Safety Accountable Executive, placing the above mentioned responsibilities for the overall safety performance at a level in the organization with the authority to take action to ensure that Safety decisions are effective.

Phase 2

Accountability and Responsibilities

In addition to the identification of the Accountable Executive, the Supplier should consider the necessary organizational responsibilities including the individual, or group of individuals, assigned with safety accountability and responsibilities, (see Section 8.1.3 for further details).

All defined accountabilities, responsibilities and authorities should be stated in the Supplier's Safety documentation and communicated throughout the organization.

Accountability and responsibilities and in respect to external organizations

The Supplier should be responsible for the safety performance of external organizations, including Sub-tier Suppliers, where there is a Safety interface. The Supplier may be held accountable for the safety performance of product or services provided by the external organization supporting its activities even if the external organizations or Sub-tier Suppliers are not required to have a Safety Management System (SMS). It should be essential for the Supplier to interface with the safety system of any external organizations that contribute to the safe delivery of their products and services. See Section 8 for further details on Interface Management.

8.1.3 Appointment of Key Safety Personnel

The Safety Manager is responsible to the Accountable Executive for an effective implementation and functioning of the SMS and for the delivery of safety services to the other departments in the organization.

The Safety Manager role may be an exclusive function, or it may be combined with other duties. However, the organization must ensure that the defined solution does not result in any conflict of interest. In cases where the function is allocated to a group of persons, (e.g., when an organization extend their SMS across multiple activities) one of the persons shall be designated as "Lead" Safety Manager, to maintain a direct and unequivocal reporting line to the Accountable Executive.

The Safety Manager's responsibilities include, but are not limited to:
  a) manage the SMS implementation plan;
  b) perform/facilitate hazard identification and safety risk analysis;
  c) monitor corrective actions and evaluate their results;
  d) ensuring the prompt collection and analysis of safety data;
  e) provide periodic reports on the organization's safety performance;
  f) maintain SMS documentation and records;
  g) plan and facilitate staff safety training;
  h) provide independent advice on safety matters;
  i) monitor safety concerns in the aviation industry, and their perceived impact on the organization's operation;
  j) coordinate and communicate with the State's CAA and other State authorities as necessary on issues relating to safety.

The organization shall establish appropriate safety committees that support the SMS functions defining participants and frequency of the meetings in the SMS documentation.

LH Safety Requirements

LH, in establishing the SMS in its own organization, has already identified its own Safety Management model and organization composed of a Safety Systems Governance team and various SMSs in each approved organization.

LH SMS model, roles, philosophies, and principles can be downloaded from the Leonardo Helicopter website at supplier section.

The Head of the Safety Systems Governance has been nominated as the LH Safety Manager, while a Safety Manager has been appointed in each SMS of the approved organizations. Furthermore, in accordance with the established LH SMS model, all LH approved organizations, have already identified roles, and appointed personnel for each requested position, such as for example Safety Officers (SOs). All the internal departments of each approved organization are considered and will act as Safety Related Units (SRU).

In such LH implemented model, Suppliers (neither approved nor certificate holding organizations) working under the scope of approval of the LH subcontracting organizations, should be considered as well as SRU of the LH SMS. In this context and acting as SRUs, the Suppliers should interface with the Safety Managers or nominated LH SMS focal points and provide support for safety related activities to the LH SMSs through identified and nominated Supplier Safety Officer(s).

Phase 1

LH will ensure that LH focal points and entry points are clearly identified and communicated to the Supplier, whilst the Supplier should appoint Safety Officer(s) belonging to its own organization to interface the LH SMSs.

The Supplier SO(s) should have the following responsibilities:

a) To assist the LH Safety focal points in the collection of information relative to the presence of hazards in the specific areas of the Supplier organization that could potentially cause occurrences and contribute to an aircraft incident or accident. In this responsibility the SO should:
    i. be supported by Subject Matter Expert (SME) of the Supplier organization;
    ii. involve the Supplier Safety Accountable Executive and other stakeholders in identifying and prioritizing safety issues within their areas of operation and encouraging them in becoming Safety Promoters within each functional area;

b) To set up and maintain records of Safety Occurrences for the Supplier organization and provide copies to the LH Safety focal points or entry points as requested;

c) To assist the LH Safety focal points in investigating, analyzing, and identifying occurrences' causes and trends, collaborating in the evaluation of the hazard detection reports, recommending appropriate accident mitigating or corrective actions, also proactively proposing preventive actions and strategies in full collaboration with the LH Safety focal points. In this responsibility, the SO should:
    i. be supported by Subject Matter Expert (SME) of the Supplier organization;
    ii. involve the Supplier Safety Accountable Executive and other stakeholders in prioritizing safety mitigating actions within their areas of operation.

d) To maintain records of periodic inspections, corrective actions and investigations, providing copies to the LH Safety focal points as requested;

e) To work with the LH Safety focal points, ensuring that appropriate safety issues are addressed in common training objectives;

f) To conduct risk assessments with relevant SRM tool and Subject Matter Experts (SME), also on identified internal hazards not directly affecting LH products and services.

Phase 2

Suppliers should also establish appropriate internal safety committees to support the LH SMS defining participants and frequency of the meetings in the Safety documentation. The highest-level safety committee, referred also as Safety Review Board (SRB), should include the Supplier Accountable Executive, senior managers and the Supplier Safety Officer.

8.1.4   Coordination of Emergency Response Planning

Not applicable

8.1.5   SMS Documentation

8.1.5.1   SMS Documentation

The SMS Manual shall describe the SMS policies, processes and procedures to facilitate the organization's internal administration, communication and maintenance of the SMS. The documentation shall include a system description that provides the boundaries of the SMS, clarify the relationship between various policies, processes, procedures, and practices, and define how these links to the Safety Policy and objectives.

The SMS Manual may be a stand-alone document, or it may be integrated with other existing documents already detailing organization's processes. In such a case, cross-referencing to such documents will be sufficient. The SMS Manual must be kept up to date.

The SMS manual shall include a detailed description of the policies, processes and procedures including:
   a) safety policy and safety objectives;
   b) reference to any applicable regulatory SMS requirements;
   c) system description;
   d) safety accountabilities of key safety personnel;
   e) voluntary and mandatory safety reporting system processes and procedures;
   f) hazard identification and safety risk assessment processes and procedures;
   g) safety investigation procedures;
   h) procedures for establishing and monitoring safety performance indicators;
   i) SMS training processes and procedures and communications;
   j) Safety communications processes and procedures;
   k) internal and external audit procedures;
   l) management of change procedures;
   m) SMS documentation management procedures; and
   n) where applicable, coordination of emergency response planning.

LH Safety Requirements

LH, in establishing the SMS in its own organization, has already prepared the LH Aviation Safety Management System Manual (LH A-SMS Manual) providing guideline, principles,

philosophy and coordination to the various LH SMS organizations and each SMS has prepared its own manual accordingly.

Phase 1

LH will share principles, philosophies and organizational structure of its SMS model and Manual to the Supplier working under the scope of approval of an LH subcontracting organization. LH will share such documentation with the Supplier to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH Manual principles, philosophies and organizational structure of its SMS model and the relevant template can be downloaded from the Leonardo Helicopter website at supplier section.

Phase 2

The Supplier should prepare its own Safety Manual based on the above principles and template and keep it update with the latest requirements.

8.1.5.2   SMS Records

The SMS documentation also includes the compilation and maintenance of operational records substantiating the existence and ongoing operation of SMS. Operational records are the outputs of the SMS processes and procedures such as the Safety Risk Management (SRM) and Safety Assurance (SA) activities. SMS operational records should be stored and kept in accordance with existing retention periods. Typical SMS operational records shall include:
   a) hazards register and hazard/safety reports (e.g., SRM/HIRM records);
   b) SPIs and related charts;
   c) record of completed safety risk assessments (e.g., SRM/HIRM records);
   d) SMS internal review or audit records;
   e) internal and external audit records;
   f) records of SMS/safety training records;
   g) SMS/safety committee meeting minutes;
   h) SMS implementation plan (during the initial implementation); and
   i) gap analysis to support implementation plan.

LH Safety Requirements

Phase 1

The Supplier should assist the LH Safety focal points in maintaining records of Safety Occurrences for its own organization and records of audit / periodic inspections, corrective actions, and investigations, providing copy/access to the LH Safety focal points if these affect the safety of the LH final Product and Services.

8.2 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.

Figure 2 provides an overview of the hazard identification and safety risk management process for an organization.

Figure 2: SRM steps
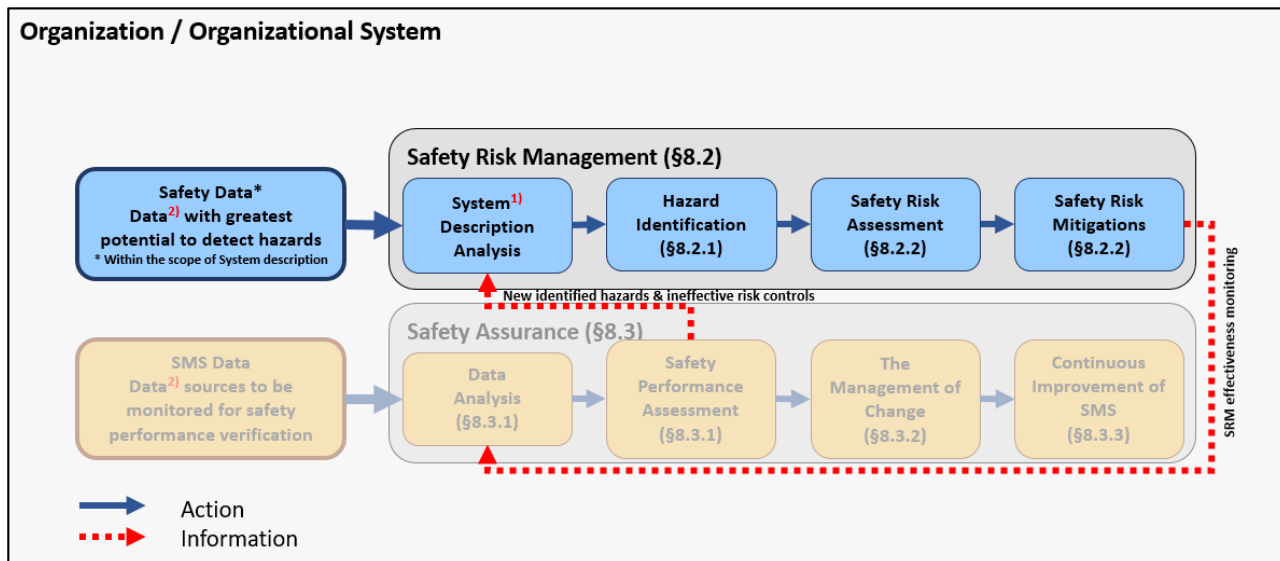
8.2.1 Hazard Identification

8.2.1.1 Hazard Identification

The organization shall develop and maintain a formal process to identify hazards that could impact aviation safety in all areas of operation and activities. This will include equipment, facilities, and systems, as well as hazards resulting from the SMS interfaces with external organizations.

Sources for hazard identification

Examples of internal sources for hazards identification include:
a) Normal operation monitoring: observational techniques to monitor the day-to-day operations and activities such as Line Operations Safety Audit (LOSA).
b) Automated monitoring systems: automated recording systems to monitor parameters that can be analyzed such as Flight Data Monitoring (FDM).
c) Voluntary and mandatory safety reporting systems: everyone, including staff from external organizations, can report hazards and safety issues to the organization.
d) Audits: hazard identification in the task or process being audited.
e) Feedback from training: interactive training could facilitate the identification of new hazards from participants.
f) Safety investigations: hazards identified in internal or external (e.g., LH, Sub-tier Suppliers, other customers) safety investigations and follow-up reports on accidents/incidents.

Examples of external sources for hazards identification include:
a) Aviation accident reports: reviewing accident reports in the same State or to similar aircraft type, region, or operating environment.

b) State mandatory and voluntary safety reporting systems: some States provide summaries of the safety reports received from other organizations.

c) State oversight audits and third-party audits: external audits can sometimes identify hazards.

d) Trade association and information exchange systems: many trade associations and industry groups share safety data that may include identified hazards.

LH Safety Requirements

In the implemented model, LH has already established tools and processes for SRM.

Phase 1

LH will share the relevant documentation to the Supplier working under the scope of approval of an LH subcontracting organization, to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH SRM tools and processes can be downloaded from the Leonardo Helicopter website at supplier section.

The Supplier, and specifically the Safety Officer(s) supported by Subject Matter Experts (SMSs), should assist the LH Safety focal points in the collection of information relative to the presence of hazards in the specific areas of the Supplier organization that could potentially cause occurrences and contribute to an aircraft incident or accident.

LH and the Supplier will proceed with a joint and shared evaluation of the hazards and risks created by their collaboration.

The results of these evaluations will be incorporated within the LH SRM (HIRM) library, communicated to the Suppliers, and periodically jointly reviewed.

Safety reporting system

The safety reporting system, and especially the voluntary safety reporting system, is one of the main sources for identifying hazards. Whereas the mandatory system is normally used for incidents that have occurred, the voluntary system provides an additional reporting channel for potential safety issues such as hazards, near misses or errors.

In setting up the voluntary system the organization shall clearly state that, the reported information will be used solely to support the enhancement of safety and ensure that appropriate protection will be provided to the reporter. The intent is to encourage people to report what they see or experience, promote an effective reporting culture and proactive identification of potential safety deficiencies.

The organization shall guarantee the confidentiality of the safety reporting systems. Only the custodian, typically the Safety Manager, will be aware of any identifying information about the reporter to allow for the relevant follow-up action. Confidentiality will help facilitate the disclosure of hazards leading to human error, without fear of retribution or embarrassment.

The voluntary safety reporting systems shall be readily accessible to all personnel and paper-based, web-based or desktop forms can be used.

Anybody that submits a safety report shall receive feedback on what decision or actions have been taken. Feedback to reporters in voluntary reporting schemes also serves to demonstrate that such reports are considered seriously. This helps to promote a positive safety culture and encourage future reporting.

Identified hazards and their potential consequences shall be documented. This will be used for safety risk assessment processes.

LH Safety Requirements

In the SMS implemented model, LH has already introduced Safety and Just Culture principles and a voluntary reporting system with related tools.

Phase 1

LH will share the relevant documentation to the Supplier working under the scope of approval of an LH subcontracting organization, to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH Safety and Just culture principles can be downloaded from the Leonardo Helicopter website at supplier section.

Phase 2

The Suppliers should implement in its own organization Safety and Just Culture values and principles and will establish a voluntary reporting system to collect hazards and improve safety.

The Supplier should analyze and manage these communications within its own organization providing feedback to the originator of the voluntary reporting.

The Supplier should inform LH focal points of the reported hazards and relevant risks if these affect LH products and services.

8.2.1.2   Supplier Safety Investigations

Safety investigations are conducted by organizations as part of their SMS to support hazard investigation and risk assessment processes.

The primary objective of the safety investigation is to understand what happened, and how to prevent similar situations from occurring in the future by eliminating or mitigating safety deficiencies.

The benefit of conducting a safety investigation includes:
   a) gaining a better understanding of the events leading up to the occurrence;
   b) identifying contributing human, technical and organizational factors;
   c) identifying hazards and conducting risk assessments;
   d) making recommendations to reduce or eliminate unacceptable risks; and
   e) identifying lessons learned that should be shared with the appropriate member of the aviation community.

LH Safety Requirements

Phase 1

The Supplier, and specifically the Safety Officer supported by Subject Matter Expert, shall assist the LH Safety focal points in performing safety investigation, analyzing and identifying occurrences' causes and trends. The Supplier shall support LH also collaborating in the evaluation of the hazard detection reports, recommending appropriate accident mitigating or corrective actions, also proactively proposing preventive actions and strategies in full collaboration with the LH Safety focal points.

Investigation triggers

A Suppliers safety investigation shall be usually triggered by a notification (report) submitted through the safety reporting system, including notifications from external organizations, e.g. LH.

Not all occurrences and hazards can or should be investigated; the decision to conduct an investigation and its depth shall depends on the actual or potential consequences of the occurrence or hazard to the organization itself and to its customers and its products, e.g., LH.

The Supplier, before taking any formal decision, shall consult the LH focal points to understand the severity or potential severity of the outcomes on the LH products. The final decision to conduct such investigation will be jointly agreed with LH focal points.

The investigation process

The investigation shall identify what happened and why it happened and this may require root cause analysis to be applied as part of the investigation. The investigation shall include:
   a) establishing timelines of key events, including the actions of the people involved;
   b) review of any policies and procedures related to the activities;
   c) review of any decisions made related to the events;
   d) identifying any risk controls that were in place that should have prevented the event occurring; and
   e) reviewing safety data for any previous or similar events.

The Supplier Safety investigations shall conclude with clearly defined findings and recommendations that eliminate or mitigate safety deficiencies.

8.2.2   Safety Risk Assessment and Mitigation

The organization shall develop a safety risk assessment model and procedures which will allow a consistent and systematic approach for the assessment of safety risks, including a method to determine what safety risks are acceptable or unacceptable and to prioritize actions.

The safety risk assessment process shall use whatever safety data and safety information is available. Safety risk assessments sometimes have to use qualitative information (expert judgment) rather than quantitative data due to unavailability of data. Using the safety risk

matrix allows the user to express the safety risk(s) associated with the identified hazard in a quantitative format. This enables direct magnitude comparison between identified safety risks.

The organization shall prioritize safety risk assessments and adopt safety risk controls. As a guide for the prioritization process the organization should consider:

a) assess and controls highest safety risks;
b) allocates resources to highest safety risks;
c) effectively maintains or improves safety;
d) achieves the stated and agreed safety objectives and STPs; and
e) satisfies the requirements of the State's regulation with regards to control safety risks.

Once safety risks have been assessed, the organization will engage in a data-driven decision-making process to determine what safety risk controls are needed. It is important to involve the "end users", for instance customers, and Subject Matter Experts (SME) in determining appropriate safety risk controls.

However, before implementing any new safety risk control the organization shall assess the presence of any unintended consequence, and particularly the introduction of the new hazards.

Once the safety risk control has been agreed and implemented, the safety performance shall be monitored to assure the effectiveness of the safety risk control. This is necessary to verify the integrity, efficiency and effectiveness of the new safety risk controls under operational conditions.

The organization shall document SRM outputs. This shall include the hazard and any consequences, the safety risk assessment and any safety risk control taken. These are often captured in a register so they can be tracked and monitored; see also Section 8.1.5.2 SMS Records. This safety knowledge provides material for safety trend analyses and safety training and communication. It is also useful for internal and external audits to assess whether safety risk controls and actions have been implemented and are effective.

LH Safety Requirements

LH has already established tools and processes for SRM.

Phase 1

LH will share the relevant documentation to the Supplier working under the scope of approval of an LH subcontracting organization, to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH SRM tools and processes can be downloaded from the Leonardo Helicopter website at supplier section.

The Supplier, and specifically Safety Officer(s) supported by Subject Matter Experts (SMSs), should assist the LH Safety focal points in the collection of information relative to the presence of risks in the specific areas of the Supplier organization that could potentially cause occurrences and contribute to an aircraft incident or accident.

LH and the Supplier will proceed with a joint and shared evaluation of the risks created by their collaboration and implement reciprocal actions to mitigate and control the identified risks.

The results of these evaluations will be incorporated within the LH SRM (HIRM) library communicated to the Suppliers and periodically jointly reviewed.

8.3 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.

Figure 3 provides an overview of the safety assurance process for an organization.

Figure 3: Safety Assurance steps
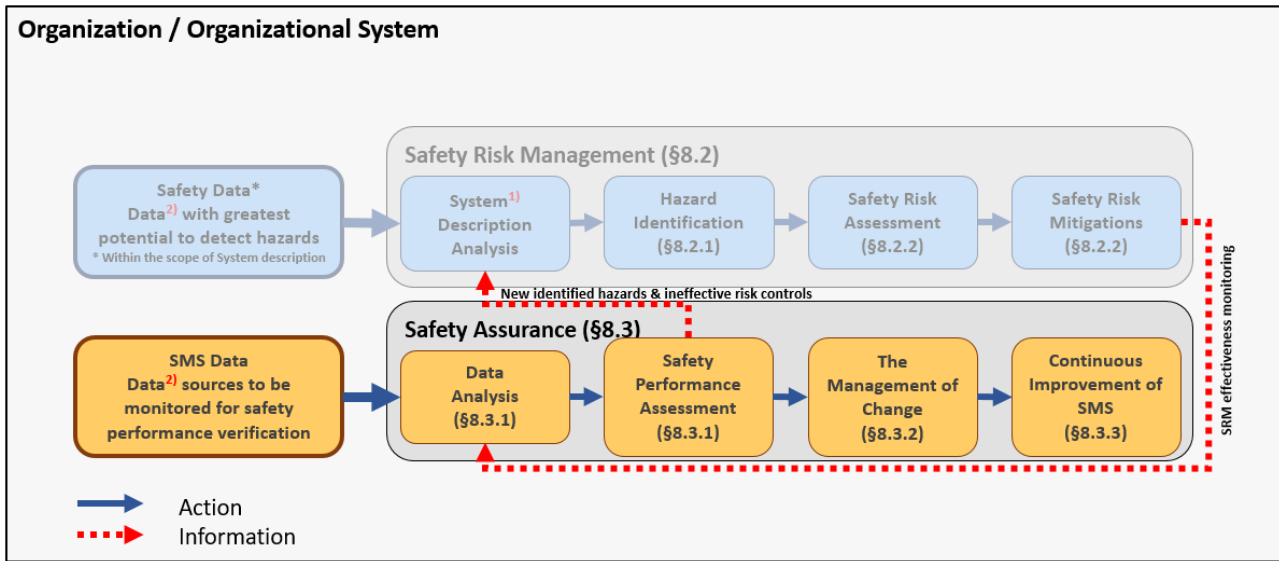
8.3.1 Safety Performance Monitoring and Measurement

A combination of audits and the establishment and monitoring of SPIs is necessary to verify the safety performance and validate the effectiveness of the safety risk controls. This will help to identify whether the right safety risk control was selected or needs to be changed.

Auditing and assessing the effectiveness of the safety risk controls is important as their application does not always achieve the results intended.

Internal and External Audits

The organizations shall perform internal audits and external audits on Sub-tiers Suppliers to assess the effectiveness of the SMS and identify areas for potential improvements.

Such audits shall provide the Accountable Executive and senior management with feedback on the status of:
   a) compliance with regulations;
   b) compliance with policies, processes and procedures;
   c) the effectiveness of safety risk controls;
   d) the effectiveness of corrective actions; and
   e) the effectiveness of the SMS.

Audits are most effective when conducted by persons / departments / external auditors independent of the functions being audited.

LH Safety Requirements

Phase 2

The Supplier should perform internal audits and external audits on Sub-tier Suppliers to assess the effectiveness of the Safety decisions and identify areas for potential improvements.

The Supplier should plan internal and external audits considering the safety criticality of the internal processes, the criticality of Sub-tier Suppliers, the results of previous audits and assessments, and the implemented safety risk controls. Audits should also identify system deficiencies, lack of effectiveness of safety risk controls and opportunities for improvement. The causes and contributing factors should be investigated and analyzed where non-conformances and other issues are identified.

In addition, Supplier internal and external audits should monitor progress in closing previously identified internal and Sub-tier Suppliers non-compliances.

The results of the Supplier audit process should become one of the various inputs to the Supplier SRM and SA.

The Supplier should share with LH any hazard and risk discovered during the investigation that could impact LH products and services.

Safety performance monitoring

The organization shall develop a Safety performance monitoring and measurement process through the collection of safety data and safety information from a variety of sources available to the organization.

Data availability to support informed decision-making is one of the most important aspects of the SMS. The organization will use this data to generate the information necessary for safety risk decision-making.

The organization, in order to perform safety performance monitoring and measurement shall follow some basic principles and define:
a) safety objectives: established first to reflect the strategic achievements or desired outcomes;
b) Safety Performance Indicators (SPIs): tactical parameters related to the safety objectives and therefore the reference for the data collection; and
c) Safety Performance Targets (SPTs): tactical parameters used to monitor progress towards the achievements of the safety objectives.

The organization shall use SPIs to measure operational safety performance of the SMS. They shall be linked to the safety objectives already established.

Once SPIs have been established the organization shall consider whether it is appropriate to identify SPTs and alert levels. SPTs should be realistic, context specific and achievable when considering the resources available to the organization and the associated aviation sector. SPTs are useful but they have been known to lead to undesirable behaviors (too focused on achieving the target) rather than improvement in organizational safety performance. In such cases, it may be more appropriate to monitor the SPI for trends.

The organization shall monitor the performance of established SPIs and SPTs to identify abnormal changes in safety performance.

Primarily, safety performance monitoring and measurement provides a means to verify the effectiveness of safety risk controls. In addition, they provide a measure of the integrity and effectiveness of SMS processes and activities.

LH Safety Requirements

In the implemented model, LH has already established tools, processes and SPIs.

Phase 1

LH will share the relevant documentation to the Supplier working under the scope of approval of an LH subcontracting organization, to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH SA tools and processes can be downloaded from the Leonardo Helicopter website at supplier section.

LH and the Supplier will proceed with a joint and shared evaluation of common SPIs in order to monitor the performance of their relationship.

The Parties will arrange dedicated and periodical meetings in order to analyze SPIs trends and performances.

Phase 2

LH and the Supplier will evaluate and implement reciprocal corrective actions to manage and improve any unsatisfactory identified trends.

LH will perform periodic Safety Audits within the Supplier organization in order to verify and assess that safety performance and objectives are regularly met.

The Parties will dedicate specific "safety slots" in the agenda of the periodical joint leadership meetings.

8.3.2 The Management of Change

Organizations experience change due to a number of factors including, but not limited to:
   a) organizational changes;
   b) business improvements that impact safety; these may result in changes to internal systems, processes or procedures that supports the safety delivery of the product and services;
   c) changes to the organization's operating environment;
   d) changes to the SMS interfaces with external organizations, e.g. Sub-tier Suppliers; and
   e) external regulatory changes, economic changes and emerging risks.

Change may affect the effectiveness of existing safety risk controls. In addition, new hazards and related safety risks may be inadvertently introduced into an operation when change occurs. Hazards shall be identified, and related safety risks assessed and controlled as defined in the existing hazard identification or SRM procedures.

Small incremental changes go often unnoticed, but the cumulative effect can be considerable. Changes, large and small, might affect the organization's system description, and may lead to the need for its revision. Therefore, the system description shall be regularly reviewed to determine its continued validity, give that most organizations experience regular, or even continuous change.

LH Safety Requirements

Phase 2

The Supplier should develop and maintain a change management process to identify change, understand the impact, who is affected identify hazards and define risk controls.

8.3.3 Continuous Improvement of the SMS

The organization shall monitor and assess its SMS processes to maintain or continuously improve the overall effectiveness of the SMS.

Maintaining and continuously improving the SMS is an ongoing journey, as the organization itself and the operational environment will be constantly changing, and Safety Assurance activities that include the verification and follow-up of actions and the internal and external audit processes support this journey

However, SMS effectiveness shall not be based only on SPIs; the organization shall implement a variety of methods to determine its effectiveness. Such methods may include:
  a) Audits: including audits carried out by other organizations.
  b) Assessments: for instance, assessments of safety culture and SMS effectiveness.
  c) Monitoring of occurrences: recurrence of safety events including accidents and incidents as well as errors and rule-breaking situations.
  d) Safety surveys; including cultural surveys that could provide feedback on staff engagement with the SMS.
  e) Management reviews; examine whether the safety objectives are being achieved by the organization.
  f) Evaluation of SPIs and SPTs; possibly as part of the management review.
  g) Addressing lessons learnt; from safety reporting systems and safety investigations.

LH Safety Requirements

Phase 2

The Supplier should monitor and assess its Safety processes to maintain or continuously improve the overall effectiveness of safety decisions.

8.4 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.

8.4.1 Training and Education

The organization shall develop and maintain a safety training program that ensures that personnel are trained and competent to perform their SMS duties as an indication of management's commitment to an effective SMS.

The Safety Manager shall be responsible for ensuring there is a suitable safety training program in place.

The training program shall include initial and recurrent training requirements to maintain competencies. Initial safety training shall consider, as a minimum, the following:
   a) organizational Safety Policies and safety objectives;
   b) organizational roles and responsibilities related to Safety;
   c) basic SRM principles;
   d) safety reporting systems;
   e) the organization's SMS processes and procedures; and
   f) human factors.

Recurrent safety training shall focus on changes to the SMS policies, processes, and procedures, and shall highlight any specific safety issues relevant to the organization or lessons learned.

The training program shall be tailored to the needs of the individual's role within the SMS. The organization shall determine who shall be trained and to what depth, and this will depend on their involvement in the SMS.

The safety training program shall specify the content of safety training for support staff, operational personnel, managers and supervisors, senior managers and the accountable executive.

The main purpose of the safety training program is to ensure that personnel, at all levels of the organization, maintain their competence to fulfill their safety roles; therefore, competencies of personnel shall be reviewed on a regular basis.

LH Safety Requirements

In the implemented model, LH has already established training tools and Safety / SMS courses.

Phase 1

LH will share the relevant documentation to the Supplier working under the scope of approval of an LH subcontracting organization, to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH documentation regarding Safety, SMS and LH Model principles can be downloaded from the Leonardo Helicopter website at supplier section.

LH will provide access to on-line LH documentation to Supplier selected personnel (e.g., Safety Officer(s)) involved in the Supplier safety organization enabling such personnel to act as "promoters" of safety within the Supplier organization.

8.4.2 Safety Communication

The organization shall develop and maintain a formal means and strategy for safety communication based on the individual's role and need to receive safety related information.

The organization shall communicate the SMS policy, objectives, and procedures to all appropriate personnel. This may be done through safety newsletters, notices, bulletins, briefings or training courses, ensuring that those lessons learnt from investigations and case histories and experiences, both internally and from other external organizations, are distributed widely.

Safety communication therefore aims to:
a) ensure that staff are fully aware of the SMS;
b) convey safety-critical information that could expose the organization to safety risk;
c) raise awareness of new safety risk controls and corrective actions; the safety risks faced by the organization will change over time, and whether this is a new safety risk

that has been identified or changes to safety risk controls, these changes will need to be communicated to the appropriate personnel;

d) provide information on new or amended safety procedures;

e) promote a positive safety culture and encourage personnel to identify and report hazards;

f) provide feedback to personnel submitting safety reports on what actions have been taken to address any concerns identified.

The organization shall consider whether any of the safety information listed above needs to be communicated to external organizations.

The organization shall assess the effectiveness of its safety communication by checking personnel have received and understood any safety critical information that has been distributed. This can be done as part of the internal audit activities or when assessing the SMS effectiveness.

Safety promotion activities shall be carried out throughout the life cycle of the SMS, not only at the beginning.

LH Safety Requirements

In the implemented model, LH has already established the LH Safety Policy, safety objectives and the LH SMS model.

Phase 1

LH will share the relevant documentation to the Supplier working under the scope of approval of an LH subcontracting organization, to be compliant with existing regulations and to promote and implement safety in the supply chain supporting its own SMS.

LH documentation regarding Safety Policy and objectives, SMS and LH Model principles can be downloaded from the Leonardo Helicopter website at supplier section.

Phase 2

The Supplier Safety Officer and the Supplier Safety Accountable Executive should consider how the above LH documentation will be communicated to the internal and also external organizations, e.g. Sub-tier Suppliers. Internally the communication should be addressed to all employees, with a level and a frequency of information appropriate to their roles in the organization.

9. Interface Management

Safety risks faced by the organizations are affected by interfaces, either internal or external. By identifying and managing these interfaces the organizations will have more control over any safety risks related to the interfaces.

9.1 Interface Principles

Organizations do not operate in isolation, and any management system (e.g., safety management system, quality management system, environmental management system) has to take into account interactions with others. The term 'interface' is used to describe in generic terms the interaction between organizations, and includes the occasions when the interface is formalized, and offers the opportunity to exchange information.

In most cases, organizations directly interfacing with each other are expected to formally define the interactions through contractual arrangements, for instance a typical case is the arrangements made between a customer and a supplier. The contract is the means to define the exact nature of the activities being performed by one party for the other, and duties to be performed for Safety across the interface may therefore be defined within the formal contractual agreements. This can include, as appropriate, defining the items to be exchanged when both parties have an SMS, or more specific requirements for one party to support the needs of the other's SMS even if such party is not required to have an SMS.

9.2 Types of Interfaces

The following paragraphs provide some categories of interfaces, which shall be considered by the organization:

a) Internally within one company/group/legal entity:
- Each organization holding its own SMS (e.g., SMS in design organization, SMS in manufacturing organization);
- Each organization holding its own SMS supported by a Corporate SMS approach;
- One single corporate SMS across multiple organizations (e.g., SMS covering both design and manufacturing organizations with a single accountable executive).

b) Externally with separate companies/legal entities (e.g., customers, suppliers):
- Having implemented an SMS (e.g., operators, manufacturing organizations, maintenance organizations);
- Not having implemented an SMS (e.g., engineering services suppliers, manufacturing suppliers, non-aviation related emergency services suppliers, building maintenance suppliers).

c) Externally with Civil Aviation Authorities (CAAs):
- As required by applicable regulation, certain information may need to be provided to the authority by the organization. However, authorities may receive from other channels (operators, other 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.

9.3 Identification of Interfaces

The organization shall identify the interfaces in relation to its business activities and in accordance with the categories at Section 9.2.

The identification of the interfaces shall be detailed in the system description that sets out the scope of the SMS and shall include internal and external interfaces.

Figure 4

Example of Safety Data Flow between Organizations
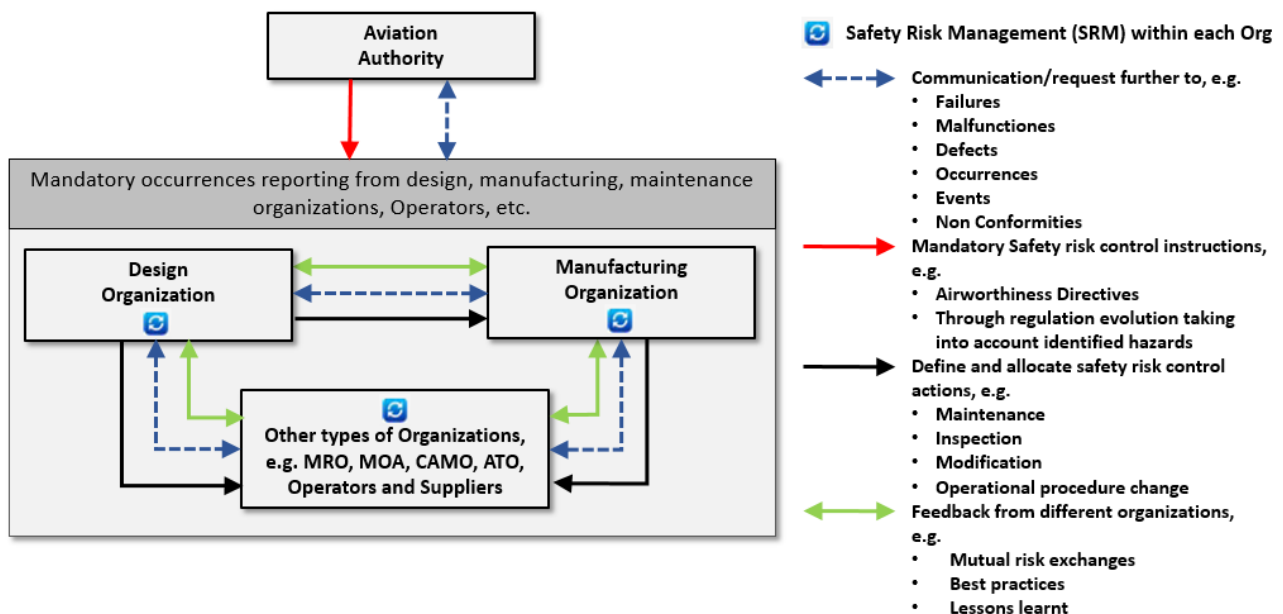
The objective is to produce a comprehensive list of all interfaces, including SMS interfaces which an organization is not necessarily fully aware of. There may be interfaces also where there are no formal contractual agreements in place, for example with the power supply companies.

Internal interfaces may be with business areas not directly associated with safety, such as marketing, finance, legal and human resources. These areas can affect safety through their decisions, which impact on internal resources and investment.

LH Safety Requirements

Phase 2

The Supplier should identify the interfaces and consider their relative criticality. This shall enable the Supplier to prioritize the management of the more critical interface, and their potential safety risks. Things to consider are:

a) what product and/or service is being provided by the interface;

b) why it is needed;

c) historical records of non-compliances, audits results, investigations performed on critical products

d) whether the organizations involved has an SMS in place or not; and

e) whether the interface involves the sharing of safety data/information.

Assessing safety impact of interfaces

The Supplier should identify any hazard related to the interfaces and carry out a safety risk assessment using the hazard identification and safety risk assessment processes.

Based on the safety risk identified, the Supplier should consider whether working with the other organization to identify hazards, assess the safety risk as well as determine the appropriate safety risk control, by either the Supplier or the external organization.

This collaborative effort is strongly recommended because the perception of safety risks may not be the same for each organization. It is also important to highlight that each organization involved shall have the responsibility to identify and manage hazards that affect their own organization.

Managing and monitoring interfaces

The Supplier should be responsible for managing and monitoring the interfaces to ensure the safe provision of their services and products.

The Supplier should evaluate the strategy to formally engage the external organizations on safety aspects. Formal contractual agreements, interface documentation, safety qualification requirements to Sub-tier Suppliers are an effective way to engage the interfaces. The objective should be to cascade down to the external organization's safety requirements so that the relevant responsibilities and duties are clearly identified and described in the relevant documentation.

Any changes in the interfaces and associated impacts should be communicated to the relevant organizations in a timely manner.

All safety issues or safety risks related to the interfaces should be documented and made accessible to each organization for sharing and review, see also SMS Records, Section 8.1.5.2.

9.4   Interface Documentation

Phase 2

The Supplier should evaluate which Interface Documentation fits best its own needs.

Effective collaboration and coordination between the organizations is essential. The Interface Documentation should consider the following objectives:

- Support the understanding of the organization's boundaries and their interactions.
- Clarify how the organizations (with or without implemented SMS) are interfacing.
- Address the management of relevant safety issues/items.

Examples of documentation for SMS interface provisions are:

- Organization's handbook or exposition.
- Contractual Agreement.
- Organization interface document.
- General policy statement.
- Arrangement.
- Quality assurance plan.
- Common applicable procedures when different organizations are within the same company or group.

This documentation should contain 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 controls, clear identification of interfacing focal points).
- Processes and deliverables descriptions (directly or indirectly through cross-reference to procedures).
  - o Actions to be taken (e.g. safety risk control actions and timescales);
  - o Identification of what safety information needs to be shared and communicated;
- Criteria for reporting safety issues, non-compliance findings, non-conformities, 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
  - o When coordination should take place (task force, regular meetings, ad hoc or dedicated meetings, etc.).

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