

Building an EASA Compliant Risk Register as Part of our Safety Management System (SMS)

Sofema Aviation Services (SAS) www.sassofia.com Considers the importance of managing the risks in a systematic and controlled way using a Risk Register as the Fundamental Tool.

Hazard identification is the foundation of the risk management process in an SMS and may be conducted reactively, proactively and even predictably. A Hazard is something with the potential to cause harm, and a risk is the potential outcome of a hazard.

What is the difference between a Safety System Hazard Register and a Risk Register?

A hazard register is a source of information from which we can consider the risks, whereas a risk register contains information related to the nature of the risk (clearly a risk register serves a higher purpose).

The Visibility of Hazards

- Visible hazards – Are essentially obvious they can be observed, smelt, heard, tasted or felt. They're the most
- Hidden hazards (Sometimes known as latent hazards) are not so easily understood and can relate to either physical hazards such as electricity or non-physical related to poor training, stress etc.

An Effective Risk Register Process can support the following SMS Analysis

- 'Reactive' risk management (incident investigation)
- 'Proactive' risk management (Used to identify potential risks)
- 'Predictive' risk management (supported by Data to identify area of exposure)

As part of the development of an EASA compliant SMS related to the Safety Management System will benefit from the development and continuous monitoring of a Risk Register.

A risk register is a crucial part of your approach to managing these risks. It's a tool to help you identify, assess, and record your risks and the actions you're taking to eliminate or minimize them.

For each of the following items perform a risk assessment and ask the questions which help you determine the level of exposure that currently exists in your organisation by asking for each item the following 5 questions:

- Is this an issue in our organisation?
- If it is not considered an issue, how can I demonstrate – where is the evidence?
- How can I measure the effectiveness of the current process?
- How effective is documentation/training?
- If there are changes in this element how effective would the system accommodate the changes?

Examples of hazards which can be risk assessed for your organization:

Organisation & Administration

Limited or lack of resource availability or planning, including staffing
Lack of or ineffective policies
Incorrect or incomplete procedures including instructions
Lack of or poor management and labour relationships
Lack of or ineffective organizational structure
Poor organizational safety culture
Lack of or ineffective safety management processes (including risk management, safety assurance, auditing, training and resource allocation)
Lack or ineffective audit procedures
Lack of or limited resource allocation
Incorrect or incomplete or lack of training and knowledge transfer
Unofficial organizational structures
Growth, strikes, recession or organizational financial distress Mergers or acquisition
Changes, upgrades or new tools, equipment, processes or facilities
Incorrect or ineffective shift/crew member change over procedures
Changes or turnover in management or employees
Informal processes (Standard Operating Procedures)
Lack of or poor or inappropriate materials/equipment acquisition decisions
Lack of, poor staffing recruitment/assignment
Wrong Qualifications and Abilities.

Flight Operations

Lack of or poor airworthiness verification
Lack of or poor verification of equipment and instruments necessary to a particular flight or operation
Lack of, incorrect or incomplete aircraft performance limitations verification
Lack of, incorrect or incomplete flight planning
Poor fueling processes
Lack of or poor aircraft dispatch or release
Lack of or poor maintenance release
Incorrect cargo loading and distribution
Improper or unauthorized hazardous materials carriage
Poor cargo and baggage stowage
Incorrect information on cargo or baggage loaded
Improper stowage of carry-on baggage
Improper weight and balance calculations
Use of obsolete documents
Absence of or incorrect flight and cabin crew manuals or charts on board
Improper response to flight route changes
Airborne collision
Aircraft upset
Collision on runway
Excursions
Fire, smoke and pressurization

Obstacle collision in flight
Terrain collision.

Operations Control and Flight Dispatch

Lack of, incorrect or incomplete flight planning
Poor fueling processes
Lack of or poor aircraft dispatch or release
Incorrect cargo loading and distribution
Improper or unauthorized hazardous materials carriage
Poor cargo and baggage stowage
Incorrect information on cargo or baggage loaded
Improper stowage of carry-on baggage
Improper weight and balance calculations
Use of obsolete documents
Improper response to flight route changes
Airport Jetway,
visual docking guidance system,
marshaller
De/anti-icing truck/rig

Aircraft Engineering and Maintenance

Limited or lack of management commitment
Management do not demonstrate support for the activity
Lack of or incomplete description of roles, accountabilities and responsibilities
Limited or lack of resource availability or planning, including staffing in the following areas
Maintenance Planning Interface
Production Planning Interface
Reliability Interface
Technical Engineering
Technical Records Management
Technical Records Correct Data
Quality Assurance Training
Quality Assurance Oversight
Safety Management System Training
Safety Management System Oversight
Lack of or ineffective policies
Incorrect or incomplete procedures including instructions
Lack of or Poor Management, Culture and or Manpower relationships
Lack of or Ineffective Organizational Structure
Poor organizational safety culture
Lack of or ineffective safety management processes (including risk management, safety assurance, auditing, training and resource allocation)
Lack or ineffective audit procedures
Maintenance Vehicle
Maintenance stairs
Maintenance dock and Equipment

Aircraft jacks

Cabin Operations

Cabin Fire/Sparks/Smoke/Fumes
Crew Rest Area Fire/Sparks/Smoke/Fumes
Cabin Crew Seat
Cabin Divider
Cabin Toilet
Galley & Cabin Service Equipment
IFE Fire/Sparks/Smoke
PAX Seat Fire/Sparks/Smoke
Pax Overhead Lockers & Stowage Bins
Pax Behaviour Abusive / Assault
Pax Illness / PAX Fatality
Pax Intoxication
Pax Smoking Cabin / Toilet
Pax Oxygen Masks
Pax Potential Flight Deck Intrusion
Passenger Mobile Phone/PED
Cabin Baggage Passenger
Cabin Management
Inadvertent Slide Deployment
Cabin Crew – Fatigue
Cabin Crew Stress
Communication Systems & Interphone
Cabin Door Procedure
Communication Systems Passenger Address Ramp/Terminal Management Dangerous Goods
Emergency Equipment
Portable Fire Extinguishers
Safety Equipment
Toilet Blocked

Ground Handling Operations

Ground Handling Organization Interface
Ground handling training
General operating procedures and technical instructions
GSE manufacturer manuals and procedures for maintenance
General management procedures (communications, accident/incident, monitoring and measurement, etc.)
Manuals of assisted airlines and other documentation
Airport regulations
Specific training for crew, airline maintenance staff and GHSP staff Implementation of specific requirements
Ground Operation Manual Equipment Management: Maintenance Programme and equipment operability
Ground Operation Manual Fire protection and prevention Procedures

Ground Operation Manual Spillage Procedures

International references for ground handling (ISAGO) GSE parking:

Not to block access to firemen vehicles or to emergency controls of fuel hydrant pits

Motorized or electric GSE when positioned at or near the aircraft: emergency controls and not left unattended GSE positioning:

Not to obstruct the evacuation of people from the aircraft or the movement of a fuelling vehicle away from the aircraft

Aircraft stairs,

conveyor belts,

baggage carts,

cargo loaders,

cargo dollies,

Ground Service Equipment (GSE),

pushback truck

Fuel provider Fuel/hydrant trucks

Catering trucks

Cleaning trucks

Toilet service truck

Potable water service truck

De/anti-icing truck/rig.

Cargo Operations

Undeclared or improperly prepared dangerous goods

Freight forwarders unknowingly accepting undeclared dangerous goods from shippers

Passengers carrying prohibited dangerous goods in baggage.

Related to Portable Electronic Devices Aboard Aircraft

Containers and Palletized Cargo with Integrated Powered Devices

Cargo Containers with Self-Contained Temperature Control Systems

Hazard Associated with Sublimation of Solid Carbon Dioxide (Dry Ice) Aboard Aircraft

Lithium Batteries

Carriage of Spare Lithium Batteries in Carry-On and Checked Baggage

Passenger Baggage

In-Flight Fires

Hand Fire Extinguishers for Use in Aircraft

The Transportation of Portable Electronic Devices (PED) in Checked Baggage

Mis-Loaded Cargo

Air Cargo Operations

Ground Damage to Aircraft through Miss use of Equipment

Aircraft Weight and Balance Control

Approval and Acceptance of Manuals and Checklists

Conduct Ramp Inspection on Cargo Loading

Containers and Covers

Security

Direct Threats

Indirect Direct threats

Threats to seize hostages
Armed Attacks
Passenger Security
Aircraft Security
Baggage Security
Cargo Security
Sabotage Threats
Leadership commitment and planning
Accountability and responsibilities
Resource management
Coordination law enforcement agencies
Security training and awareness campaigns
Management of change
Threat assessment and risk management
Incident reporting
Incident management
Management of emergencies and incidents
Role of security in emergency response procedures
Communication guidelines
Incident response
Quality assurance and quality control of Security Services
Security Management of service providers
Performance monitoring procedures and reporting
Continuous improvement of Security System Processes

Next Steps

Sofema Aviation Services www.sassofia.com and Sofema Online www.sofemaonline.com provides multiple training courses related to Safety Management System Risk and Hazard Training Courses – please see the following <https://sassofia.com/course-search/?search=risk> or email team@sassofia.com