SOFEMA
AVIATION SERVICES

EASA Aviation Safety Management System Risk Register Development

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