



SMS Complete - Syllabus

Syllabus

SMS Complete (5 days)

Comprehensive competence.

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1 Day 1

1.1 Module SQ01: Make Safety a System

Note: Presentation of generic SMS risk management process and safety culture definition, may be adapted to customer specific process and definition on request

Objectives	Contents of Module	Practical Training/Discussion
<p>Objective 1: Understand the context and drivers of a Safety Management System</p> <p>Objective 2: Differentiate existing safety management organisation and new elements of a SMS</p>	<p>1. Framework:</p> <ul style="list-style-type: none"> • Definition of Safety, Risk and Risk Assessment • Concept of a Safety Management System • SMS Risk Management Process 	<p>Group discussion on “what is safety, risk and risk assessment?”</p>
	<p>2. Requirements:</p> <ul style="list-style-type: none"> • ICAO Standards and Reference Documents • SMS Definition 	
	<p>3. Orientation & Safety Culture:</p> <ul style="list-style-type: none"> • Reactive, proactive and predictive Safety Measures • Safety Culture Definition 	<p>Group discussion on “meaning of safety culture?”</p>

1.2 Module SQ02: SMS Background		
Objectives	Contents of Module	Practical Training/Discussion
<p>Objective 3: Understand the relationship between a State safety program (SSP) and an SMS</p> <p>Objective 4: Be able to describe SMS requirements: ICAO Document 9859 and Annexes</p> <p>Objective 5: Be able to describe EASA Ops SMS requirements</p> <p>Objective 6: Be able to understand the SMS FAA Regulations</p>	<p>1. ICAO Safety Management SARPs:</p> <ul style="list-style-type: none"> • ICAO Safety Management SARPs framework • SMS safety performance measurement and indicators • Development of SSP • Relationship SSP-SMS 	<p>Exercise: An Airline wants to implement an SMS</p>
	<p>2. ICAO SMS Standards - Overview:</p> <ul style="list-style-type: none"> • The base of SMS • The ICAO components of SMS 	
	<p>3. EASA Ops SMS Regulations:</p> <ul style="list-style-type: none"> • Implementation rules (IRs) • Accepted means of compliance (AMCs) • Guidance material (GM) 	<p>Practical examples</p>
	<p>4. FAA SMS Requirements:</p> <ul style="list-style-type: none"> • 14 CFR Part 5 – SMS regulations • 14 CFR Part 119 – SMS regulations 	

1.3 Module SQ03: SMS Costs and Benefits		
Objectives	Contents of Module	Practical Training/Discussion
<p>Objective 7: Understand role of SMS in the decision making process and allocation of resources</p> <p>Objective 8: Find out if and how a functioning SMS can save costs to your organization</p>	<p>1. Safety Pays Off:</p> <ul style="list-style-type: none"> Recall from Safety Risk Management Cost & Benefit Analysis Strategy for the Cost & Benefit Analysis 	
	<p>2. Failure Induces Costs:</p> <ul style="list-style-type: none"> Direct Cost Indirect Cost Calculating Failure 	Regarding a wheels-up landing situation, identify the direct and indirect costs associated with the incidence
	<p>3. Costs and Benefits:</p> <ul style="list-style-type: none"> General Considerations Costs of a Safety Management System Benefits of a Safety Management System 	Identify and discuss the core traits for an effective safety reporting system in your organization
	<p>4. Effective Safety Reporting</p> <ul style="list-style-type: none"> Requirements Incentives and barriers 	

1.4 Module SQ04: Safety Knowledge Management		
Objectives	Contents of Module	Practical Training/Discussion
<p>Objective 9: Understand the need for safety knowledge management</p> <p>Objective 10: Understand how to administrate the SMS input to maximize system efficiency</p>	<p>1. Introduction to Knowledge Management:</p> <ul style="list-style-type: none"> • Statement and Challenge • Definition of Knowledge Management • What System do we need? • What Knowledge do we need? 	
	<p>2. Enabling Technology:</p> <ul style="list-style-type: none"> • The Key to Success / The Goal • Types of Safety Data Bases • Requirements for a Safety Data Base • Safety Data Base Integrity • Safety Data Base Capabilities • Safety Data Base Selection 	<p>Exercise Knowledge Management (Group Work Activity)</p>

2 Day 2

2.1 Module SQ05: Setting Up an SMS		
Objectives	Contents of Module	Practical Training/Discussion
Objective 11: Be able to develop a system description	1. System Description: <ul style="list-style-type: none"> ICAO requirements for a system description System description for an airline operators 	Start working on a system description
Objective 12: Prepare and perform a gap analysis		
Objective 13: Know how to develop an implementation plan	2. Gap Analysis: <ul style="list-style-type: none"> Gap analysis requirements Gap analysis check list How to perform a gap analysis 	Group work on a gap analysis checklist example
Objective 14: SMS documentation requirements	3. Implementation plan: <ul style="list-style-type: none"> Use of an implementation plan The ICAO phased approach to an SMS Resource planning Authority approval 	First steps towards an implementation in your organisation
Objective 15: Setting up an SMS documentation		
Objective 16: SMS documentation in daily practice	4. Policy and Standards: <ul style="list-style-type: none"> Safety Policy requirements No blame policy Integration of existing policies 	
	5. System Processes and Operating Procedures: <ul style="list-style-type: none"> Existing manuals Integration of SMS requirements 	Examination of existing operational and quality manuals
	6. The SMS handbook: <ul style="list-style-type: none"> SMS handbook layout What needs to be done 	Start working on an SMS handbook

2.2 Module SQ06: SMS Integration

Note: Presentation of a generic SMS implementation and risk assessment tools (safety risk evaluation, safety review, event risk classification), may be adapted to customer specific implementation and tools on request

Objectives	Contents of module	Practical Training/Discussion
Objective 17: Understand the structure of the Safety Review Board	1. Implementation of SMS: <ul style="list-style-type: none"> • Structure of Safety Review Board • Functions of each element • Roles and responsibilities in an SMS 	Discussion on “Organisational impact of SMS implementation”
Objective 18: Distinguish between different risk assessment tools		

2.3 Module SQ07: Safety Culture and Reporting

Note: Use of generic SMS risk management process, may be adapted to customer specific process on request

Objectives	Contents of Module	Practical Training/Discussion
Objective 19: Define Safety Culture	1. Safety Culture: <ul style="list-style-type: none"> • Definition of Safety Culture • Characteristics of Safety Culture 	Group discussion on “How to establish/improve safety culture?”
Objective 20: Learn how to assess and improve safety culture		
Objective 21: Improve reporting culture		Group discussion on “reporting - where is the limit?”

2.4 Module SQ08: Communication Techniques and Safety Promotion

Note: May be adapted to customer specific safety promotion on request

Objectives	Contents of Module	Practical Training/Discussion
<p>Objective 22: How to communicate SMS objectives and procedures to all operational personnel</p> <p>Objective 23: How to communicate SMS results to the management and authorities</p>	<p>1. Elements of safety promotion</p> <ul style="list-style-type: none"> • SMS manuals • Safety commitment • Target group specific training and safety awareness • Safety information 	
	<p>2. Communication flow</p> <ul style="list-style-type: none"> • How to are actively encourage operational personnel to identify and report hazards • SMS Communication between SRB, SSO and SAG members • Safety communication between all levels of the organisation • The role of the Safety Manager 	<p>Discuss examples of organizational SMS communication</p>
	<p>3. Risk Reporting</p> <ul style="list-style-type: none"> • Internal risk reporting • Keep the management in the safety loop • External risk reporting to authorities 	<p>Case study internal incident</p>

3 Day 3

3.1 Module SQ09: Safety Assurance and Safety Performance Indicators (SPIs)

Note: Use of generic SMS risk management process, may be adapted to customer specific process on request

Objectives	Contents of Module	Practical Training/Discussion
Objective 24: Understand Safety Assurance Objective 25: Develop and Review SPIs	1. Safety Assurance: <ul style="list-style-type: none"> • Safety surveys • Methods to detect changes in functional systems or operations • Use of safety records 	Apply methods for management of change
	2. Safety Performance Indicators (SPIs): <ul style="list-style-type: none"> • Quantitative safety level • Consideration of all aspects of the provision of ATM • Development of ANS specific SPIs 	Discuss set of SPIs

3.2 Module SQ10: Emergency response preparedness

Note: May be adapted to customer specific ERP on request

Objectives	Contents of Module	Practical Training/Discussion
Objective 26: Get to know your emergency response plan	1. Emergency Response Plan (ERP) outline Elements of the ERP Duties and responsibilities The role of the SMS during an emergency Media relation and information management	Case study: Major accident
	2. Annex 13 Investigation Participants Role of the airline Final report	

3.3 Module RAT03: Modeling Risk		
Objectives	Contents of module	Practical Training/Discussion
Objective 27: Distinguish between Threat, Hazard and Consequence Objective 28: Show methods and tools for Hazard Identification Objective 29: Develop a Bow Tie Model in the group	1. Hazard Identification: <ul style="list-style-type: none"> • Definition of Threats, Hazards and Consequences • Documentation of Hazards 	Group Activity “what is a threat, hazard, consequence?” (Flipchart)
	2. Bow Tie Model: <ul style="list-style-type: none"> • Development of Bow Tie Model 	Group Activity “develop bow tie model for specific risk”

3.4 Module RAT04: Bow Tie Case Study		
Objectives	Contents of module	Practical Training/Discussion
Objective 30: Get practical experience with the Bow Tie Model	Hazard Identification: Select the correct hazard	Small groups develop bow tie model on flip chart
	Threats and Consequences: Determine threats and consequences for the hazard	Work with flipchart in small groups
	Defenses and Barriers: Find defenses and barriers to mitigate the risk effectively	
	Result of Group Work: Groups present result of their work to other groups	Presentation of results

4 Day 4

4.1 Module RAT05: Safety Risk Management

Note: Presentation of a generic risk matrix, probability and severity table, may be adapted to customer specific matrix and tables on request

Objectives	Contents of Module	Practical Training/Discussion
Objective 31: Show methods and tools for Safety Risk Assessment	1. Risk Assessment: <ul style="list-style-type: none"> • Definition of Risk Severity and Risk Probability • Handling of Risk Severity and Risk Probability tables • Introduction of Risk Index and Risk Matrix 	Group discussion on severity and probability
	2. Safety Risk Mitigation: <ul style="list-style-type: none"> • Four Strategies for Risk Mitigations 	Practical examples for risk mitigation strategies
	3. Risk Management Process: <ul style="list-style-type: none"> • Schemata of Risk Management Process 	

4.2 Module RAT06: Extended Event Risk Classification (EERC) for Safety Reports

Notes: Based on “Event Risk Classification” provided by EASA ARMS working group may be adapted to customer specific reporting risk assessment procedure on request. Use of generic examples, may be adapted to customer specific examples on request

Objectives	Contents of Module	Practical Training/Discussion
Objective 32: Learn how to make a systematic event risk classification	1. Extended Event Risk Classification theory: <ul style="list-style-type: none"> • EERC process • EERC usage 	Group discussion on “time needed/available for report risk assessment?”
	2. Extended Event Risk Classification practice <ul style="list-style-type: none"> • Use of matrix • Use of results 	Group assesses different example reports

4.3 Module RAT07: Safety Risk Evaluation (SRE)

Notes: Based on "Safety Issue Risk Assessment" provided by EASA ARMS working group, may be adapted to customer specific implementation on request. Use of generic risk evaluation document template and example, may be adapted to customer specific template and example on request

Objectives	Contents of Module	Practical Training/Discussion
Objective 33: Understand the concept of a Safety Risk Evaluation (SRE)	1. Motivation for safety risk evaluation <ul style="list-style-type: none"> Risk assessment example case study 	Group discussion about the pitfalls of the performed risk assessment
Objective 34: Ability to use the Safety Risk Evaluation Document	2. Safety Risk Evaluation (SRE): <ul style="list-style-type: none"> When to perform a safety risk evaluation Usage of results 	Group discussion of triggers of safety risk evaluation by means of example
	3. Safety Risk Evaluation Document: <ul style="list-style-type: none"> Introduction how to handle the safety risk assessment document Example for specific already filled out safety risk evaluation document 	

4.1 Module RAT08: SRE Case Study

Objectives	Contents of module	Practical Training/Discussion
Objective 35: Perform a Safety Risk Evaluation and get practical experience	1. Use the SRE Template: <ul style="list-style-type: none"> Fill out the SRE document 	Small groups develop SRE using the laptop
Objective 36: Get to know a ready to use and practical risk assessment tool	2. Develop Bow Tie Model for SRE: <ul style="list-style-type: none"> Determine hazard, threats and consequences for the hazard 	Work with laptop in small groups
	3. Assess the Risk: <ul style="list-style-type: none"> Make risk assessment using your new skills 	
	4. Defenses and Barriers: <ul style="list-style-type: none"> Find defenses and barriers to mitigate the risk effectively 	
	5. Result of Group Work: <ul style="list-style-type: none"> Groups present result of their work to other groups 	Presentation of results using the document on the laptop

5 Day 5

5.1 Module RAT09: Course Summary and Test		
Objectives	Contents of Module	Practical Training/Discussion
Objective 37: Get an overview about lessons learned	1. Summary of course	Discussion of open questions regarding the course contents
Objective 38: Check you knowledge through an open book test	2. Open book test	1:30 hours test with 25 questions

5.2 Module RAT10: Safety Review		
<p><i>Note: Based on "Safety Review" provided by ICAO SMM Doc. 9859. May be adapted to customer specific reporting risk assessment procedure on request. Use of practical case study. May be adapted to customer specific case on request</i></p>		
Objectives	Contents of Module	Practical Training/Discussion
Objective 39: Learn how to make a systematic Safety Review	1. Background <ul style="list-style-type: none"> Presentation of case study 	
Objective 40: Get the big picture of a Safety Management System (SMS)	2. Safety review practice <ul style="list-style-type: none"> Case study Application of SMS techniques Use of results 	Small groups perform a safety review on specific SMS related subjects using an accident case study
	2. Safety review <ul style="list-style-type: none"> Presentation of results 	