Introduction to Aviation Safety Management Systems

OVERVIEW

Introduction to Safety Management Systems is a formal classroom course where SMS theory and concepts are explained in easy-to-understand terms. Learning is reinforced with sample exercises and a workbook with references for future study. Based on FAA and USFS models for SMS training, this 2-day course is essential for senior managers, safety managers, department managers, and field representatives who are developing their own SMS or are about to implement the OmniSMS® aviation management system model.

Training is conducted by one of Omni's principals, who possess in-depth knowledge of aviation safety and quality management systems, with real-world experience as a key manager, owner and operator.

The course consists of PowerPoint demonstrations, formal lecture, sample exercises and open discussion regarding practical application in your organization, with all materials provided. A Certificate of Completion is provided to each person who completes the course in its entirety.

Company-specific procedures regarding your confidential reporting system and other elements of your SMS are easily integrated into this course of training. This provides a solid foundation for application of SMS principles.

COURSE SYLLABUS

MODULE 01 – WELCOME

Course, Schedule and Instructor Familiarization.

- Opening Remarks
- Introductions
- Registration
- Housekeeping
- Objectives
- Course Overview
- References

MODULE 02 – THE ORGANIZATIONAL ACCIDENT

Objectives: At the end of this Module students will be able, with reference to notes, to describe the evolution of safety oversight and how it has lead us to Safety Management Systems, and answer quiz questions as a group to 100% accuracy.

- Evolution of Safety Oversight
- Human Error Fundamentals
- The Organizational Accident
- Review
- Exercise 02

MODULE 03 – INTRODUCING SMS

Objectives: At the end of this Module students will be able to describe the basic components of a Safety Management System, and the requirements and standards for SMS.

- Safety Management Systems Defined
- SMS components
  - Policy
  - Safety risk management
  - Safety assurance
  - Safety promotion
- Requirements and Standards for SMS
  - ICAO SMS requirements
  - IS-BAO SMS requirements
- FAA's SMS Standard
  - Part 5
  - AC 120-92
  - SMS voluntary program
  - The SMSVP standard
  - Role of regulations as risk controls
- Review

MODULE 04 – BUSINESS CASE FOR SMS

Objectives: At the end of this Module students will be able to describe the business case for implementing a Safety Management System.

- Safety in aviation
- The primary objective of a business organization
- The management dilemma
- Safety space
- ALARP
- The costs of an accident
  - Direct costs
  - Indirect costs
- The Iceberg of ignorance
- Involving top management
- SMS business case request
- Review

MODULE 05 – SAFETY CULTURE

Objectives: At the end of this Module students will be able to describe a positive safety culture and, with reference to notes, answer quiz questions as a group to 100% accuracy, assess the safety culture of the organization in the exercise and complete the exercise with good judgment.

- Human Error Management Fundamentals
  - Understanding violations
  - Goal conflicts
  - Production vs. protection
  - Procedural drift
- Organizational Safety Culture
  - What is it?
  - Why is it important?
  - What is a good one?
  - How do we change?
- Review
- Exercise 05

MODULE 06 – SAFETY POLICY

Objectives: At the end of this Module students will be able to describe SMS requirements for Acceptable Level of Safety; SMS Policy; Quality Management; Emergency Preparedness; and Record Keeping.

- Safety indicators, targets, and & acceptable level of safety
- Safety requirements
- Review of SMS components
- Safety policy component
  - Top management direction / accountability / commitment to safety / responsibilities
- Normalized deviation
- SMS Manual
  - Manual content requirements
- Quality management
  - QMS defined
  - SMS vs. QMS
- Emergency preparedness
  - Emergency response plan
  - Purpose & contents
- Record keeping
  - Information required
  - Commercial software
- Review
- Exercise 6

MODULE 07 – SAFETY RISK MANAGEMENT

Objectives: At the end of this Module students will be able to describe Safety Risk Management (SRM); apply the risk management process; describe hazard identification; perform risk analysis & assessment; explain risk mitigation strategies; and apply SRM documentation.

- References
- What is safety risk management (SRM)?
  - When to Use SRM
- SRM and safety assurance (SA)
- The safety risk management process
  - SRM: System analysis / design
  - System & task analysis
  - SRM: Hazard identification
- Hazard identification strategies
  - Reactive
  - Proactive
  - Predictive
  - Hazard ID analysis tools
- SRM: Risk analysis
  - Estimating likelihood
  - Estimating severity
  - Risk matrices
- SRM: Risk assessment
  - Quantitative and qualitative risk assessment
  - Making decisions
- SRM: Risk control
  - Strategies for risk mitigation
  - Creative ideas
  - Physical and administrative barriers and controls
  - Preferred order of controls
  - Control evaluation & monitoring
- SRM documentation
  - Hazard worksheet
  - SMS database tool
- Risk communication
- Review
- Exercise 07

MODULE 08 – SAFETY ASSURANCE

Objectives: At the end of this Module students will be able to describe various Safety Assurance functions of: System Operation; Data Collection; Data Analysis; Assessment; and Preventive / Corrective Action.

- Introduction to safety assurance (SA)
- Purpose of SA
- Safety assurance functions
  - Collect and analyze information
  - Assess risks
- SA and QMS
- System operation
- Data acquisition
- Information sources
  - Monitoring
  - Internal audits
  - Other sources
- Recording audit findings
- Audit attitudes
- Internal evaluation
- External audits
- Employee reporting
- Investigations
  - Scope of safety investigations
  - Integrated safety investigation methodology
- Operational data
- FDAP / FOQA / LOSA simplified
- Aviation Safety Information and Sharing (ASIAS)
- Data acquisition
- Data analysis
  - Statistical analysis
  - Trend analysis
  - Commercial software
- System assessment
- Corrective action
- Corrective action plans
- Management review
- Continuous improvement
- Review
- Exercise 08

MODULE 09 – SAFETY PROMOTION

Objectives: At the end of this Module students will be able to describe SMS requirements for supporting a positive safety culture; changing their organization's safety culture; and company programs for SMS safety promotion.

- Supporting a positive safety culture
  - Culture: Definition
  - Promotion activities
- Changing your safety culture
  - Testing your culture
  - Fostering incident reporting
  - Actions to develop a positive safety culture
  - Attitudes and behaviors
- State (CAA) safety promotion
  - ICAO mandates
  - Information sharing
  - Old safety oversight + New SMS 4-component concepts
- Corporate programs for SMS safety promotion
  - Safety manager functions
  - Behavior
  - Organizational indicators
- Review
- Exercise 09

MODULE 10 – SMS KEY PERSONNEL

Objectives: At the end of this Module students will be able to Identify and describe organizational structures; explain how to define lines of authority through organizational charts; make recommendations for SMS personnel & their responsibilities at their organization(s).

- Organizational structure & responsibilities
  - Organizational charts
- Top management
- Safety manager
- Safety office
- Safety review board (Committee)
- Safety action groups
- Line management
- All employees
- Review

MODULE 11 – SMS TRAINING

Objectives: At the end of this Module students will be able to describe the need for SMS training; how training contributes to a positive safety culture; and the general requirements associated with SMS training.

- Organizational influences in accidents
- The need for SMS training
- Training needs assessment
- Instructional systems design
- Training analysis, design and development
- Training program requirements
- Company-specific training
- Lessons learned
- Review

MODULE 12 – CAA IMPLEMENTATION OF SMS

Objectives: At the end of this Module students will be able to explain: Safety Oversight & the State Safety Program; the CAA / Service Provider Interface.

- Safety Oversight & State Safety Program (SSP)
  - What is safety oversight?
  - What is a State Safety Program?
  - ICAO requirements
  - SSP vs. SMS
- CAA / Service Provider Interface
  - Production vs. Protection
  - Integrated SMS = SSP + Provider's SMS
- Review

MODULE 13 – NEXT STEPS

Objectives: At the end of this Module students will be able to describe SMS requirements for planning their organization's SMS; the Phased Implementation Plan, and the benefits of a fully functioning SMS.

- Planning Your SMS
  - Culture first!
  - ICAO's 10 steps to SMS
- Phased Implementation
  - Level 0: Commitment
  - Level 1: Planning
  - Level 2: Reactive SRM
  - Level 3: Proactive SRM
  - Level 4: Continuous improvement
- Why Bother?
  - CAA regulations
  - Public expectations are changing
  - Business case for SMS
  - Saving lives
- Review

MODULE 14 – COURSE REVIEW

Objectives: At the end of this Module students will be able to describe the most important points from this training course.

- Team Presentations
  - Team 1: CAA - State Safety Program
  - Team 2: SMS Policies
  - Team 3: Safety Risk Management
  - Team 4: Safety Assurance
  - Team 5: Safety Promotion
- Exercise 14 – Each team presents

- END CURRICULUM -

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