



DESIGN AND MANUFACTURING SAFETY MANAGEMENT SYSTEM (SMS)

FRAMEWORK

Comparison to **Proposed Part 5**

For:

**D&M Safety Management System (SMS) Pilot Project
Participants and Voluntary Implementation of
SMS Programs**

Federal Aviation Administration

Aircraft Certification Service - MSMS Project

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DESIGN AND MANUFACTURING SAFETY MANAGEMENT SYSTEM FRAMEWORK

COMPONENT 1.0 SAFETY POLICY AND OBJECTIVES.

The organization will develop and implement an integrated, comprehensive SMS for its entire organization and will incorporate a procedure to identify and maintain compliance with current safety-related legal and regulatory requirements. The safety policy shall be periodically reviewed to ensure it remains relevant and appropriate to the organization. Final approval will be based on approval from the top management representative.

ELEMENT 1.1 SAFETY POLICY.

Top management will define the organization's safety policy and convey its expectations and objectives to its employees.

(1) Top management will define and sign the organization's safety policy.

5.21 (c) The safety policy must be signed by the accountable executive described in § 5.25.

5.25 (b) (2) Develop and sign the safety policy of the certificate holder.

(2) The safety policy will:

(a) Include a commitment to implement, maintain and improve the SMS;

5.21 (a) (3) A clear statement about the provision of the necessary resources for the implementation of the SMS.

(b) Include a commitment to identify and comply with legal and regulatory requirements;

5.21 (b) The safety policy must be in accordance with all applicable regulatory requirements in Chapter I of Title 14 of the Code of Federal Regulations and must reflect the certificate holder's commitment to safety.

(c) Include a commitment to encourage employees to report safety issues without reprisal (as per Sub-Element 3.1.5);

5.21 (a) (4) A safety reporting policy that defines requirements for employee reporting of safety hazards or issues

(d) Establish clear standards for acceptable operational behavior for all employees;

5.21 (a) (5) A policy that defines unacceptable behavior and conditions for disciplinary action.

(e) Provide management guidance for setting safety objectives;

5.21 (a) (1) The safety objectives of the certificate holder.

(f) Provide management guidance for reviewing performance according to the organization's safety objectives;

5.21 (a) (2) A commitment of the certificate holder to fulfill the organization's safety objectives.

(g) Be documented;

5.21 (d) The safety policy must be documented and communicated throughout the certificate holder organization.

(h) Be communicated with visible management endorsement to all employees and responsible parties;

5.21 (d) The safety policy must be documented and communicated throughout the certificate holder organization.

5.25 (b) (3) Communicate the safety policy throughout the certificate holder's organization.

(i) Be reviewed periodically to ensure it remains relevant and appropriate to the organization; and

5.21 (e) The safety policy must be regularly reviewed by the accountable executive to ensure it remains relevant and appropriate to the certificate holder.

(j) Identify responsibility and accountability of management and employees with respect to the organization's safety objectives.

5.23 (a) The certificate holder must define accountability for safety within the organization's safety policy for the following individuals:

(k) Establish that safety management applies to the complete scope and life cycle of the organization's system.

5.97 (a) The certificate holder must maintain records of outputs of safety risk management processes as described in subpart C of this part. Such records must be retained for as long as the control remains relevant to the operation.

(l) Establish that processes and SMS outputs must be documented/recorded, monitored, measured, and analyzed.

5.97 (b) The certificate holder must maintain records of outputs of safety assurance processes as described in subpart D of this part. Such records must be retained for a minimum of 5 years.

(3) The organization will establish and maintain procedures with measurable criteria to accomplish the objectives of the safety policy¹.

NONE

(4) The organization will establish and maintain supervisory and operational controls to ensure procedures are followed for safety-related operations and activities.

5.55 (c) The certificate holder must develop and maintain processes to develop safety risk controls that are necessary as a result of the safety risk assessment process under paragraph (b) of this section.

(5) The organization will establish and maintain a current safety management plan to describe how it will achieve its safety objectives.

5.25.(b) (5) Regularly review the safety performance of the certificate holder's organization and direct actions necessary to address substandard safety performance in accordance with § 5.75.

ELEMENT 1.2 MANAGEMENT COMMITMENT AND SAFETY ACCOUNTABILITIES.

Management will define, document, and communicate the safety roles, responsibilities, and authorities throughout its organization.

(1) The organization will appoint an accountable executive that will have the ultimate accountability for the SMS.

5.25 (b) (1) Ensure that the SMS is properly implemented and performing in all areas of the certificate holder's organization

(2) Top management will provide resources essential to implement and maintain the SMS.

5.25 (a) (2) Controls the financial resources required for the operations to be conducted under the certificate holder's certificate(s).

5.25 (a) (3) Controls the human resources required for the operations authorized to be conducted under the certificate holder's certificate(s).

(3) Aviation safety-related positions, responsibilities, and authorities will be

(a) Defined,

(b) Documented, and

(c) Communicated throughout the organization.

5.23 (a) The certificate holder must define accountability for safety within the organization's safety policy for the following individuals:

¹ Measures are not expected for each procedural step. However, measures and criteria should be of sufficient depth and level of detail to ascertain and track accomplishment of objectives. Criteria and measures can be expressed in either quantitative or qualitative terms.

- (1) Accountable executive, as described in § 5.25.
- (2) All members of management in regard to developing, implementing, and maintaining SMS processes within their area of responsibility,
- (3) Employees relative to the certificate holder's safety performance

(4) The organization will define levels of management that can make safety risk acceptance decisions as described in Element 2.2(2).

5.23 (b) The certificate holder must identify the levels of management with the authority to make decisions regarding safety risk acceptance.

(5) If the organization has a quality policy and/or system, top management will ensure that the quality policy and/or system are consistent with the SMS.

NONE

ELEMENT 1.3 DESIGNATION AND RESPONSIBILITIES OF REQUIRED SAFETY MANAGEMENT PERSONNEL.

(1) The organization must identify an accountable executive who, irrespective of other functions, satisfies the following:

(a) Is the final authority over operations associated with the organization's certificate/approval(s);

5.25 (a) (1) Is the final authority over operations authorized to be conducted under the certificate holder's certificate(s).

(b) Controls the financial resources required for the operations associated with the organization's certificate/approval(s);

5.25 (a) (2) Controls the financial resources required for the operations to be conducted under the certificate holder's certificate(s).

(c) Controls the human resources required for the operations associated with the organization's certificate/approval(s);

5.25 (a) (3) Controls the human resources required for the operations authorized to be conducted under the certificate holder's certificate(s).

(d) Retains ultimate responsibility for the safety performance of the operations associated with the organization's certificate/approval(s).

5.25 (a) (4) Retains ultimate responsibility for the safety performance of the operations conducted under the certificate holder's certificate.

(2) The accountable executive must accomplish the following:

(a) Ensure that the SMS is properly implemented and performing in all areas of the organization;

5.25 (b) (1) Ensure that the SMS is properly implemented and performing in all areas of the certificate holder's organization.

(b) Develop and sign the safety policy of the organization;

5.25 (b) (2) Develop and sign the safety policy of the certificate holder.

(c) Communicate the safety policy throughout the organization;

5.25 (b) (3) Communicate the safety policy throughout the certificate holder's organization.

(d) Regularly review the organization's safety policy to ensure it remains relevant and appropriate;

5.25 (b) (4) Regularly review the certificate holder's safety policy to ensure it remains relevant and appropriate to the certificate holder.

(e) Regularly review the safety performance of the organization and direct actions necessary to address substandard safety performance in accordance with Sub-Element 3.1.8.

5.25 (b) (5) Regularly review the safety performance of the certificate holder's organization and direct actions necessary to address substandard safety performance in accordance with § 5.75.

(3) The accountable executive must designate a management representative who, on behalf of the accountable executive, must be responsible for the following:

5.25 (c) Designation of a management representative. The accountable executive must designate a management representative who, on behalf of the accountable executive, must be responsible for the following:

(a) Establishing, implementing, and maintaining SMS processes and procedures;

NONE

(b) Facilitating hazard identification and safety risk analysis;

5.25 (c) (1) Facilitating hazard identification and safety risk analysis.

(c) Monitoring the effectiveness of safety risk controls;

5.25 (c) (2) Monitoring the effectiveness of safety risk controls.

(d) Ensuring safety promotion throughout the organization per Component 4.0;

5.25 (c) (3) Ensuring safety promotion throughout the certificate holder's organization as required in subpart E of this part.

(e) Regularly reporting to the accountable executive on the performance of the SMS and on any need for improvement.

5.25 (c) (4) Regularly reporting to the accountable executive on the performance of the SMS and on any need for improvement.

ELEMENT 1.4 EMERGENCY PREPAREDNESS AND RESPONSE.

The organization will develop and implement procedures, as necessary, that it will follow in the event of an accident or incident.

5.27 Coordination of emergency response planning.

ELEMENT 1.5 SMS DOCUMENTS AND RECORDS.

The organization will develop and maintain documentation that describes the organization's safety policy and SMS processes and procedures.

The organization will:

(1) Maintain records of outputs of safety risk management and safety assurance processes for as long as the affected aircraft, engine, propeller, or article remains in service;

5.97 (a) The certificate holder must maintain records of outputs of safety risk management processes as described in subpart C of this part. Such records must be retained for as long as the control remains relevant to the operation.

5.97 (b) The certificate holder must maintain records of outputs of safety assurance processes as described in subpart D of this part. Such records must be retained for a minimum of 5 years.

(2) Maintain records of all training provided and a list of trained individuals, as required under Sub-Element 4.1.2, for a minimum of 24 consecutive calendar months after training completion;

5.97 (c) The certificate holder must maintain a record of all training provided under § 5.91 for each individual. Such records must be retained for a minimum of 24 consecutive calendar months after completion of the training.

(3) Retain records of all safety information communication for a minimum of 24 consecutive calendar months.

5.97 (d) The certificate holder must retain records of all communications provided under § 5.93 for a minimum of 24 consecutive calendar months.

COMPONENT 2.0 SAFETY RISK MANAGEMENT (SRM).

The organization will develop processes to determine the critical characteristics of its systems and operational environment and apply this knowledge to identify hazards, analyze and assess risk and design risk controls.

ELEMENT 2.1 HAZARD IDENTIFICATION AND ANALYSIS.

(1) The SRM process will be applied to:

- (a) Initial designs of systems, organizations, and/or products; and the operation and maintenance of these systems, organizations and/or products;
- (b) The development of design and manufacturing processes and procedures;
- (c) New or recurring hazards that are identified in the Safety Assurance functions (described in Element 3.1), including information collected during design, manufacturing, operation and maintenance , etc; and
- (d) Planned changes to design and manufacturing processes, including product, component, or part design changes, maintenance and operation instructions, and assumptions when a design is developed.

5.51 A certificate holder must apply safety risk management to a system under any of the following conditions:

- (a) Implementation of new systems.
- (b) Revision of existing systems.
- (c) Development of operational procedures.
- (d) Identification of hazards or ineffective risk controls through the safety assurance processes in subpart D of this part.

SUB-ELEMENT 2.1.1 SYSTEM DESCRIPTION AND ANALYSIS.

The organization will analyze its systems, operations, and operational environment to gain an understanding of critical design and production performance factors, processes, and activities to identify hazards.

(1) A system description and analysis will be developed to the level of detail necessary to identify hazards and implement risk controls.

5.53 System analysis and hazard identification.

- (a) When applying safety risk management, the certificate holder must have a process to describe and analyze the system for use in identifying hazards under paragraph (c) of this section, and developing and implementing risk controls related to the system under § 5.55(c).
- (b) In conducting the system analysis, the following information must be considered:
 - (1) Function and purpose of the system.
 - (2) The system's operating environment.
 - (3) An outline of the system's processes and procedures.
 - (4) The personnel, equipment, and facilities necessary for operation of the system.

SUB-ELEMENT 2.1.2 IDENTIFY HAZARDS.

The organization will identify and document the hazards in its operations that are likely to cause death, serious physical harm, or damage to equipment or property in sufficient detail to determine associated level of risk and risk acceptability. The organization will identify hazards for both the products they produce and the processes conducted by the organization.

(1) Hazards will be:

- (a) Identified for the scope of the system, as defined in the system description²; and
- (b) Documented.

(2) Hazard information will be:

- (a) Tracked, and
- (b) Managed throughout the SRM process.

5.53 (c) The certificate holder must develop and maintain processes to identify hazards within the context of the system analysis.

ELEMENT 2.2 RISK ASSESSMENT AND CONTROL.

(1) Top Management will ensure that the hazards that introduce the most significant safety risk are prioritized and resources are directed to reduce/mitigate their safety risk to an acceptable level.

(2) The organization will develop a risk acceptance process that:

5.55 (a) The certificate holder must develop and maintain processes to analyze safety risk associated with the hazards identified in § 5.53(c).

- (a) Includes both quantitative and qualitative risk analyses as appropriate.
- (b) Defines acceptable and unacceptable levels of safety risk.

5.55 (b) The certificate holder must define a process for conducting risk assessment that allows for the determination of acceptable safety risk. Acceptable safety risk must, at a minimum, comply with the applicable regulatory requirements set forth in Chapter I of title 14 of the Code of Federal Regulations.

(c) Describes:

- 1. Severity levels, and
- 2. Likelihood levels.

² While it is recognized that identification of every conceivable hazard is impractical, organizations are expected to exercise due diligence in identifying and controlling significant and reasonably foreseeable hazards related to their operations.

NONE

(d) Assigns which levels of management can make which safety risk acceptance decisions.

5.23 (b) The certificate holder must identify the levels of management with the authority to make decisions regarding safety risk acceptance.

(e) Defines acceptable risk for hazards that will exist in the short-term while safety risk control/mitigation plans are developed and implemented.

NONE

(3) The organization will establish feedback loops from assurance functions described in Component 3.0, to evaluate the effectiveness of safety risk controls.

5.73 (a) (3) Evaluate the effectiveness of the safety risk controls established under § 5.55(c) and identify any ineffective controls.

SUB-ELEMENT 2.2.1 ANALYZE SAFETY RISK.

The organization will determine and analyze the severity and likelihood of potential consequences associated with identified hazards, and will identify contributing factors.

(1) The safety risk analysis process will include:

- (a) Documenting the risk analysis results for each hazard
- (b) The analysis of existing safety risk controls,
- (c) Identification and analysis of contributing factors, and

(d) Determination of safety risk of outcomes from the existence of a hazard, to include estimation of the³:

1. Likelihood, and
2. Severity.

5.55 (a) The certificate holder must develop and maintain processes to analyze safety risk associated with the hazards identified in § 5.53(c).

SUB-ELEMENT 2.2.2 ASSESS SAFETY RISK.

³ Risk likelihood and severity may be expressed in quantitative or qualitative terms.

The organization will assess risk associated with each identified hazard and define risk acceptance procedures and levels of management that can make safety risk acceptance decisions.

(1) Each hazard will be assessed for its safety risk acceptability using the safety risk acceptance process described in Element 2.2(2).

5.55 (b) The certificate holder must define a process for conducting risk assessment that allows for the determination of acceptable safety risk. Acceptable safety risk must, at a minimum, comply with the applicable regulatory requirements set forth in Chapter I of title 14 of the Code of Federal Regulations.

SUB-ELEMENT 2.2.3 CONTROL/MITIGATE SAFETY RISK.

The organization will design and implement a safety risk control for each identified hazard for which there is an unacceptable risk, to reduce risk to acceptable levels.

(1) Safety risk control/mitigation plans will be defined for each hazard with unacceptable risk.

5.55 (c) The certificate holder must develop and maintain processes to develop safety risk controls that are necessary as a result of the safety risk assessment process under paragraph (b) of this section.

(2) Safety risk controls will be:

- (a) Clearly described,
- (b) Capable of performing appropriately in the intended operational environment,
- (c) Designed to evaluate if the risk control expectations have been met, and
- (d) Documented.

(3) Substitute risk will be evaluated when creating safety risk controls/mitigations.

5.55 (c) (1) The certificate holder must evaluate whether the risk will be acceptable with the proposed safety risk control applied, before the safety risk control is implemented.

5.55 (c) (2) The safety risk controls must, at a minimum, comply with the applicable regulatory requirements set forth in Chapter I of title 14 of the Code of Federal Regulations.

COMPONENT 3.0 SAFETY ASSURANCE (SA).

The organization will monitor, measure, and evaluate the performance of risk controls.

ELEMENT 3.1 SAFETY PERFORMANCE MONITORING AND MEASUREMENT.

(1) The organization will monitor their systems and operations to:

- (a) Identify new and recurring hazards,
- (b) Measure the effectiveness of safety risk controls,
- (c) Ensure compliance with regulatory requirements.

(2) The organization will collect the data necessary to demonstrate the effectiveness of its systems and operations.

5.71 Safety performance monitoring and measurement.

(a) The certificate holder must develop and maintain processes and systems to acquire data with respect to its operations, products, and services to monitor the safety performance of the organization. These processes and systems must include, at a minimum, processes, and systems for the following:

SUB-ELEMENT 3.1.1 CONTINUOUS MONITORING.

The organization will monitor data throughout the lifecycle, including those associated with components and services received from suppliers and contractors, to identify hazards, measure the effectiveness of safety risk controls, and assess system performance.

(1) The organization will monitor various types of data including reports from the employee safety reporting and feedback system (specified in Sub-Element 3.1.5) to:

- (a) Determine conformity to safety risk controls (described in Sub-Element 2.2.3);
- (b) Measure the effectiveness of safety risk controls (described in Sub-Element 2.2.3);
- (c) Assess SMS system performance; and
- (d) Identify hazards.

5.71 (a) (1) Continuous monitoring of operational processes.

5.71 (a) (2) Periodic monitoring of the operational environment to detect changes.

SUB-ELEMENT 3.1.2 INTERNAL AUDIT.

The organization will conduct internal audits of the SMS to determine if the SMS conforms to the organization's processes and procedures.

(1) The audits will be conducted to account for:

- (a) Safety criticality of the systems and operations being audited, and

(b) Results of previous internal and external audits.

(2) The scope of the internal audit program will cover the entire organization's SMS within a specified timeframe.

(3) The organization will include in its analysis of data, the results of assessments performed by oversight organizations.

5.71 (a) (3) Auditing of operational processes and systems.

SUB-ELEMENT 3.1.3 INTERNAL EVALUATION.

The organization will perform regularly scheduled internal evaluations of its systems and operations to determine the performance and effectiveness of risk controls. The scope of evaluations must include:

(1) The entire scope of the organization's SMS as defined by the system definition (requirement defined in Sub-Element 2.1.1)

(2) Suppliers and contractors of safety-related functions.

5.71 (a) (4) Evaluations of the SMS and operational processes and systems.

SUB-ELEMENT 3.1.4 INVESTIGATION.

The organization will establish procedures to collect data to investigate instances of potential regulatory non-compliance and to identify potential new hazards or risk control failures.

5.71 (a) (5) Investigations of incidents and accidents.

5.71 (a) (6) Investigations of reports regarding potential non-compliance with regulatory standards or other safety risk controls established by the certificate holder through the safety risk management process established in subpart B of this part.

SUB-ELEMENT 3.1.5 EMPLOYEE REPORTING AND FEEDBACK SYSTEM.

The organization will actively use an employee safety reporting and feedback system.

(1) Data obtained from the employee reporting and feedback system will be monitored to identify emerging hazards and to assess performance of risk controls in the operational systems.

(2) Employees will be encouraged to submit solutions/safety improvements.

(3) Data collected from the safety reporting and feedback system will be included in analyses described in Sub-Element 3.1.6.

(4) Management will respond to each employee submission with its rationale for their chosen action or inaction.

(5) Employees will be allowed confidentiality when using the employee safety reporting and feedback system.

5.71 (a) (7) A confidential employee reporting system in which employees can report, including, but not limited to: Hazards, issues, concerns, occurrences, incidents, as well as propose solutions and safety improvements.

SUB-ELEMENT 3.1.6 ANALYSIS OF DATA.

The organization will analyze the data acquired in Sub-Elements 3.1.1 through 3.1.5 to assess the performance and effectiveness of risk controls in the organization's systems and operations .

- (1) The organization will analyze the data described in Sub-Elements 3.1.1 through 3.1.5 to:
 - (a) Assess the effectiveness of risk controls
 - (b) Identify where current risk controls are deficient
 - (c) Identify potential new hazards which need risk control, and
 - (d) Identify where improvements can be made to the organization's risk controls.

5.71 (b) The certificate holder must develop and maintain processes that analyze the data acquired through the processes and systems identified under paragraph (a) of this section and any other relevant data with respect to its operations, products, and services.

SUB-ELEMENT 3.1.7 SYSTEM ASSESSMENT.

The organization will assess the safety performance and effectiveness of risk controls, its ability to achieve the organization's safety objectives and its conformity to the design of the organization's SMS.

- (1) The organization will assess the performance of:

5.73 (a) The certificate holder must conduct assessments of its safety performance against its safety objectives, which include reviews by the accountable executive, to:

- (a) Risk controls put in place by the organization for their effectiveness,

5.73 (a) (1) Ensure the certificate holder's compliance with the applicable regulatory requirements in Chapter I of title 14 of the Code of Federal Regulations and additional safety risk controls established by the certificate holder.

5.73 (a) (3) Evaluate the effectiveness of the safety risk controls established under § 5.55(c) and identify any ineffective controls.

- (b) Safety-related functions of the design and production-related processes against its objectives and expectations,

NONE

- (c) The SMS against its objectives and expectations

5.73 (a) (2) Evaluate the performance of the SMS.

(2) The organization will use the information obtained under Sub-Element 3.1.6 and from other sources as necessary, to make their assessments.

(3) System assessments will document results that indicate a finding of:

(a) Conformity with existing safety risk control(s)/the organization's SMS expectations(s) (including regulatory requirements applicable to the SMS);

(b) Nonconformity with existing safety risk control(s)/ the organization's SMS expectations(s) (including regulatory requirements applicable to the SMS); and

(c) New hazards found, and how the organization will deal with them.

5.73 (a) (5) Identify potential new hazards or safety issues and concerns.

(4) The organization will develop safety lessons learned to support continuous improvement of safety.

NONE

(5) The organization will take corrective and preventive action to eliminate the causes of nonconformance identified during analysis, to prevent recurrence.

(a) The organization will develop:

1. Corrective actions for identified nonconformities with risk controls, and

2. Preventive actions for identified potential nonconformities with risk controls.

(b) Safety lessons learned will be considered in the development of:

1. Corrective actions, and

2. Preventive actions.

5.75 Continuous improvement.

The certificate holder must establish and implement processes to correct substandard safety performance identified in the assessments conducted under § 5.73

(c) When prioritizing and implementing corrective and preventive action(s), the organization will give priority to those that address the greatest safety risk.

NONE

(d) Records of the disposition and status of corrective and preventive actions will be maintained, as required.

NONE

(6) The SRM process will be utilized if the analysis of data from Sub-Element 3.1.6 indicates:

(a) The identification of new or potential hazards, or

(b) The need for system changes.

5.73 (b) Upon completion of the assessment, if ineffective controls, new hazards, or potential hazards are identified under paragraph (a)(2) through (a)(4) of this section, the certificate holder must use the safety risk management process described in subpart C of this part.

5.51 A certificate holder must apply safety risk management to a system under any of the following conditions:

(d) Identification of hazards or ineffective risk controls through the safety assurance processes in subpart D of this part.

(7) The organization will maintain records of assessments in accordance with the expectations of Element 1.5(3) and (4).

5.97 (b) The certificate holder must maintain records of outputs of safety assurance processes as described in subpart D of this part. Such records must be retained for a minimum of 5 years.

SUB-ELEMENT 3.1.8 MANAGEMENT REVIEW.

As part of their commitment to continual improvement, top management will conduct annual reviews of the SMS, at a minimum. Management reviews will include assessing the performance and effectiveness of the organization's systems and operations and the need for improvements.

(1) Top management will conduct annual (at a minimum) reviews of the SMS, including:

- (a) The outputs of safety policy (Component 1.0);
- (b) The outputs of safety risk management (Component 2.0);
- (c) The outputs of safety assurance (Component 3.0);
- (d) The outputs of safety promotion (Component 4.0).

(2) Top management reviews will include assessing the need for improvements to the organization's SMS;

5.93 (b) Ensures that all personnel are aware of the SMS.

(3) Top management will document and distribute to their employees, for their information, all findings and their resulting actions.

5.93 (c) Conveys safety critical information.

5.93 (d) Explains why particular safety actions are taken.

5.93 (e) Explains why safety procedures are introduced or changed.

(4) Top management will maintain records of the reviews and the findings in accordance with Element 1.5.

5.73 (a) The certificate holder must conduct assessments of its safety performance against its safety objectives, which include reviews by the accountable executive.

ELEMENT 3.2 MANAGEMENT OF CHANGE.

The organization will identify and assess safety risk for changes arising within or external to the organization that may affect established systems or operations. These changes may be to existing system designs, new system designs, or new/modified operations or procedures.

(1) The organization will identify hazards and assess safety risk of the following before implementation:

- (a) New or changed system designs
- (b) New or modified processes or procedures.

(2) If a system, process, or procedure requires urgent change, the organization's management may take interim immediate action(s) to mitigate existing safety risk prior to completing the full "Management of Change" process.

5.51 A certificate holder must apply safety risk management to a system under any of the following conditions:

- (a) Implementation of new systems.
- (b) Revision of existing systems.
- (c) Development of operational procedures.

COMPONENT 4.0 SAFETY PROMOTION.

Top Management will promote the growth of a positive safety culture and communicate it throughout the organization.

ELEMENT 4.1 COMPETENCIES AND TRAINING.

SUB-ELEMENT 4.1.1 PERSONNEL EXPECTATIONS (COMPETENCE).

The organization will document SMS competency requirements for those positions identified in Elements 1.2(3) and 1.3 and ensure those requirements are met.

(1) The organization will determine and document SMS competency requirements for those positions identified in Elements 1.2 (3) and 1.3.

(2) The organization will ensure that those individuals in the positions identified in Elements 1.2(3) and 1.3, meet the Sub-Element 4.1.1(1) SMS competency requirements.

5.91 Competencies and training.

The certificate holder must provide training to each individual identified in § 5.23 to ensure the individuals attain and maintain the qualifications necessary to perform their duties relevant to the operation and performance of the SMS.

SUB-ELEMENT 4.1.2 TRAINING.

The organization will develop and maintain a safety training program that ensures personnel are trained and competent to perform their role within the SMS. The organization will also regularly evaluate training necessary to meet competency requirements of Sub-Element 4.1.1(1).

(1) Training will be developed/acquired and administered to employees, corresponding to their safety-related roles/responsibilities within the organization. Training must take into account the scope, content, and frequency needed to ensure competency is established and maintained.

5.91 Competencies and training.

The certificate holder must provide training to each individual identified in § 5.23 to ensure the individuals attain and maintain the qualifications necessary to perform their duties relevant to the operation and performance of the SMS.

(2) To ensure training currency, training will be periodically:

- (a) Reviewed and
- (b) Updated.

NONE

ELEMENT 4.2 COMMUNICATION AND AWARENESS.

Top management will communicate the outputs of its SMS to its employees, and will provide the oversight authority access to SMS outputs in accordance with established agreements and disclosure programs.

(1) Top management will communicate to the organization, at a minimum, the following information:

- (a) Rationale behind decisions to implement controls, preventive actions, corrective actions;
- (b) Rationale behind decisions to not take action;
- (c) Rationale, importance, and definition of the organization's SMS objectives;
- (d) Information on safety lessons learned.

(2) Top management will make SMS information readily accessible to anyone in the organization that will use it corresponding to their safety-related role/responsibility(ies).

(3) The organization will provide the FAA ready access to the outputs of the SMS.

(4) The organization's SMS will facilitate the sharing of information with other organizations to manage issues of mutual concern.

(5) The organization will periodically survey employee acceptance of and involvement in the organization's SMS.

(6) Top management will promote the growth of a positive safety culture by:

- (a) Publication of top management's stated commitment to safety to all employees;
- (b) Demonstrating their commitment to the SMS by:
 - 1. Communicating safety policy, goals, objectives, standards, performance and the safety responsibilities for the organization's personnel to all employees;
 - 2. Creating or providing access to an effective employee reporting and feedback system that provides confidentiality;
 - 3. Using a safety information system that provides an accessible, efficient means to retrieve safety information;
 - 4. Managing the risk-based, data-driven decision making processes; and
 - 5. Providing resources to implement and maintain the SMS.
 - 6. Other means considered appropriate for the organization.

5.93 Safety communication.

(a) The certificate holder must develop and maintain means for communicating safety information that, at a minimum:

(b) Ensures that all personnel are aware of the SMS.

(c) Conveys safety critical information.

- (d) Explains why particular safety actions are taken.
- (e) Explains why safety procedures are introduced or changed.