Safety Management Systems

14 CFR Part 5 Overview

Presented to: Design and Manufacturing SMS Workshop

By: Chris Eick, Policy and Standards Division

Date: 25 June 2024

Agenda

- 14 CFR Part 5 Overview
- Associated 14 CFR Part 21 Amendments
- SMS Policy Summary

14 CFR Part 5

Subpart A - General

Subpart B - Safety Policy

Subpart C - Safety Risk Management

Subpart D - Safety Assurance

Subpart E - Safety Promotion

Subpart F - SMS Documentation and Recordkeeping

§ 5.1 Applicability. Who Must Comply with Part 5?

- Holder of production certificate (PC) and type certificate (TC)
- Applicant for PC that holds the TC

Organizations that design and produce a product

- Holder of PC that is a licensee of the TC
- Applicant for PC that is a licensee of the TC
- Holder of TC (except for validated TCs) that is licensed to allow another person to obtain a PC

Organizations that have split design and production for a product

Key Point: PC must authorize production of a complete product.

Voluntary SMS (VSMS) Program Applicability

Holders of the following do not have to meet part 5, but may participate in the VSMS program:

- PC for less than a complete product, e.g., for “articles or parts only”
- TC for a product that is not produced, e.g., no associated PC (FAA or foreign PC)
- Supplemental Type Certificate (STC), PC issued for a STC, STC that is licensed
- Parts Manufacturer Approval
- Technical Standard Order Authorization
- Validated TC (§ 21.29) for a product produced in the United States under an extension of a foreign production approval
- Validated TC (§ 21.29) that is licensed to another person to obtain a PC

§ 5.3 Definitions.

- **Safety Management System:**
  - formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of safety risk controls
  - Includes systematic procedures, practices, and policies for the management of safety risk

§ 5.5 General Requirements.

a) **The SMS must be appropriate to the size, scope, and complexity of the organization**

Part 5 defines requirements for what must be done … but leaves flexibility for how it is done

b) **The SMS must be maintained**

Maintained means: SMS policies, processes, and procedures are accurate and kept up to date

Match the SMS to the organization … but still must meet all applicable sections of part 5

SMS can't be used to avoid compliance with any regulation applicable to the organization

§ § 5.11, 5.13, 5.15. Steps for SMS Development and Implementation

a) Develop and maintain an organizational system description
b) Submit implementation plan for FAA approval

Where SMS is applied in organization

Commitment to implement SMS

c) Develop an SMS that meets part 5
d) Implement the SMS per part 5

Develop policies, processes, and procedures and implement across organization

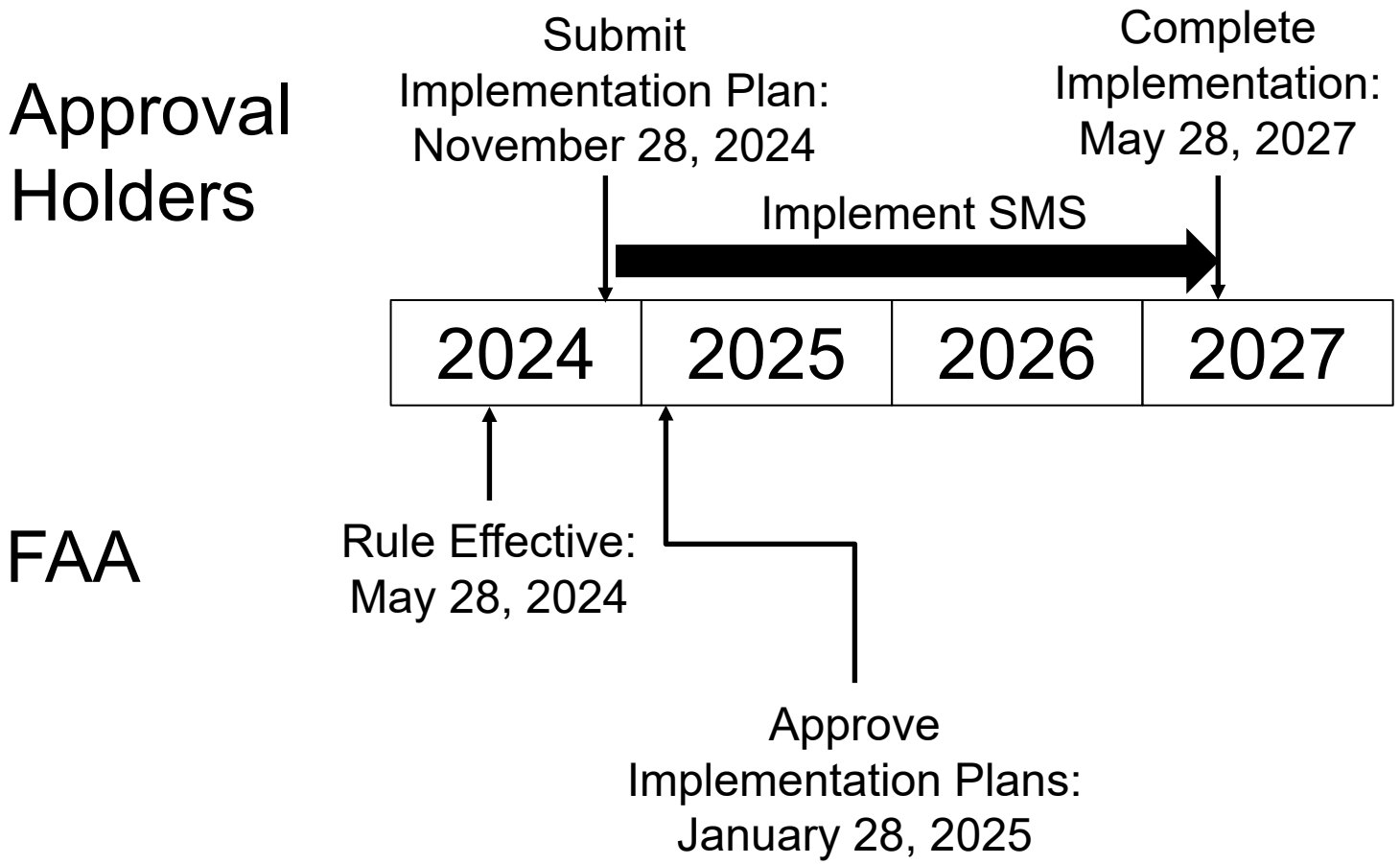
e) Make available to FAA (upon request) information and data that demonstrates the SMS meets part 5

Allow access, but not required to submit to FAA

f) Maintain the SMS

Keep policies, processes, and procedures accurate and up to date

SMS Implementation Timeline – Existing TC & PC holders

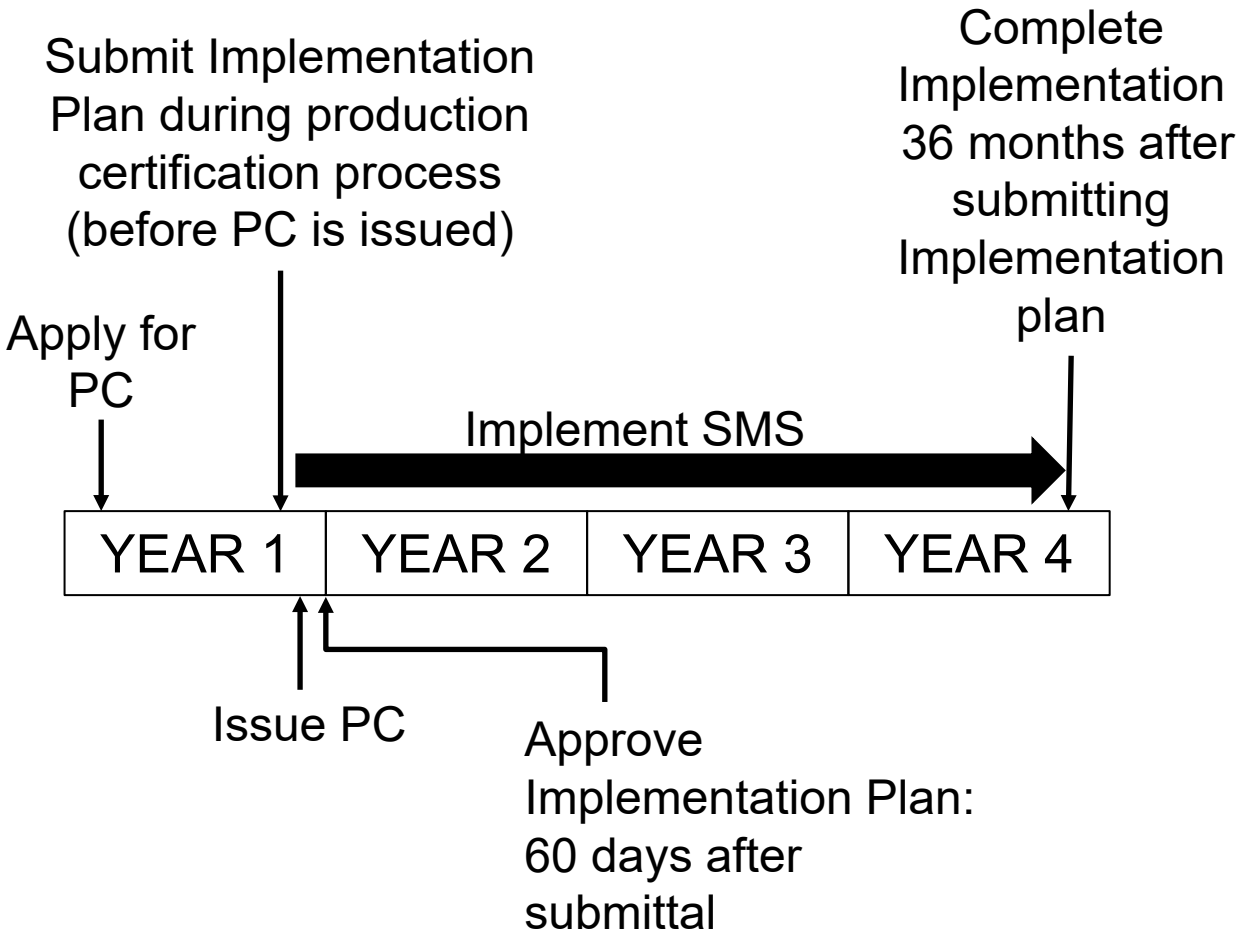


Applies to organizations that meet any of the following on 28 May 2024:

- Hold PC and TC
- Hold PC and are licensee of TC
- Hold TC that has been licensed

SMS Implementation Timeline – PC Applicants

Approval Holders



FAA

Applies to organizations:

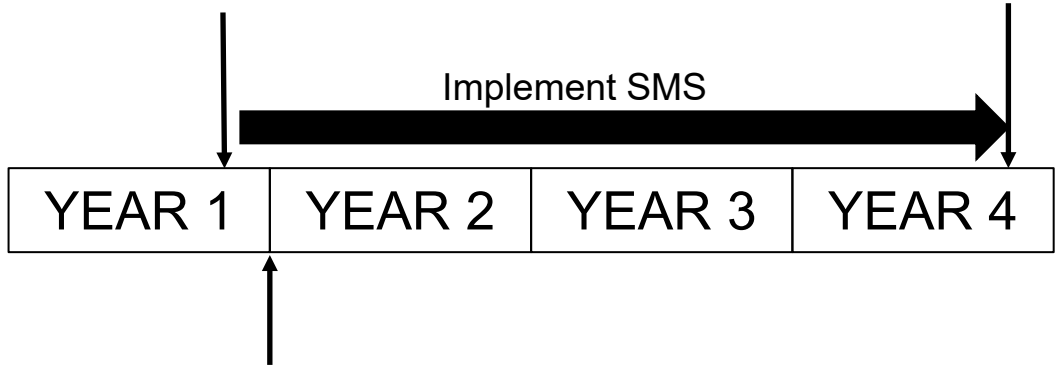
- with a pending PC application on 28 May 2024
- that apply for a PC on or after 28 May 2024

SMS Implementation Timeline – New TC Licensing Agreement

Approval Holders

Submit Implementation Plan when providing TC licensing agreement (§ 21.55)

Complete Implementation 36 months after submitting Implementation plan



FAA

Approve Implementation Plan: 60 days after submittal

Applies to organizations that hold a TC and enter into a TC licensing agreement after 28 May 2024

§ 5.17. Organizational System Description.

Summary of information about the safety of the aviation products or services provided:

(a) Aviation-related processes, procedures, and activities

(b) Function and purpose of the aviation products or services

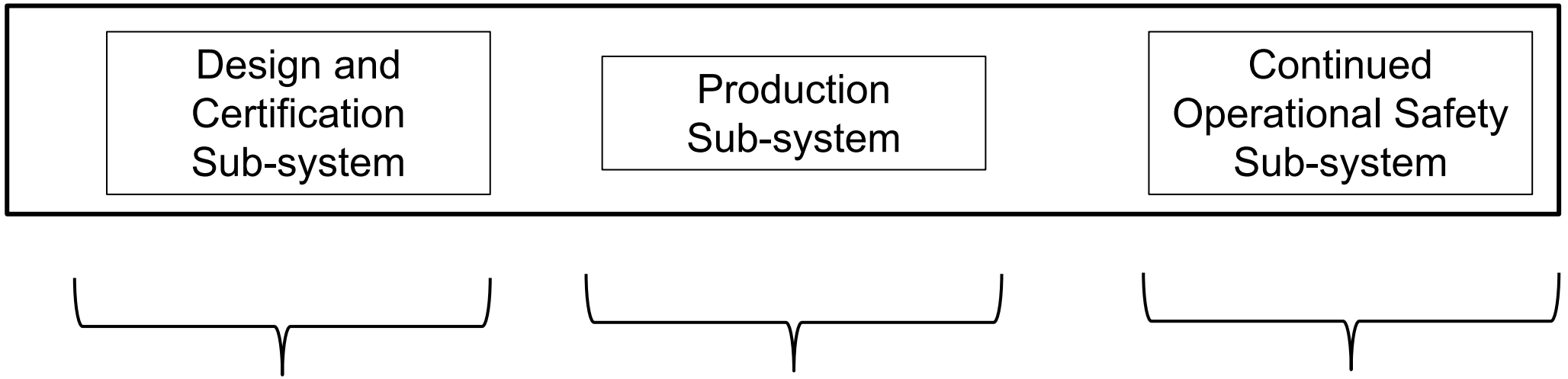
(c) Operating environment

(d) Personnel, equipment, and facilities necessary for operation

Key Points:

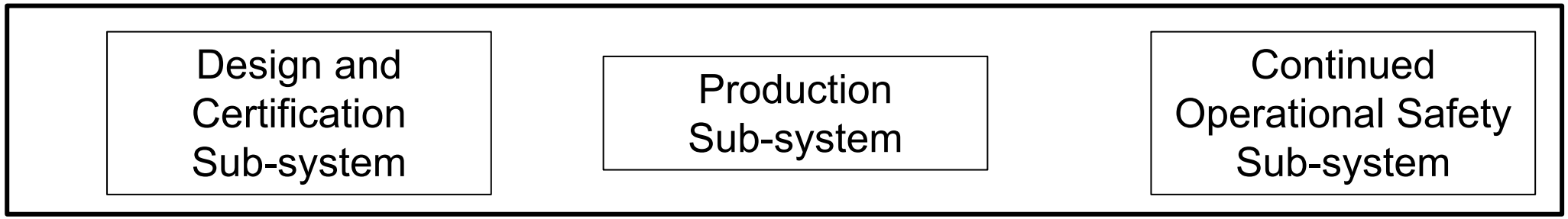
- Defines the boundaries where SMS is applied in an organization
- No need to create new processes or procedures for the system description – just summarize existing processes and procedures

Typical Organizational System Description



Include Sub-systems that impact the safety of the products provided

Typical Organizational System Description



Define the organizational system description with sufficient detail for you to know when SRM is required and where to perform safety assurance monitoring.

Conduct SRM when (§ 5.51):

- Developing new systems
- Revising existing systems
- Developing operational procedures
- Ineffective risk controls or new hazards identified

Safety Assurance Monitoring (§ 5.71):

- Monitor operational processes
- Monitor operational environment
- Auditing of operational processes and systems
- Evaluations of operational processes and systems

Example – Engine Design & Certification Sub-System Description

Summary of:

a) Aviation-related processes, procedures, and activities

Fan design, compressor design, combustor design, turbine design, control system design, structural design, testing, certification, design review, requirements management

b) Function and purpose of the aviation products or services

Provide thrust, bleed air, electrical power, and hydraulic power for the aircraft

c) Operating environment

Engineering service suppliers, program budget, program schedule, program staffing

d) Personnel, equipment, and facilities necessary for operation

Design departments, testing departments, testing facilities, design tools (software and hardware), certification departments (ODA)

§ 5.19. Implementation Plan.

The implementation plan is based on the organizational system description and describes the means of compliance (including, but not limited to, new or existing policies, processes, or procedures) used to meet part 5.

Key Points:

- Provides commitment to develop and implement an SMS
- Template available for your convenience …. use not mandatory
- FAA Order 8120.24 compliance checks (Verification and Evaluation) are completed to part 5 requirements … not the implementation plan

Example (Partial) Implementation Plan

Section		Requirement	Reference(s)	Planned Completion Date	Complete
Para.	Sub-Para.				
Subpart B - Safety Policy					
§ 5.21 Safety policy.					
(a)	Any person required to have an SMS under this part must have a safety policy that includes at least the following:				
	(1)	The person's safety objectives.	Safety Policy, Page 1.		X
	(2)	The person's commitment to fulfill the safety objectives.	Safety Policy Page 4. Introductory Message		X
	(3)	A clear statement about the provision of the necessary resources for the implementation of the SMS.	Safety Policy Page 4. Introductory Message		X
	(4)	A safety reporting policy that defines requirements for employee reporting of safety hazards or issues.	Employee Safety Reporting Procedure	Mar-2025	

Provide concise description on how organization complies, or will comply, with each section of part 5

Identify as "Complete" or provide estimated dates for completion

14 CFR Part 5

Subpart A - General

Subpart B - Safety Policy

Subpart C - Safety Risk Management

Subpart D - Safety Assurance

Subpart E - Safety Promotion

Subpart F - SMS Documentation and Recordkeeping

§ 5.3 Definitions.

- **Safety policy: documented commitment to safety, defines safety objectives and employee accountabilities and responsibilities**

- **Safety objective: a measurable goal or desirable outcome related to safety**

- **Safety performance: safety accomplishment relative to the safety objectives**

§ 5.21. Safety Policy.

- **Includes:**
  - Safety objectives
  - Commitment to fulfill the safety objectives
  - Provision of resources for SMS implementation
  - Policy for employee reporting of safety hazards or issues
  - Policy for unacceptable behavior
  - Code of ethics clarifying safety is the organization's highest priority
  - Accountability for safety
- **Signed by accountable executive**
- **Communicated throughout organization**
- **Regularly reviewed by accountable executive**

Example Safety Policy

Safety is one of our core functions and an effective safety management system (SMS) is vital to the success and longevity of [company name]. We are committed to implementing, maintaining, and continuously improving a fully functional SMS to ensure that the safety of our products and services are our highest priority.

Code of Ethics

All employees, starting with the [title of the Accountable Executive], are accountable for supporting our organization's ultimate goal to achieve the highest level of safety performance of the products and services we provide.

Safety Accountability

Example Safety Policy

At [company name], we are committed to:

- Supporting the management of safety through the provision of all necessary resources to establish and maintain a fully functional SMS.

Provision of Resources for SMS

- Establishing safety objectives that are available for all employees to review in the [location of objectives]. We will ensure that our safety objectives are monitored, measured, and tracked to ensure they are fulfilled.

Establish and fulfill safety objectives

- Regularly reviewing the safety performance of our organization and directing actions necessary to address substandard safety performance.

Review and address substandard safety performance

Example Safety Policy

- Encouraging employees to disclose safety concerns without fear of reprisal and ensuring that no action will be taken against any employee who discloses a safety concern through the confidential employee reporting system. Specific reporting procedures are located [location of procedures].

  Employee reporting

- Communicating this safety policy to all employees to ensure each of us is aware of our SMS and safety-related duties and responsibilities.

  Communicated to employees

- Activities involving intentional disregard for FAA regulations, company policies and procedures, illegal activities, and/or drugs or alcohol may be subject to disciplinary action.

  Unacceptable behavior

Safety Objectives

- **Safety objectives should be achievable and measurable**
  - Conduct assessments of safety performance against safety objectives during safety assurance (§§ 5.73(a) and 5.25(b)(5))
- **Objectives Examples:**
  - Time to complete investigations of employee reports
  - Time to complete SRM following hazard identification
  - Number of process audits completed
  - Completion of SMS training for employees
  - Safety communication meetings with employees (e.g., quarterly)

§ 5.23. Safety Accountability and Authority

a) Defines accountability for safety of:

- Accountable executive
- All members of management in regard to developing, implementing, and maintaining SMS processes within their area of responsibility
- Employees relative to the person's safety performance

Key Point:

- Accountability demonstrated by each employee being aware of their role in the SMS and to actively participate in accomplishing SMS related duties

§ 5.23(b) Level of Authority for Safety Risk Acceptance

- **Identify the levels of management with the authority to make decisions regarding safety risk acceptance.**

Safety Risk Level	Safety Risk Acceptance Authority
High Risk	Accountable Executive
Medium Risk	Safety Committee, Department Manager
Low Risk	Process Owner

Indicate authority by title or position instead of by name

Choose authority to facilitate risk acceptance for development of procedures [§ 5.51(c)]

§ 5.25(a) Accountable Executive Designation.

Designate an accountable executive that satisfies the following:

1) The final authority over operations ...
2) Controls the financial resources …
3) Controls the human resources ...
4) Retains ultimate responsibility for the safety performance ...

<u>Key Point:</u>

- Update designation when accountable executive changes

§ 5.25(b) Accountable Executive Responsibilities

- **Ensure SMS is properly implemented and performing in all areas**
- **Develop and sign safety policy**
- **Communicate safety policy throughout the organization**
- **Regularly review safety policy**
- **Regularly review safety performance of the organization and direct actions to address substandard safety performance**

Reviewed by accountable executive during performance assessment § 5.73(a).

§ 5.25(c) Designated Management Personnel

- **Accountable executive designates personnel responsible for:**
  - Implementation, maintenance, and integration of the SMS
  - Facilitating hazard identification and risk analysis
  - Monitoring effectiveness of safety risk controls
  - Ensuring safety promotion
  - Regularly reporting to Accountable Executive on SMS performance and any need for improvement

<u>Key Point:</u>

- "Designates" means: Identifying individual(s) responsible (by job title)

§ 5.27 Coordination of Emergency Response Planning

- **Section 5.27 requires emergency response planning "where emergency response procedures are necessary".**

- **Part 21 TC and PC holders may be involved in accident investigations … but are typically not involved in emergency response to accidents.**

- **The FAA has determined that emergency response planning is "not necessary" for part 21 TC and PC holders.**

14 CFR Part 5

Subpart A - General

Subpart B - Safety Policy

Subpart C - Safety Risk Management

Subpart D - Safety Assurance

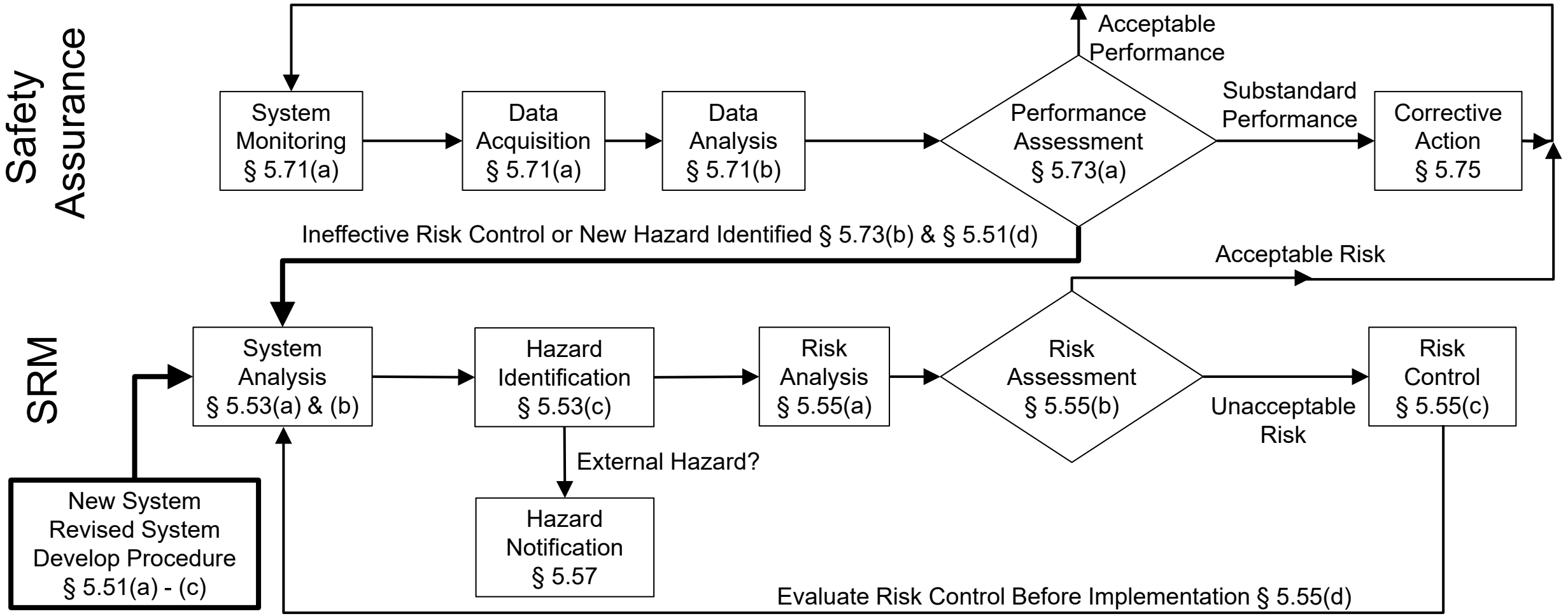
Subpart E - Safety Promotion

Subpart F - SMS Documentation and Recordkeeping

§ 5.3 Definitions.

- **Safety Risk Management (SRM): process to describe the system, identify hazards, analyze, assess, and control risk**
- **Hazard: condition or an object that could foreseeably cause or contribute to an incident or aircraft accident**
- **Risk: predicted severity and likelihood of the potential effect of a hazard**
- **Risk control: a means to reduce or eliminate the effects of hazards**

Safety Assurance / SRM Interaction Loop



§5.51 Safety Risk Management (SRM)

- SRM must be conducted when:
  a) Implementing new systems
  b) Revising existing systems
  c) Developing operational procedures

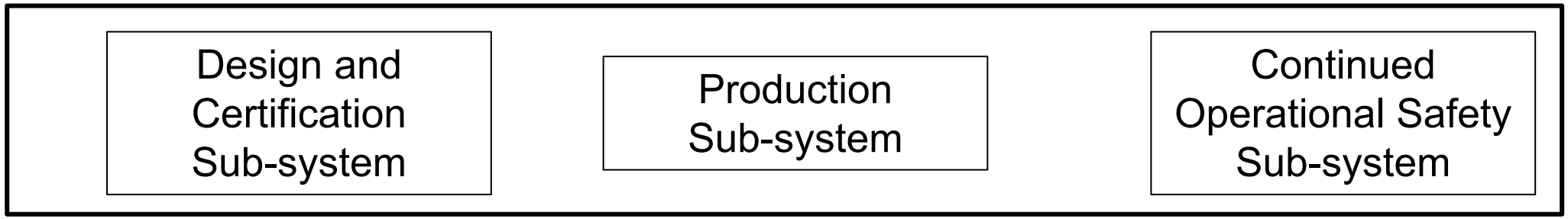
  → SRM based on planned changes

  d) Hazards or ineffective risk controls have been identified through safety assurance

  → SRM based on safety assurance monitoring and assessments

Key Point: The "systems" for SRM are from the Organizational System Description: Design and Certification subsystem, Production subsystem, and Continued Operational Safety subsystem

SRM – Conducted for Planned Changes



- What systems require SRM for planned changes?
  - Sub-systems from your organizational system description
- Conduct SRM when:
  - § 5.51(a) Developing new systems
  - § 5.51(b) Revising existing systems
  - § 5.51(c) Developing operational procedures

SRM Based on Safety Assurance

- **Apply SRM when hazards or ineffective risk controls are identified through safety assurance processes [§ 5.51(d)]**

  – Identified hazard examples: Product hazards, employee reports, external hazard notifications received, audit findings, operating environment changes, …

  – Identified ineffective risk control examples: Design / Certification, Production, Continued Operational Safety processes and procedures

Product Hazards Identified Through Safety Assurance

- **Two levels of risk assessment are required for product hazards identified through safety assurance**
  - Analyze, assess, and mitigate the product safety risk (COS system)
    - Example: TARAM, AC39-8, …
  - Analyze, assess, and mitigate the system risk that caused the product safety hazard
    - Example: Production system hazard that resulted in a product hazard

Fix the product

Fix the system

SRM Examples

- **The following examples are to provide insight on the application of SRM**
  - These are for illustration only and not a FAA position on a particular issue
- **The decision on whether to apply SRM is up to the approval holder**

SRM Example – New Propeller Design

- **An OEM is designing a new propeller. The OEM will utilize their existing design system and procedures for the propeller design.**

- **Does the OEM have to perform SRM for the new propeller design?**
  - § 5.51(a) Develop a new design system? No – will utilize existing system
  - § 5.51(b) Revise the design system? No – will utilize existing system
  - § 5.51(c) Develop new design procedures? No – will utilize existing procedures

SRM is not required for the new propeller design

Safety Assurance monitoring, analysis, and assessment occur

SRM Example – Avionics Component Design

- An aircraft OEM has decided to in-source the design of an avionics component
  - The OEM is revising the design system to design the component in-house vs. the current system where a supplier designs the component to a specification provided by the OEM

- Does the OEM have to perform SRM for the new component design?
  - § 5.51(a) Develop a new design system? No – design system is being revised, not replaced
  - § 5.51(b) Revise the design system? Yes – revising existing system to design in-house vs. at a supplier
  - § 5.51(c) Develop new design procedures? Yes (probably) – expect to develop new design procedures for the component

SRM is required for the Revised Design System

SRM Example - Manufacturing

- **An OEM has decided to change the manufacturing process for an engine component.**

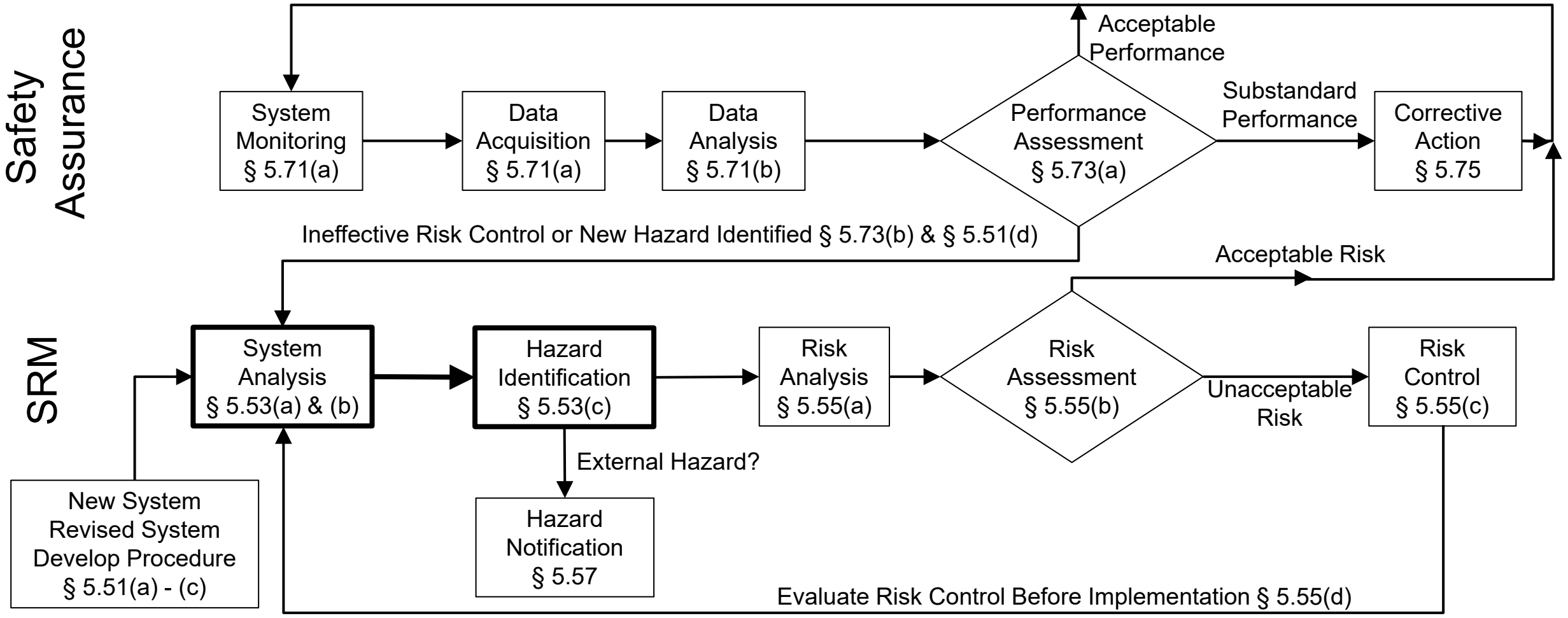
- **Does the OEM have to perform SRM for the manufacturing process change?**
  - § 5.51(a) Develop a new production system? No – production system is being revised, not replaced
  - § 5.51(b) Revise the production system? Yes (probably) – revising the production system to manufacture the component
  - § 5.51(c) Develop production procedures? Yes – will develop new procedures to produce the component.

SRM is required for the changed manufacturing process

Safety Assurance SRM Example – Aircraft Incident

- An aircraft OEM receives an incident report that the flight management system (FMS) made a wrong turn on a landing approach.
  - The OEM investigates the incident through safety assurance (§ 5.71(a)(5)) and determines that an FMS design error created a hazard § 5.73(a)(5).
- Does the OEM have to conduct SRM?
  - § 5.51(d) Identified hazard or ineffective risk controls? Yes, safety assurance § 5.73(a)(5) identified the wrong turn as a hazard
- The OEM conducts two levels of SRM:
  - First, the product safety risk is analyzed, assessed, and mitigated. (Fix the product)
  - Second, the design system risk is analyzed, assessed, and mitigated to prevent similar hazards on future aircraft designs. (Fix the system)

Safety Assurance / SRM Interaction Loop



§5.53 System Analysis and Hazard Identification

a) **Analyze the system when applying SRM**

b) **Consider the following (for the analysis):**

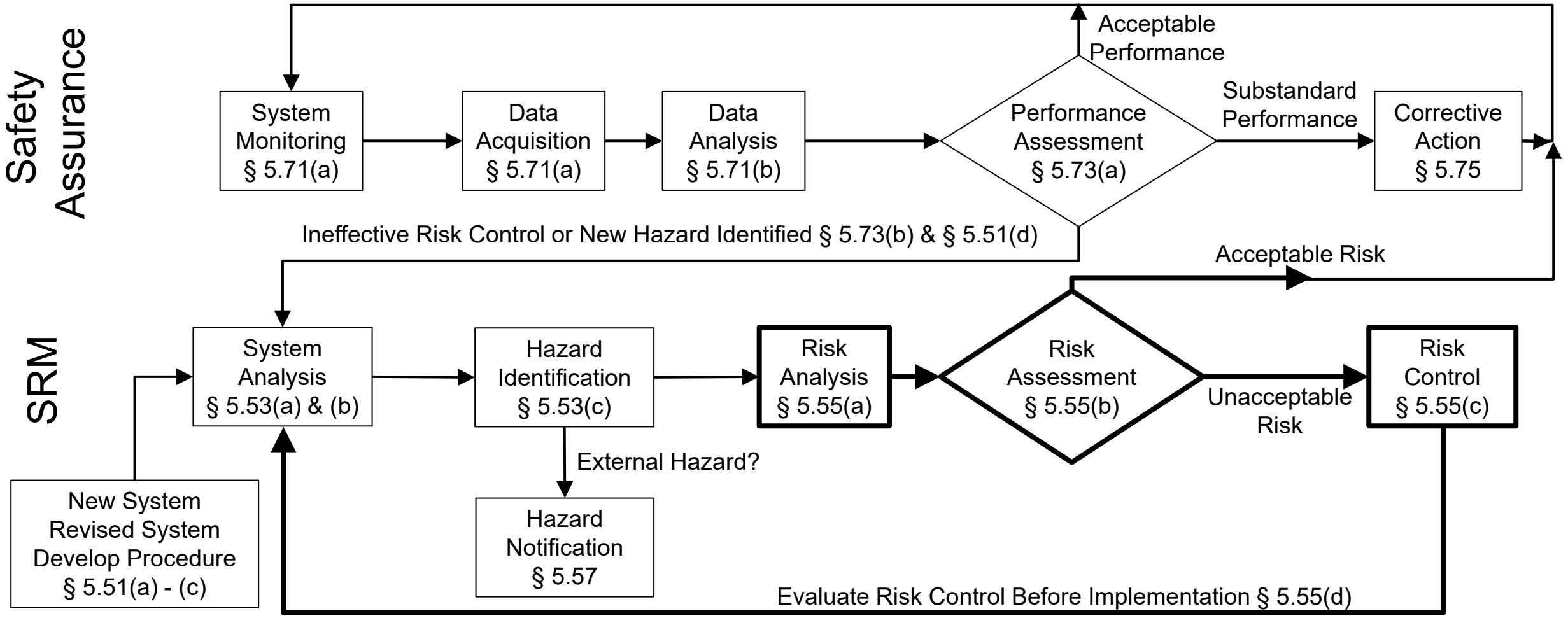
- Function and purpose of the system
- The system's operating environment
- An outline of the system's processes and procedures
- The personnel, equipment, and facilities necessary for operation
- The interfaces of the system

From the organizational system description

Suppliers, other sub-systems, etc.

c) **Use the system analysis to identify hazards**

Safety Assurance / SRM Interaction Loop



§5.55 Safety Risk Assessment and Control

- **Process Steps**
  a) Analyze safety risk for each hazard } Determine severity and likelihood of hazard's potential effect

  b) Assess the risk and make a safety risk acceptance determination } Use a risk matrix for risk assessment and risk acceptance (by authorized personnel)

  c) Develop risk controls for unacceptable risk } Procedures, processes, etc.

  d) Ensure risk is acceptable with the risk control applied before implementing } Confirm risk control works

SRM Example

- **The following example provides insight on risk analysis, risk assessment, risk control development, and risk acceptance with the risk control implemented**
  - This for illustration only and not a FAA position on a particular issue
- **All risk process decisions are up to the approval holder**

§5.55 Safety Risk Assessment and Control Example

- **Hazard:**
  - Design system error could cause engine loss of thrust control

(a) Risk Analysis:

- Severity: Major
- Likelihood: Remote

(b) Risk Assessment

Risk Likelihood	Risk Severity				
	Minimal	Minor	Major	Hazardous	Catastrophic
Frequent	low	medium	high	high	high
Probable	low	medium	high	high	high
Remote	low	medium	medium	high	high
Extremely Remote	low	low	medium	medium	high
Extremely Improbable	low	low	low	medium	medium

§5.55 Safety Risk Assessment and Control Example

(b) Risk Acceptance Decision:

- Safety committee will not accept “Medium” risk

(c) Develop Risk Controls

- Revise design procedures to correct design system error

Risk Acceptance Authority

Safety Risk Level	Safety Risk Acceptance Authority
High Risk	Accountable Executive
Medium Risk	Safety Committee, Department Manager
Low Risk	Process Owner

§5.55 Safety Risk Assessment and Control Example

(d) Evaluate risk acceptability before implementing risk control

Risk with control implemented:

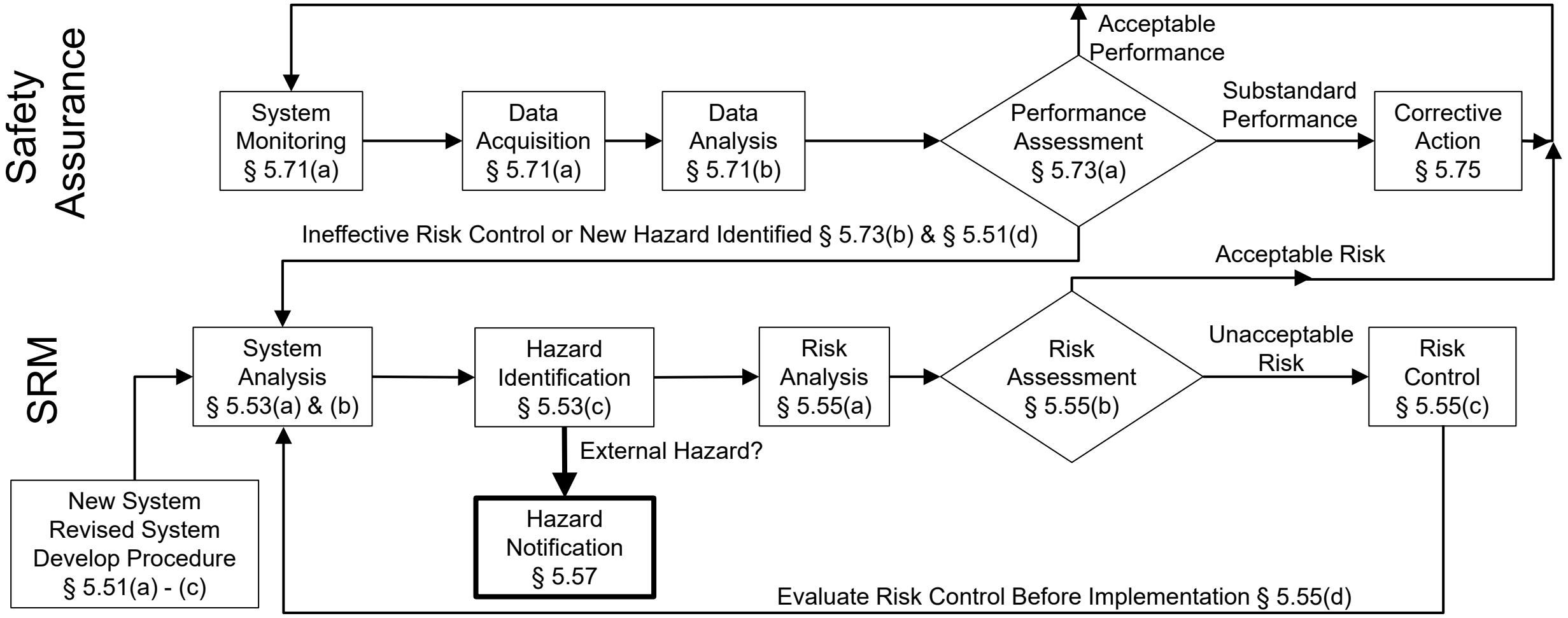
- Severity: Major
- Likelihood: Extremely Improbable

Updated Risk Assessment

Risk Likelihood	Risk Severity				
	Minimal	Minor	Major	Hazardous	Catastrophic
Frequent	low	medium	high	high	high
Probable	low	medium	high	high	high
Remote	low	medium	medium	high	high
Extremely Remote	low	low	medium	medium	high
Extremely Improbable	low	low	low	medium	medium

Accept Risk

Safety Assurance / SRM Interaction Loop



§5.57 Hazard Notifications to Interfacing Persons

- **Provide hazard notifications when:**
  - You determine an interfacing person (external organization) could address the hazard or mitigate the risk

    Determination based on the best of your knowledge

  AND

  - The interfacing person (external organization) contributes to the safety of the products or services you provide

    Bounds the scope of possible interfacing persons

Key Points for Hazard Notifications

- **Interfacing person (external organization) that contributes to the safety of the products and services you provide?**
  - Suppliers of parts or engineering services: Yes
  - FAA: Maybe (if FAA action needed to mitigate safety risk)
  - Customers and competitors: Probably not (typically do not contribute to the safety of the products and services you provide)

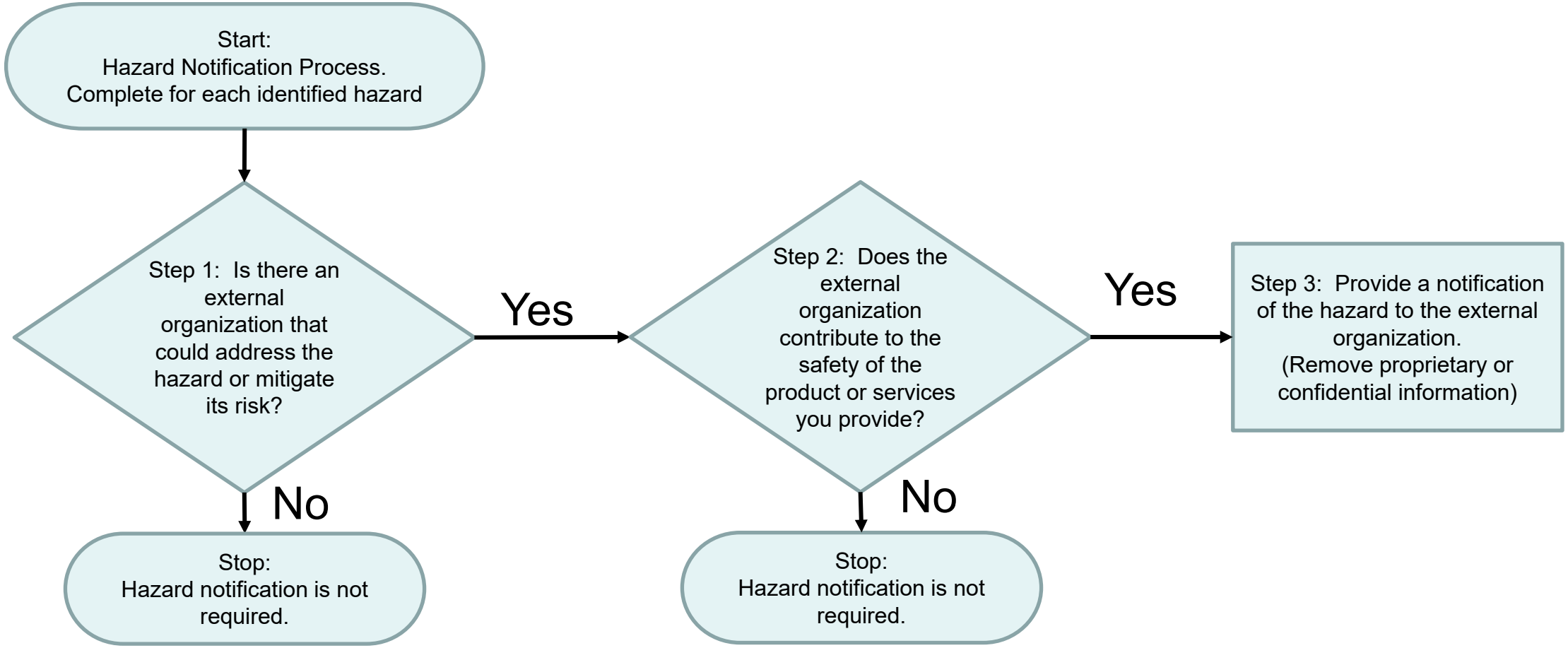
- **No timing requirements for the hazard notification**
  - Provide notification when you determine it is necessary

Key Points for Hazard Notifications (continued)

- **Confidential or proprietary information may be removed from the hazard notification**
  - Describe the hazard (may omit how hazard was identified, risk controls implemented, etc.)

- **Only use notifications for hazards (cause or contribute to incident / accident)**
  - Do not use hazard notifications for commercial issues between companies

Hazard Notification Flowchart



Hazard Notification Example

- **The following example is to provide insight on providing hazard notifications**
  - This is for illustration only and not a FAA position on a particular issue
- **The decision on providing hazard notifications is up to the approval holder**

Hazard Notification Example – Aircraft Incident

- **An operator flight crew reports that the aircraft flight management system made a wrong turn on a landing approach.**

- **The operator's SMS investigates the incident (§ 5.71(a)(5))**
  - Identified hazard? Yes, safety assurance determined the wrong turn to be a hazard
  - Step 1: Can external organization address hazard / mitigate risk? Yes – aircraft OEM
  - Step 2: Does external organization contribute to safety of operator? Yes
  - Provide hazard notification to aircraft OEM per § 5.57
  - Hazard Notification (factual summary with confidential or proprietary information deleted):

    Aircraft model Alpha-1 (serial number 225) performed a wrong turn at waypoint YAYGO on XYXYX TWO ARRIVAL (RNAV) approach to airport KXYZ

Hazard Notification Example (continued)

- **The aircraft OEM's SMS investigates the hazard report (§ 5.71(a)(8))**
  - Identified hazard? Yes, safety assurance determined the wrong turn to be a hazard
  - Can external organization address hazard or mitigate risk? Yes – Flight Management System (FMS) supplier
  - Does external organization contribute to safety of aircraft? Yes
  - Provide hazard notification to FMS supplier per § 5.57
  - Hazard Notification (factual summary with confidential or proprietary information deleted):

    Aircraft model Alpha-1 using FMS part number FMS23XX-1 performed a wrong turn at waypoint YAYGO on XYXYX TWO ARRIVAL (RNAV) approach to airport KXYZ

Both Operator and Aircraft OEM Met § 5.57 Hazard Notification Requirements

No requirement on FMS supplier (not required to have an SMS)

14 CFR Part 5

Subpart A - General

Subpart B - Safety Policy

Subpart C - Safety Risk Management

Subpart D - Safety Assurance

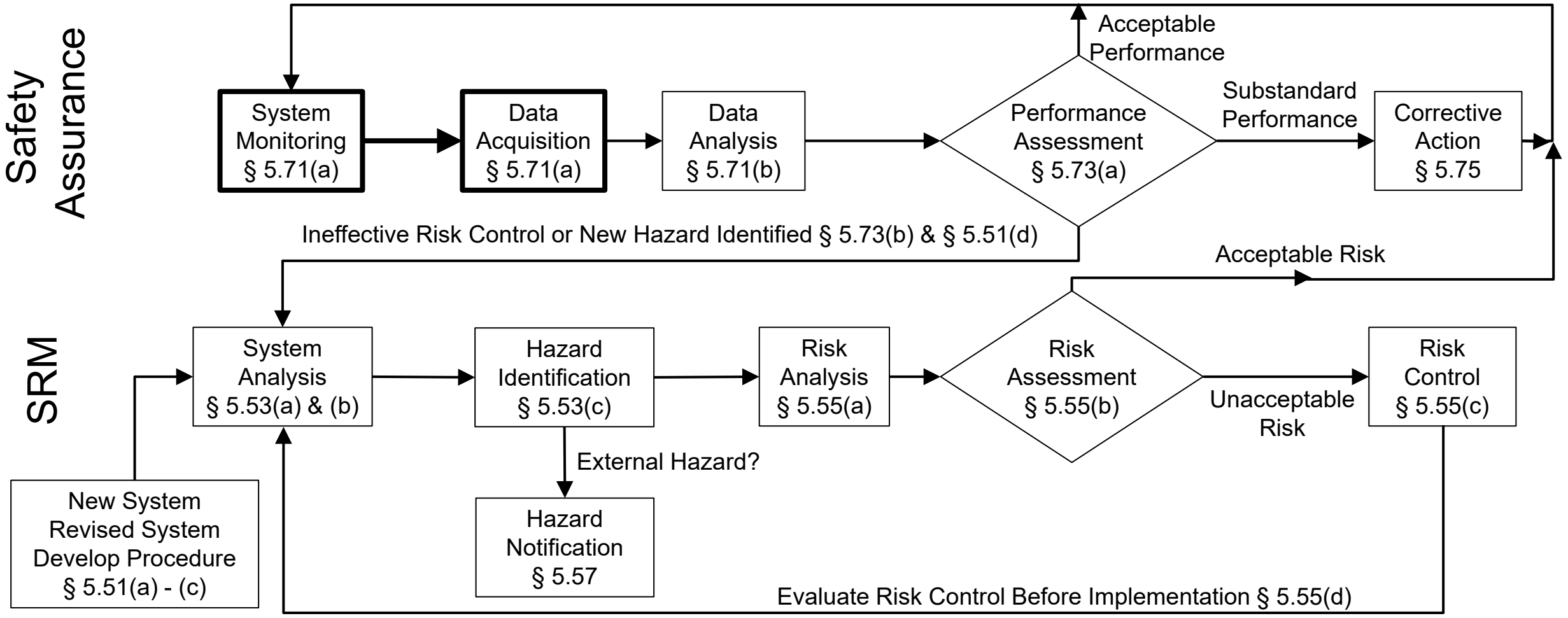
Subpart E - Safety Promotion

Subpart F - SMS Documentation and Recordkeeping

§ 5.3 Definitions.

- **Safety assurance: processes to ensure the performance and effectiveness of safety risk controls and that the organization meets or exceeds its safety objectives through the collection, analysis, and assessment of information**

Safety Assurance / SRM Interaction Loop



§ 5.71 Safety performance monitoring and measurement

a) Acquire data from operations, products, and services to monitor the safety performance of the organization.

- **Data acquisition processes must include:**
  - Monitoring
  - Auditing
  - Evaluating
  - Investigating
  - Employee reporting

§ 5.71 Safety performance monitoring and measurement

1) **Monitoring of operational processes**

Supervision of employee activities, reviewing in-service reports, design reviews, monitoring manufacturing

2) **Monitoring of the operational environment to detect changes**

Look for operational environment changes from organizational system description (budget, staffing, schedule, working with new suppliers)

3) **Auditing of operational processes and systems**

Collect data to confirm that safety critical processes are being followed and are performing

§ 5.71 Safety performance monitoring and measurement

4) **Evaluations of the SMS and operational processes and systems**

Independent review of the organization's processes, procedures, and systems

5) **Investigations of incidents and accidents**

Investigation of aviation-related incidents and accidents involving the products or services provided

6) **Investigations of reports of non-compliance with regulations or risk controls**

Investigation to understand why non-compliances are occurring so corrective action can be developed

§ 5.71 Safety performance monitoring and measurement

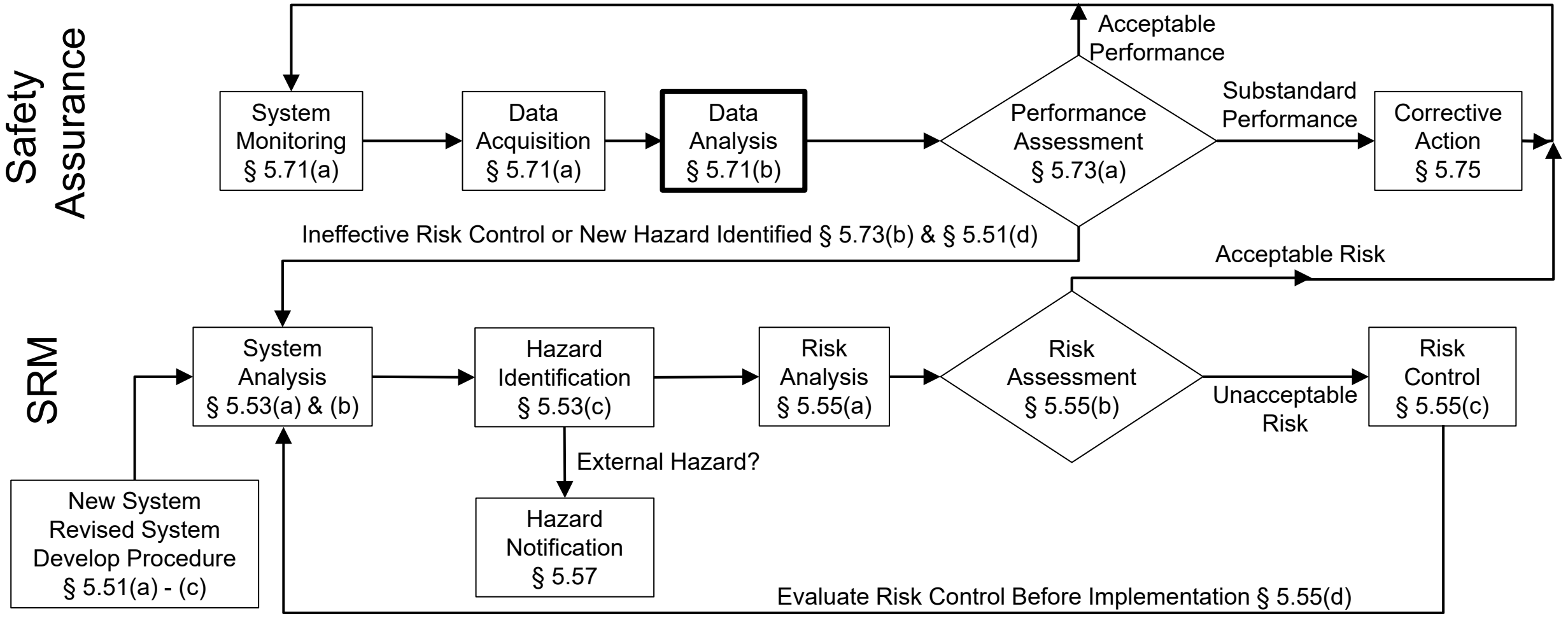
7) **Confidential employee reporting system**

Gather data from employee reports of hazards, issues, concerns, occurrences, and incidents, along with proposed solutions or safety improvements

8) **Investigations of hazard notifications received**

Investigate similar to employee reports and determine if SRM is required.

Safety Assurance / SRM Interaction Loop



§ 5.71 Safety performance monitoring and measurement.

b) Develop and maintain processes that analyze the data acquired and any other relevant data with respect to its operations, products, and services

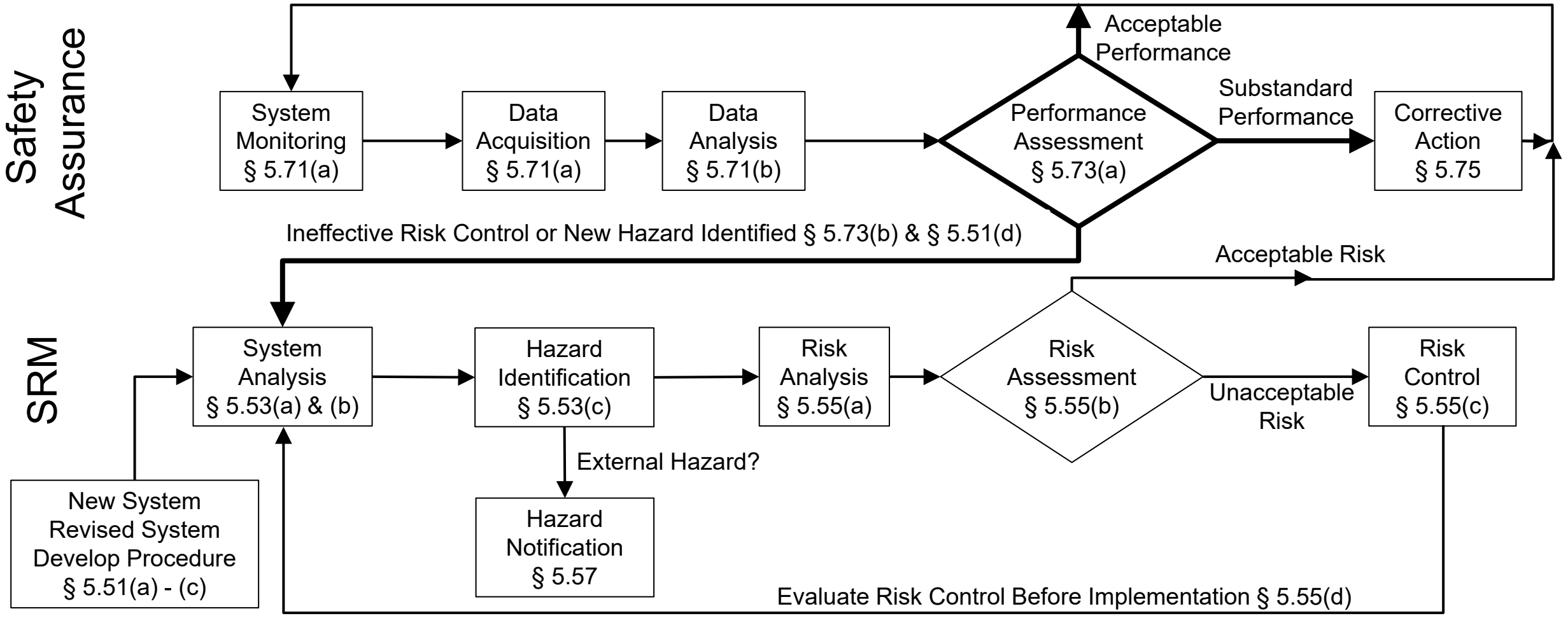
Examine data acquired to develop useful information for assessment and decision making. Look beyond individual reports for trends or patterns to identify system problems.

§ 5.71 Safety performance monitoring and measurement.

c) Holders of TC and PC must submit a summary of confidential reports received to FAA every six months

- Only applies to holders of TC and PC
  - Does not apply to TC holders licensing their TC, PC holders with a licensed TC, or VSMS participants
- "Summary" means:
  - The number of reports received over the six-month period
  - A concise description of each report received
- Information submitted is protected from FOIA disclosure under 49 U.S.C. 44735(a)(2)
  - FOIA protection labeling recommended

Safety Assurance / SRM Interaction Loop



§ 5.73 Safety performance assessment.

a) Conduct assessments of safety performance against safety objectives (including reviews by the accountable executive) to:

1) Ensure compliance with safety risk controls
2) Evaluate the performance of the SMS
3) Evaluate effectiveness of safety risk controls and identify any ineffective controls
4) Identify changes in the operational environment that may introduce new hazards
5) Identify new hazards

§ 5.73 Safety performance assessment.

- **What should be covered in the accountable executive review?**
  - Provide information to meet responsibilities in § 5.25
    - § 5.25(b)(1): Ensure that the SMS is performing
    - § 5.25(b)(4): Regularly review safety policy to ensure it remains relevant and appropriate
    - § 5.25(b)(5): Regularly review safety performance and direct actions necessary to address substandard safety performance (§ 5.75)
- **How often should accountable executive reviews occur?**
  - Decision left to approval holder – at least annually suggested

§ 5.73 Safety performance assessment.

b) Apply SRM if ineffective controls or new hazards are identified under paragraphs (a)(2) through (5)

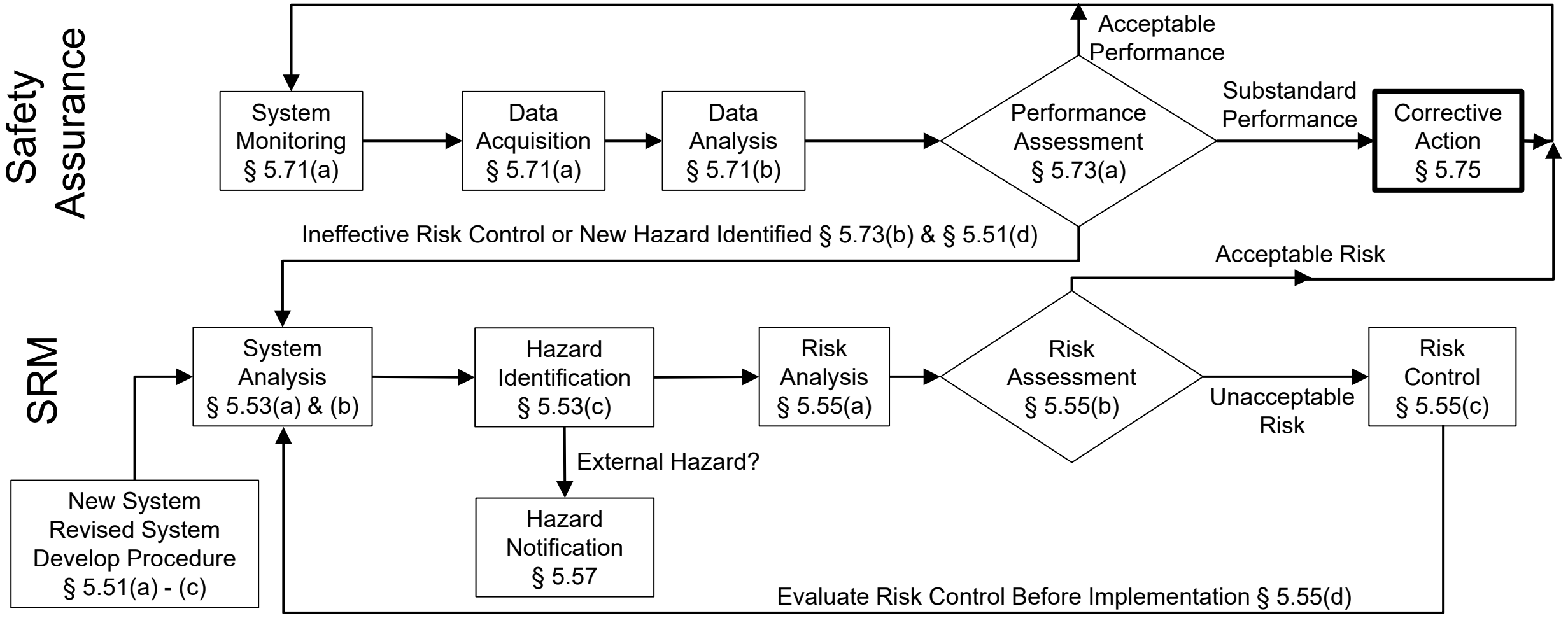
(a)(2) Evaluate the performance of the SMS

(3) Evaluate effectiveness of safety risk controls and identify any ineffective controls

(4) Identify changes in the operational environment that may introduce new hazards.

(5) Identify new hazards

Safety Assurance / SRM Interaction Loop



§ 5.75 Continuous Improvement.

Establish and implement processes to correct safety performance deficiencies identified in the assessments conducted under § 5.73

Includes:

- Implementing corrective action to address non-compliance with risk controls
- Actions to correct SMS performance deficiencies or safety performance not meeting safety objectives

May require the use of SRM if the corrective action involves system or procedure changes.

14 CFR Part 5

Subpart A - General

Subpart B - Safety Policy

Subpart C - Safety Risk Management

Subpart D - Safety Assurance

Subpart E - Safety Promotion

Subpart F - SMS Documentation and Recordkeeping

§ 5.3 Definitions.

- **Safety promotion: a combination of training and communication of safety information to support the implementation and operation of an SMS in an organization**

§ 5.91 Competencies and Training

- Provide training to each individual identified in § 5.23 of this part to ensure the individuals attain and maintain the competencies necessary to perform their duties relevant to the operation and performance of the SMS.

- § 5.23 individuals:
  - Accountable executive
  - Management (relative to SMS responsibilities)
  - Employees
  - Management making risk acceptance decisions
- Both initial and recurrent training required to ensure individuals have competencies to perform their duties relative to the operation and performance of the SMS

§ 5.91 Competencies and Training

Provide training on the processes, requirements, and expectations of the SMS relevant to the duties of each employee. Examples include:

- Accountable Executive } Training to understand responsibilities in § 5.25(b)
- Management } Training to understand SMS responsibilities applicable to their role
- Process Owner / Management making risk acceptance decisions } Detailed SMS, SRM and safety assurance training.
- Line Employees } SMS overview training and how to report safety concerns

§ 5.93 Safety Communication.

- Communicate safety information that:

a) Ensures employees are aware of the SMS policies, processes, and tools that are relevant to their responsibilities

b) Conveys hazard information relevant to the employee's responsibilities

c) Explains why safety actions have been taken

d) Explains why safety procedures are introduced or changed

Communicate information to educate employees on the SMS and the safety aspects of their roles.

Can be implemented through training, all hands meetings, manager meetings, SMS emails, websites.

14 CFR Part 5

Subpart A - General

Subpart B - Safety Policy

Subpart C - Safety Risk Management

Subpart D - Safety Assurance

Subpart E - Safety Promotion

Subpart F - SMS Documentation and Recordkeeping

§ 5.95 SMS Documentation

Develop and maintain the following SMS documentation:

(a) Safety Policy

(b) SMS Processes and Procedures

- Developing SMS documentation means the safety policy, and SMS processes and procedures are written, have been recorded, and can be retrieved.
- Maintaining SMS documentation means that the safety policy, and SMS processes and procedures are updated and kept current whenever they are changed.

§ 5.97 SMS Records

SMS Recordkeeping requirements:

(a) Maintain records of SRM process outputs. Retain for as long as the control remains relevant to the operation.

Only required to retain SRM records when a risk control was developed and implemented.

SRM record examples:

- Systems analysis results
- Hazards identified
- Risk analysis results
- Risk assessment results
- Risk controls developed
- Risk control evaluations

§ 5.97 SMS Records

SMS Recordkeeping requirements:

(b) Maintain records of safety assurance process outputs. Retain for minimum of 5 years.

Safety assurance record examples:

- Data acquired from safety performance monitoring
- Data analysis results
- Safety performance assessment results
- Hazards or ineffective risk controls identified
- Continuous improvement activities

§ 5.97 SMS Records

SMS Recordkeeping requirements:

(c) SMS Training records. Retain for as long as the individual is employed.

Initial and recurrent training records

(d) Safety communication and hazard notification records. Retain for 24 months.

Safety communications provided under § 5.93 and hazard notifications under § 5.57

Associated 14 CFR Part 21 Amendments

- **§ 21.55 Responsibilities of type certificate holders who license the type certificate**

- **§ 21.135 Organization**

- **§ 21.147 Amendment of production certificates**

§ 21.55 Responsibilities of type certificate holders who license the type certificate

- Revised section
  - A type certificate holder who allows a person to use the type certificate to manufacture a new aircraft, aircraft engine, or propeller must meet the applicable requirements of part 5 of this chapter and provide that person with a written licensing agreement acceptable to the FAA.

Requires SMS when licensing a TC for production

§ 21.135 Organization. Added (c)

- Added (c):
  - Each applicant for or holder of a production certificate, except those based only on a supplemental type certificate or on the rights to the benefits of a supplemental type certificate under a licensing agreement, must meet the applicable requirements of part 5 of this chapter.

- Requires SMS for PC holders and applicants
- PC for STC is excluded

§ 21.147 Amendment of Production Certificates.

- Revised (b):
  - An applicant for an amendment to a production certificate to add a type certificate or model, or both, must comply with §§ 21.135(c), 21.137, 21.138, and 21.150.

Requires SMS when amending a PC

SMS Policy Summary

- **14 CFR Part 5: Regulatory text for SMS rule**
- **AC 21-58: Provides acceptable means to comply with part 5**
  - SMS implementation plan template available upon request (email below)
- **Order 8120.24: Process for FAA to approve SMS implementation plans, complete SMS verification and, complete SMS evaluation**
  - Data Collection Tools: Questions FAA workforce will ask during SMS verification and evaluation
- **Order 8120.25: Process for FAA to conduct SMS oversight**
  - Currently under development
- **Contact for SMS Inquiries: Email: 9-AVS-AIR-SMS@faa.gov**