

PHOENIX SKY HARBOR

INTERNATIONAL AIRPORT

Safety Management System Manual



PHOENIX SKY HARBOR
INTERNATIONAL AIRPORT

America's Friendliest Airport™

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Safety Program Manual Record of Revisions

First issue 11.01.2021

Signature certifies that this manual has been correctly updated

[illegible]

Revision Reviewer /Approvals:

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Nov 4, 2021

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Acceptance Acknowledgement

As the Accountable Executive this document meets the requirements as set forth in 14 Code of Federal Regulations (CFR) Part 139 certificate holders to establish a Safety Management System (SMS) to improve the safety of aviation related activities at Phoenix Sky Harbor International Airport.

PHX instills safety as a core organizational value and ensures that SMS is properly implemented and maintained through the allocation of resources and tasks.

Chad Makovsky

Oct 29, 2021

Print Name

Date



(Signature)

Chad R. Makovsky, C.M.
Director of Aviation Services

Section 1: Foreword

Phoenix Sky Harbor International Airport (PHX) is owned by the City of Phoenix, a municipal corporation of the State of Arizona. The Metropolitan Phoenix area is one of the fastest growing regions in the country. The suburbs which include Chandler, Gilbert, Glendale, Goodyear, Mesa, Peoria, Surprise, Scottsdale and Tempe, join with Phoenix to form the Metropolitan Phoenix area.

The Federal Aviation Administration (FAA) issued Notice of Proposed Rulemaking (NPRM) towards a rule change to 14 Code of Federal Regulation (CFR) Part 139 requiring certificated airports operating under 14 CFR Part 139 to adopt SMS principles for managing safety risks and to include SMS procedures within the Airport Certification Manual (ACM).

Safety at PHX is the highest priority: Title 49, United States Code §47101(a) (1) states that the highest aviation priority is the safe operation of the airport and airway system. The International Civil Aviation Organization (ICAO) has a requirement for member states to implement SMS: The United States (USA) is a member state in ICAO. Accordingly, FAA is requiring certain airports in the USA to implement airport SMS. This manual was developed following the standards set forth in FAA Published Guidance: Advisory Circular (A/C) 150/5200-37, Introduction to Safety Management Systems for Airport Operators. This A/C provides guidance for implementing an SMS at an airport. Other published guidance is available on the FAA website at the following address:

http://www.faa.gov/airports/airport_safety/safety_management_systems/

Section 2: Introduction

2.1 Airport Safety Management Systems (SMS) Defined

A Safety Management System (SMS) is a systematic approach to managing safety, including all necessary organizational structures, accountabilities, statements, processes, and procedures. SMS provides airport management with a set of tools to make safety-related decisions. SMS also helps airport management identify safety risks associated with airport operations, airport development, and with other changes and to proactively address those issues before they result in accidents, incidents, injuries, or damages. It materializes through a series of complementary processes and procedures, which are closely coordinated by a well-defined safety organizational structure in which the safety roles and responsibilities of everyone, including top management, are clearly defined and understood by all. Further, safety objectives and data analysis facilitate a continually improving safety environment throughout the airport.

It is more than a manual and a set of procedures and requires safety management to be integrated into the day-to-day activities of the Aviation Department. It requires the development of an organizational culture that reflects the safety policy and objectives.

SMS processes are organized into four basic components of safety management: safety policy, safety risk management, safety assurance, and safety promotion.

Safety Policy describes who in the Aviation Department has responsibility, authority, and accountability for the goals of the organization. The policies, procedures, and structure of the Aviation Department is described along with the fundamental value of safety within the organization.

Safety Risk Management is the process of hazard identification and management of risk to acceptable levels. This systematic process describes how to identify hazards, how to assess the risks, and then the procedures to control the risks.

Safety Assurance processes ensure that once risk controls are in place, the Aviation Department continues to review the safety initiatives to make sure that risks are maintained within acceptable levels as defined by the Aviation Department's safety policies and goals.

Safety Promotion is the ongoing process to promote safety within the Aviation Department. Senior leadership must continuously promote the growth of a positive safety culture within the department. Key components are training personnel and clear communication of lessons learned throughout the Aviation Department.

At the core of the SMS is the formal risk management process that identifies hazards, assesses, and mitigates risk. It is important to recognize that even with mitigations in place, some residual risk remains, and an effective SMS enables organizations to manage this.

2.2 SMS Framework

The four basic building blocks and twelve elements of the safety management system are:

Safety policy and objectives

- 1.1 Management commitment and responsibility
- 1.2 Safety accountabilities and responsibilities
- 1.3 Appointment of key safety personnel
- 1.4 Coordination of emergency response planning
- 1.5 SMS process and documentation

Safety risk management

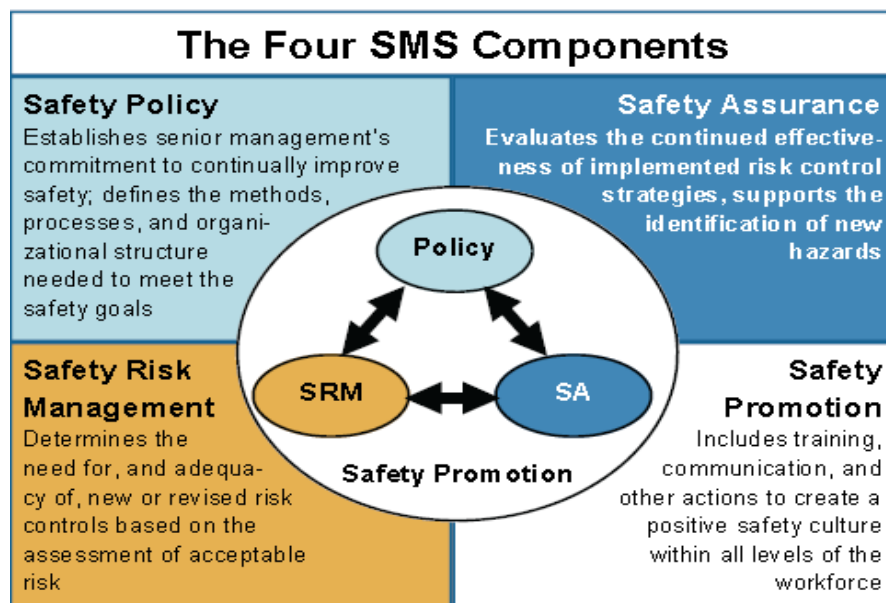
- 1.6 Hazard identification
- 1.7 Risk assessment and mitigation

Safety assurance

- 1.8 Safety performance monitoring and measurement
- 1.9 The management of change
- 1.10 Continuous improvement of the SMS

Safety promotion

- 1.11 Training and education
- 1.12 Safety communication



Source Safety Management System (SMS) Quick Reference Guide

2.3 Purpose

The Safety Management System Manual (SMSM) is the foundation for Phoenix Sky Harbor International Airport's commitment to safety.

SMS involves planning, monitoring, organizing, communicating and providing direction to integrate and manage safety requirements. The SMSM provides a proactive, systematic, and integrated method of managing safety in accordance with the International Civil Aviation Organization (ICAO) Annex 19, Federal Aviation Administration (FAA) Advisory Circular 150/5200-37, and 14 CFR Part 139.

The primary role of the Aviation Safety Section is to promote programs that support operational excellence, prevent accidents and incidents, and manage risk. The PHX SMS establishes an airport-wide safety culture inherent of a philosophy that:

- supports the development and implementation of a Safety Management System at PHX;
- dedicates resources to support hazard identification and risk mitigation processes;
- documents the processes by which PHX manages its Safety Management System;
- provides a ready reference to the PHX's SMS program;
- communicates the PHX approach to reducing all risks to as low as reasonably practicable (ALARP);
- positively manages our impact on the environment; and
- serves as a safety awareness tool for PHX airport employees.

2.4 Applicability

The implementation and application of this plan is relevant to all stakeholders, the full spectrum of airport employees and users, who have a role or could affect the Safety Management System process in PHX.

A safety management system considers that there are always hazards and risks. The applicability of SMS aids PHX to proactively manage and control hazards before they lead to accidents. The implementation of SMS represents a change in the PHX safety processes. This change does not occur overnight and requires the commitment of all in order to be fully implemented.

2.5 Scope

The SMSM supplements the Airport's Certification Manual (ACM) by clarifying the requirements and processes for the Safety Management System (SMS) applied to the portions of the airfield regulated under 14 CFR Part 139. The SMSM focuses on the procedures for complying with the FAA required SMS for Certificated Airports. However, it also includes guidance for Safety Risk Management (SRM) which is applied airport-wide.

2.6 SMS Integration

PHX integration of SMS involves several activities, including:

- employee awareness of the SMS via initial training;
- the development of safety related promotional materials;
- the creation of a formal safety committee(s); and
- incorporation of SMS practices in employee evaluations of hazards and risk.

Section 3: Safety Policy and Objectives

PHX views safety as a top priority. The health and well-being of staff and members of the public are paramount. PHX Safety Policy defines the fundamental approach to managing safety as well as PHX's commitment to safety. PHX Safety Policy provides a clear indication of its objectives by way of establishing a safe and secure workplace, and to implement safety into all workplace activities.

PHX Safety Vision: Identify and report hazards; reduce risk, eliminate and/or mitigate all preventable injuries, illnesses, environmental issues, and operational losses arising from unsafe conditions or practices throughout the airport environment.

PHX Safety Culture: A culture that permeates throughout every component of the airport environment.

3.1 Non-Punitive Reporting Policy

PHX embraces a non-punitive safety reporting policy. PHX guarantees that punitive action is not taken against any airport employee for identifying, reporting, and correcting hazards on or associated with the airport.

Personnel and tenants involved in the accidental/unintentional destruction of airport property are encouraged to report the extent of the damage to their immediate supervisors or an airport official without fear of reprisal. PHX is more concerned with the accident being reported and identifying a potential hazard as the cause or result of the accident – *not* punishing the individual.

Individuals who participate in negligent, reckless, or illegal behavior are, however, held accountable. PHX takes appropriate action towards an airport employee who knowingly disguises or hides a known hazard from airport management and supervisors. Such employee actions are not tolerated and are considered a violation of the responsibility each member of the PHX team has for the safety of other team members, tenants of the airport, and other users of airport facilities.

3.2 Management Commitment and Responsibility

The crux of an effective safety program is to establish a culture committed to the principles of accident prevention. PHX management is committed wholeheartedly to establishing a safety culture that supports the SMS principles in all areas of responsibility and fosters a safe working environment free from recognized hazards. This commitment is shown through the endorsement of specific activities aimed at:

- setting the safety standards and policy for the Aviation Department;
- encouraging participation in the SMS process;
- continuously promoting the safety policy to all staff and demonstrate our commitment to it;
- facilitating the flow of information and supporting safety objectives by allocating the required resources;
- ensuring that the policy is implemented and understood at all levels, both internally and externally;
- identifying, eliminating hazards and minimizing potential risks through the practice of risk analysis; and
- provision of human and financial resources.

3.3 Safety Policy Statement

Safety in an airport environment requires deliberate effort and personal commitment from every member of the airport community. This requires the ability to report incidents, train on safety awareness and procedures, and focus on continuous proactive improvement to the overall level of safety performance. It also requires transparency, to be seen and heard, in which the airport workers are comfortable identifying and reporting safety issues without the fear of reprisal.

PHX commits to creating such an environment where exposure to hazards and risks are minimized or eliminated. All levels of management and all airport workers are accountable to attain the highest level of safety conscientiousness.

PHX safety starts with the Director of Aviation Services.

PHX Safety Policy A Safe Place of Work

Safety at PHX shall be afforded the highest priority over commercial, environmental or social pressures as is reasonably practicable. PHX pledges to actively monitor safety performance and provide the necessary human and financial resources needed for safe operations. PHX complies with all applicable legislative mandates, meets all applicable standards, and wherever possible, exceeds regulatory safety requirements. PHX is committed to the establishment of a safety culture based on trust, shared ownership, and open participation. PHX holistic approach to safety permeates throughout every component of the Aviation Department and airport environment through its dedication and adherence to the principles of the Safety Management System.

Our commitment is to:

- Support the management of safety by creating a positive culture of trust in which people are encouraged, even rewarded, for providing essential safety related information.*
- Enforce the management of safety as the primary responsibility of all managers and employees.*
- Clearly define for all staff, managers and employees alike, their accountabilities and responsibilities under the safety management system.*
- Establish and operate hazard identification and risk management programs, including a hazard reporting system for airport employees, passengers, visitors so that they are not inadvertently subjected to safety hazards.*
- Ensure that no action is taken against any employee (non-punitive) for disclosing a safety concern through the hazard reporting system unless such disclosure indicates an illegal act, gross negligence, or a deliberate or willful disregard of regulations or procedures.*
- Ensure training of personnel to a level of competency to be able to implement safety strategies and processes.*
- Work closely with our partners, contractors, and stakeholders to plan, implement and maintain lines of communication and exchange of information regarding safety policies procedures*
- Listen to the safety concerns and observations of employees, stakeholders, contractors, and customers; taking the appropriate action to address all issues identified.*
- Establish and measure our safety performance against realistic safety performance indicators and safety performance targets.*
- Promote and support positive health and wellbeing of employees.*
- Maintain the safe condition of public areas (roadways, terminals, general facilities).*

- *Inform concessionaires, tenants, contractors, and other Airport users and their staff of the need to comply with safety policies.*
- *Inform contractors engaged in construction/development projects, that they and their staff have a duty not to endanger the general public or themselves.*
- *Review our Safety Policy annually or as required to ensure alignment with our strategic objectives.*

As Director of Aviation Services, I am ultimately responsible for the safety performance of PHX. As such, I am committed to providing the necessary resources to implement and maintain a robust SMS that promotes the continued growth of a positive safety culture through education, training, and open lines of communication throughout the Aviation Department. Our Aviation Department will ensure employees have the right skills and competencies to implement this policy. It is the responsibility of every employee, contractor, tenant, and customer to accept responsibility and accountability for their own behavior and actively participate in our Safety Program. It is critical that all employees use safe practices in their everyday work environment and take an active role in the identification and mitigation of hazards and risks. All employees are responsible for the safety and health of those persons in their charge and those around them. By accepting mutual responsibility to operate safely, we will all contribute to the well-being of all airport employees and customers and make our airport system among the safest in the world.



Chad R. Makovsky, C.M.

Director of Aviation Services

Phoenix Sky Harbor International Airport

3.4 PHX Safety Objectives

As a means for continuous safety improvements, the PHX SMS Administrator in consultation with other managers is responsible for developing and proposing safety objectives. The SMS Administrator monitors performance in meeting these objectives.

3.4.1 Qualitative Objectives

Attainment of continuous improvement through the safety policy requires PHX commitment to the following qualitative objectives:

- a) **Safety Management System.** The SMS Administrator is to oversee the development and implementation of the program and ensure that the application of the SMS is integral to all PHX aviation activities.
- b) **Safety Culture.** Develop and embed a safety culture in all PHX aviation activities that recognizes the importance and value of effective aviation safety management and acknowledges at all times that safety is paramount.
- c) **Safety Accountabilities.** Clearly define for PHX staff their accountabilities and responsibilities for the development and delivery of aviation safety strategy and performance. Ensure that PHX staff are provided with adequate and appropriate aviation safety information and training, and are competent in safety matters
- d) **Risk Management.** Minimize the risks associated with airport operations to an acceptable level of safety and establish and measure our safety performance against realistic objectives and/or targets.

- e) Regulatory Compliance. Actively develop and improve our safety processes to conform to ICAO, FAA and OSHA standards. Comply with and, wherever possible, exceed legislative and regulatory requirements and standards.
- f) Human Resources. Ensure that sufficient skilled and trained resources are available to implement the safety policy and continually improve our safety performance.
- g) Safety Oversight. Conduct safety audits, including incident and accident investigations, and ensure that relevant mitigation action is taken.
- h) Operational Activities and Facilities. Develop and implement policies and procedures to ensure the maximum mitigation of safety, health, and environmental risks in all of our operational activities and in the maintenance of our facilities.

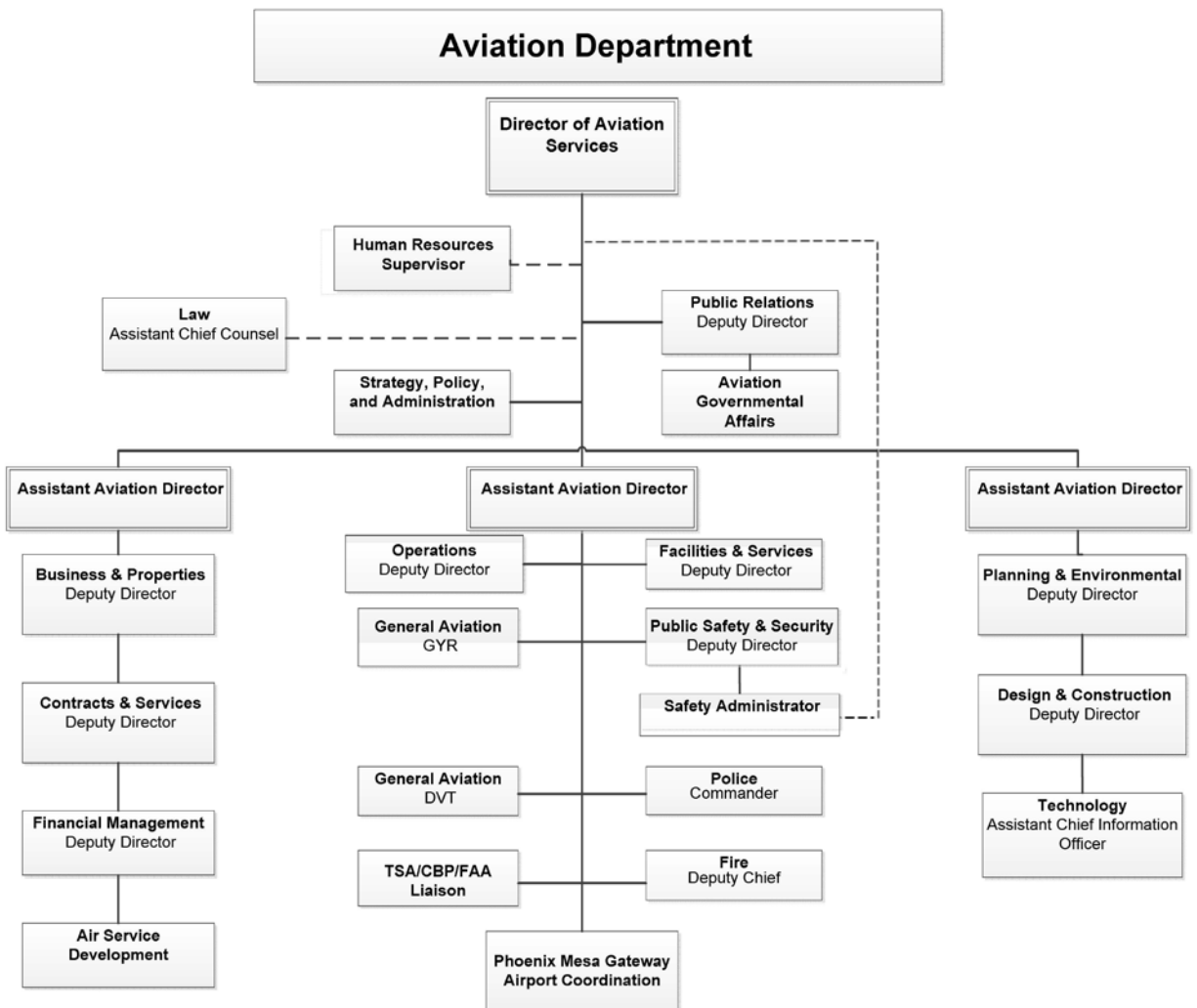
3.4.2 Quantitative Objectives

The safety quantitative objectives implemented for the first year of operations under SMS are to identify the:

- a) Number of safety hazards identified during airport self-inspections;
- b) Number of bird strikes;
- c) Number of incursions of vehicles, aircraft, or pedestrians on movement areas;
- d) Number and type of accidents and incidents on the AOA including the controlled movement area involving air carrier aircraft, ground vehicles, and/or pedestrians;
- e) Number and type of accidents and incidents in the terminals; and
- f) Number and type of accidents and incidents on the public roadways.

The objective of the first year of data collection of the items mentioned above is to establish a baseline from which subsequent years are used for comparison and through the use of trend analysis to aid in the identification of those items requiring risk assessment and mitigation. This baseline is then used to set objectives, if any, PHX needs to establish for succeeding years. The objectives are intended to mitigate or eliminate the hazards associated with each item thereby reducing or eliminating repeated occurrences.

3.5 PHX SMS Organizational Structure (Everyone is responsible for Safety)



3.6 Safety Accountability and Responsibilities

All airport workers have a shared responsibility to ensure the safety of personnel and airport resources. These responsibilities include activities such as ensuring the safety of their immediate work environment, reporting safety hazards and safety concerns as quickly as possible, complying with safety regulations and policies, and other activities that support the SMS. All airport workers are highly encouraged to become active participants in airport safety.

Every airport worker has an inherent duty to:

- take responsibility and care for their health and safety and that of others who may be affected by their actions;
- cooperate with the Airport management on health and safety; and
- not interfere with or misuse anything provided for their health, safety, of welfare.

The process of accountability and responsibility towards SMS begins with a clear philosophy of PHX safety principles. These principles based on a risk-based methodology are what propel the PHX SMS program.

PHX uses Five Guiding Principles which are:

1. Recognizing, reporting hazards and taking action to mitigate such exposures to an acceptable level as low as reasonably practical.
2. PHX's perspective towards hazards is to predict and prevent rather than respond.
3. Where unwanted events do occur PHX will investigate proportional to the loss or loss potential, find the root causes, and act swiftly to reduce the likelihood of a recurrence.
4. The cause of unsafe behavior can be identified, classified and controlled.
5. The synergistic relationships between management, environment, and employees help produce an effective safety management approach.

3.7 Appointment of Key Safety Personnel

Everyone in the Aviation Department must act together to initiate change.

3.7.1 Accountable Executive

Safety Accountabilities:

- establishment and promotion of the safety policy;
- take a leadership role in the PHX SMS Program while maintaining reasonable fiscal responsibility, and
- ensuring that all managers are aware of and held accountable for their roles and responsibilities under SMS.

Safety Responsibilities:

- acceptance of the SMS Manual for PHX.

3.7.2 Deputy Aviation Director – Public Safety & Security

Safety Accountabilities:

- establishment and promotion of the safety policy;
- take a leadership role in the PHX SMS Program while maintaining reasonable fiscal responsibility;
- ensuring that all managers are aware of, and held accountable for their roles and responsibilities under SMS;
- ensuring ongoing effectiveness of the SMS by facilitating, participating, or reviewing periodic evaluations;
- have final responsibility for the resolution of all safety issues;
- ensure that appropriate resources are allocated to support PHX SMS; and
- appoint the SMS Administrator.

Safety Responsibilities:

- reviewer/approval of revisions to the SMS Manual for PHX;

- reviewer/approval of the safety policy and objectives; and
- periodic reviews and updates of the SMS Manual, policy, and objectives.

3.7.3 SMS Administrator (Special Projects Administrator – Safety)

The Deputy Aviation Director for Public Safety & Security appoints and provides supervision over the SMS Administrator.

Safety Accountabilities:

- providing advice and assurance relating to safety issues and performance;
- establishing safety guidelines / policies in accordance with local, national, and international industry standards;
- developing a safety awareness and education and communication (promotion) program;
- conduct annual review of the safety policy and safety objectives;
- oversight of maintenance and implementation of the SMS program;
- implement and promote a non-punitive reporting system;
- establishing a safety audit and reporting system; and
- supporting the development of safety training curriculum for employees, airport tenants, operators and contractors.

Safety Responsibilities:

- facilitating Safety Risk Management (SRM) assessment of hazards, incidents, and accidents to determine action required;
- conduct trend analysis of safety hazards, incidents, and accidents;
- data collection and data management of safety related reports, incidents, and accidents;
- reviewing investigation of accidents, and incidents to promulgate lessons learned;
- design, development and management of an effective audit program and record keeping program;
- providing support as primary resource to Department Managers in all SMS specific processes;
- monitoring industry safety best practices and programs;
- interfacing with other Aviation divisions, airlines, customers, vendors, contractors, TSA, and the FAA regarding safety issues; and
- attending safety conferences and industry meetings to ensure that safety programs remain current.

3.7.4 Safety Project Manager(s)

The PHX Safety team is comprised of the SMS Administrator and Safety Project Managers / Safety Analysts. The SMS Administrator delegates and/or designates the Safety Project Managers / Safety Analysts to manage and have oversight of the varying PHX SMS programs.

3.7.5 Airport Duty Managers

The Director of Aviation Services is the official-in-charge of the day-to-day operation of PHX.

The order of responsibility as official-in-charge of the operation of PHX during normal business hours is as follows:

- Director of Aviation Services

- Assistant Aviation Director(s)
- Division Deputy Aviation Director(s)

PHX is operational on a 24-hour basis. The above personnel may not always be immediately available. The person(s) tasked with 24/7 situational awareness of airport operations is the Airport Duty Manager (ADM).

Airport Duty Managers are therefore accountable for providing a safe and effective airfield that meets all statutory, operational, and regulatory requirements.

Airport Duty Managers are accountable for airport security and for all matters occurring in the terminal and landside.

Safety Responsibilities:

- to ensure that safe working practices and operating procedures are followed at all times with risk assessments undertaken as required;
- to plan, allocate, control and monitor all activities on the apron;
- to ensure that airside operations conform to all regulatory and safety requirements to provide the safe throughput of aircraft movements;
- to maintain all relevant documentation and records to meet regulatory requirements and issue all relevant operational instructions and procedures (including requesting the issuing of NOTAMS);
- to motivate all airport staff to meet departmental safety objectives;
- to carry out investigations and reporting of any incident or hazard using the appropriate process taking the necessary steps to remedy the situation;
- ensure the safe operation of all equipment and vehicles on the Landside and the Airside;
- implement emergency operations procedures;
- monitor the performance of all parts of the Terminal / Landside operations and make recommendations for procedural, organizational and operational improvements; and
- direct and indirect responsibility for staff members to ensure a safe working environment

3.7.6 PHX Managers/Supervisors

Safety Accountabilities:

All PHX Managers / Supervisors are accountable for supporting the Safety Management System by:

- ensuring his or her own personal safety;
- ensuring the safety of all personnel under his or her authority;
- solicit guidance from the Safety Manager in assessing the risks within their own section; and
- continuously promote the safety policy to all staff and actively demonstrate their commitment to it

Safety Responsibilities:

- understand and implement safety policies;
- provide written Standard Operating Procedures (SOP) of work methods outlining potential hazards and precautions, and ensure they are complied with;
- ensuring that safety issues are reported in a timely manner and appropriate corrective actions are taken;

- conduct and/or participate in risk assessments on activities within their area ensuring that the methods and systems of work are maintained at an acceptable level of safety;
- ensure accident and near-miss incidents are properly reported and assist with accident investigations where appropriate;
- developing safety goals and metrics within his/her area of responsibility;
- ensure all employees are suitably trained/competent to carry out their duties;
- developing safety goals and metrics within his/her department;
- encouraging the reporting of hazards;
- determining and implementing effective corrective and preventative actions based on SMS hazard analysis;
- performing reviews as necessary to ensure efficiency of the actions taken; and
- promoting employee awareness in all matters pertaining to safety.

3.7.7 City of Phoenix (COP) Aviation Personnel

All COP Aviation Personnel are accountable for supporting the Safety Management System by:

- ensuring widespread compliance with safety responsibilities in all their work;
- every employee is held accountable for their own behavior;
- complying with, and wherever possible, exceeding regulatory requirements and standards for safety;
- ensuring to intervene to prevent unsafe conditions from developing;
- reporting potential hazards;
- reporting incidents, accidents and near misses;
- being aware of his/her limitations;
- familiarizing themselves with the Safety Management System; and
- cooperating with audits and investigations.

Safety Responsibilities:

- is concerned for the safety of others, fellow employees and customers alike;
- shall initiate appropriate action when an unsafe act or condition is observed. Any employee may stop an unsafe operation or may refuse to participate in an aviation operation when conditions indicate that further activity would jeopardize safety;
- every employee shall participate in accident prevention by reading available safety information;
- performing their duties in a safe manner;
- reading and acknowledging their understanding of safety information provided;
- responding to requests for information including written reports and interviews in a timely manner; and
- completing the company SMS training program.

3.7.8 All Airport Stakeholders, Partners, Concessionaires, Contractors, and Tenants

Safety Responsibilities:

- to comply with the relevant safety requirements and mitigation procedures;
- to report immediately of any safety occurrence or system failure;
- to identify and report any situation of potential risk or concern affecting system safety; and
- to provide support for safety investigations as and when they occur.

3.8 Airport Safety Work Group

The purpose of the Airport Safety Work Group is to promote the safety, health, and welfare of City of Phoenix Aviation Department employees through support and implementation of PHX safety policies and SMS.

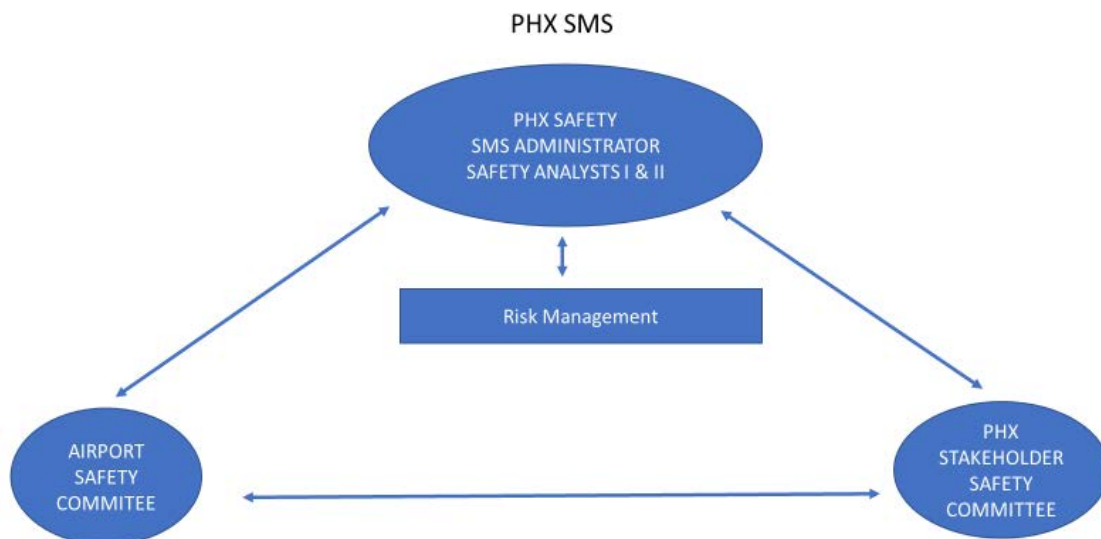
This work group shall function for the benefit of PHX safety with respect to each City of Phoenix Aviation Department employee. The Airport Safety Work Group analyzes, monitors, documents and responds to all safety concerns. The Airport Safety Work Group operates as an advisory body for reported safety concerns and make safety recommendations to the SMS Administrator.

The Airport Safety Work Group is comprised of City Aviation employees. These employees are either the designated Safety Coordinators (see Section 6.3 Safety Coordinators) for their division/section or identified by their management to represent the division/section.

3.9 PHX Stakeholder Safety Work Group

A PHX Stakeholder Safety Work Group is established to address safety concerns, accidents, incidents, and injuries in the areas of the airport. This work group is comprised of PHX front line airport employees (managers, supervisors, staff), airline operators, tenants, and/or other entities critical to the success of PHX SMS program.

The objective of the work group is to communicate safety concerns and propose actions to reduce accidents and incidents and avoid serious injuries in the areas of the airport.



3.10 Coordination of Emergency Response Planning

The PHX Airport Emergency Plan (AEP) is maintained by the Emergency Preparedness Section. Through the Airport Certification Manual (ACM) (Part 139.325, Airport Emergency Plan), the AEP provides the framework for PHX to minimize the possibility and extent of personal injury and property damage on the airport in an emergency. The AEP is integrated into the SMS policy and reflects the size, nature and complexity of the activities performed by the Aviation Department. The AEP provides governance for actions to be taken in the event of an aircraft accident, incident, or natural disaster and instills the 5C's (command, control, communication, coordination, cooperation) in methodology and approach.

The PHX AEP ensures:

- an orderly and efficient transition from normal to emergency operations;
- designation of emergency authority and responsibilities;
- authorization by key personnel for actions contained in the plan;
- coordination with other organizations;
- safe continuation of operations or return to normal operations as soon as practicable;
- continual updating of information;
- training for employees;
- simulation exercises (functional, tabletop, etc.).

The AEP establishes the delegations of authority, assignment of responsibilities, coordination of efforts by PHX personnel, and the orderly transition from normal to emergency operations and back to normal operations when the incident/emergency is over.

Plans are exercised regularly, both to familiarize staff and to reveal any deficiencies. PHX conducts routine testing of emergency systems via drills, tabletops, etc. and all testing, training and exercises are documented with corrective action taken if deficiencies are identified.

3.11 SMS Process and Documentation

SMS documentation is all the information kept in either written or electronic format that supports PHX SMS. The PHX SMS Manual is the primary document to identify the key processes that are part of the safety management system at PHX.

The SMS Administrator is responsible for managing all aspects of the operation of the SMS, including ensuring that safety documentation accurately reflects the current environment, monitoring the effectiveness of corrective actions, providing periodic reports on safety performance, and providing advice to managers and other personnel on safety-related matters.

3.11.1 The SMS Manual

A current hardcopy of the PHX SMS Manual is maintained by the SMS Administrator in the Public Safety & Security Division, Safety section.

The SMS Administrator is responsible for coordinating annual (once per year) efforts to review, revise and update the documents and procedures of the SMS Manual. These documents are reviewed through the auditing process, management review, and/or corrective and preventive actions implemented during the review period.

3.11.2 Document Control and Revisions

All documents are maintained by the Safety Administrator who retains the master document and has sole access for changes.

The final drafts are submitted to the Deputy Aviation Director – Public Safety & Security, the Assistant Aviation Director, and the Director of Aviation Services for review, revisions, and final signature.

Documents are formally reviewed annually for needed updates or in cases where regulations or conditions change.

3.11.3 Documentation and Record Retention

SMS related documentation shall be maintained by the airport Safety Administrator in a digital or written format. The Safety Administrator follows the record retention guidelines as set forth in 14 CFR Part 139.

Section 4: Safety Risk Management

The concept of Safety Risk Management (SRM) provides PHX with a tool for identifying hazards, classifying their risk, and prioritizing their resolution. PHX develops processes and procedures for hazard identification and analysis appropriate to the operating environment. SRM is a core process behind SMS. It is through SRM that PHX is able to determine and classify risks to develop appropriate mitigation strategies.

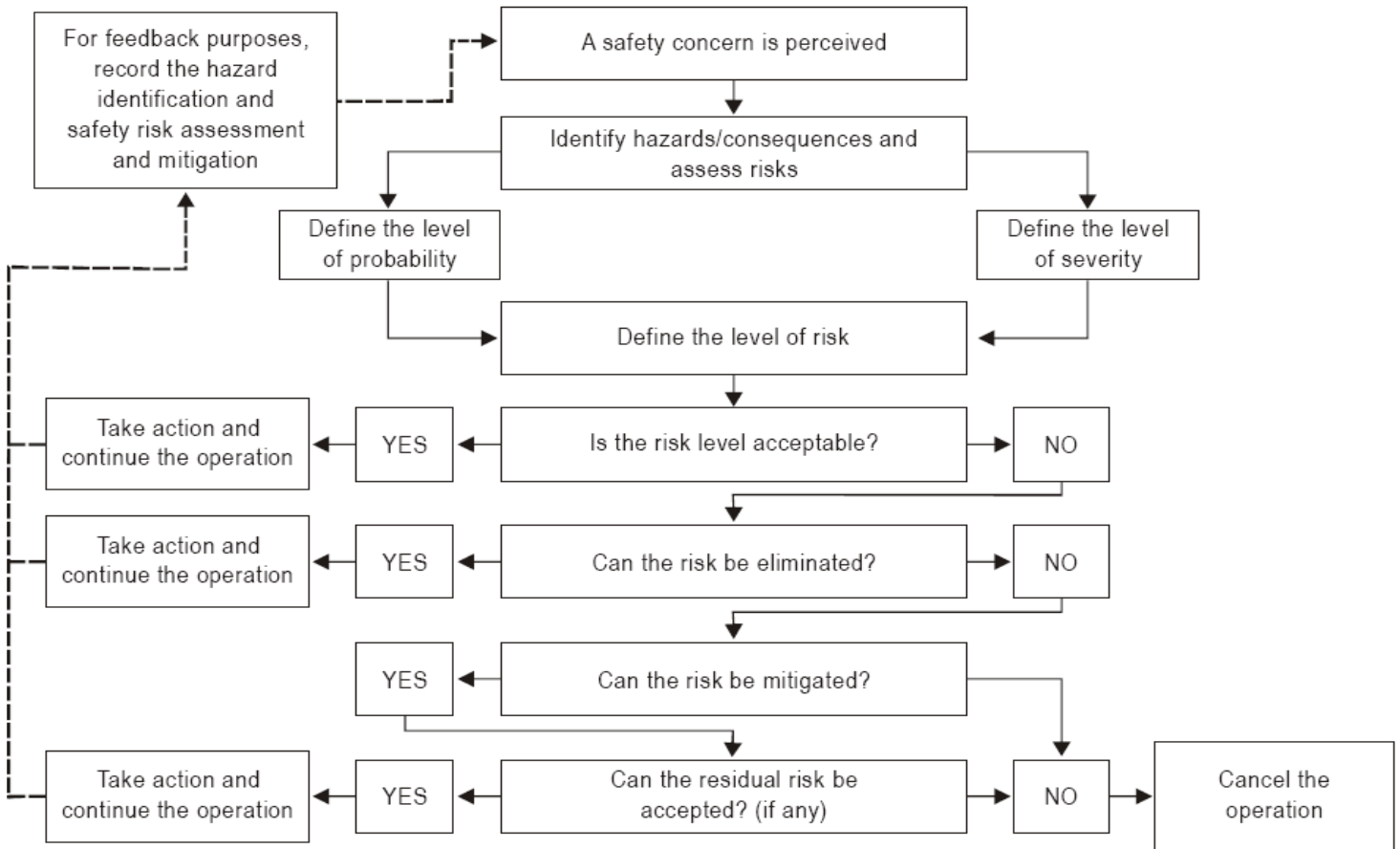
A formal SRM process is conducted when:

- there is a significant accident or incident;
- there is a negative trend in safety-related airport inspections, safety events or safety infractions; and
- when there is concern that established practices and procedures, equipment or facilities are not as safe as they could be.

The SRM process ensures the following:

- hazards and other safety issues are identified and documented;
- risk is analyzed, assessed, and classified;
- the associated risks are mitigated and monitored;
- corrective actions are taken after accidents and incidents;
- the effectiveness of the risk mitigation strategies is monitored and assessed; and
- there is continuous progress toward improving safety.

Safety Risk Management Process



Source Safety Risk Management Process ICAO SMM

The goal in risk management is to manage those risks that cannot be eliminated so that operations can continue with minimum negative impact.

4.1 Risk Management

The risk management component of a SMS is divided into three areas:

- hazard reporting and identification processes;
- risk assessment and mitigation processes; and
- monitoring mitigation and continuous improvements.

A critical part of the PHX risk management process is the involvement of airport workers who are affected by a decision. Their expertise is often critical to decision making. The benefits include:

- ensuring that all aspects of the risk problem are identified and considered when making decisions;
- ensuring legitimate interests are considered;
- providing the decision makers with tools to make good decisions;
- making decisions easier to explain;
- providing a standardized set of terminology used to describe risk issues contributing to better communication about risk issues; and
- providing significant savings in time and money.

4.2 Organizational Decision Making

PHX assures operations are conducted within the limits of the level of acceptable risk. Exercising judgment on how to eliminate or reduce hazards to lessen the overall risk is inherent in the risk assessment process. PHX applies the following basic decision-making principles before any anticipated job, tasks, or operation is performed:

Accept no unnecessary risk. Unnecessary risk contributes no benefit to the safe accomplishment of a task or operation. The most logical choice is those that meet all the operational requirements while exposing personnel and resources to the lowest possible risk.

Make risk decisions at the appropriate level. Making risk decisions at the appropriate level establishes clear accountability. Those accountable for the success or failure of a situation must be included in the risk decision process. Supervisors at all levels must ensure subordinates know how much risk they can accept and when they must elevate the decision to a higher level.

Recognize when benefit outweighs risk. Weighing risks against opportunities and benefits helps to maximize unit capability. Even high-risk endeavors may be undertaken when there is clear understanding of the benefit. Recognize and act upon extreme risk situations with a NO – GO decision.

4.3 Hazard Incident Reporting Policy

Effective implementation of PHX Safety Policy is contingent upon a working system to prevent accidents. Essential to this is an employee safety awareness program that encourages and promotes the identification of workplace hazards resulting in (1) the mitigation of such hazards and/or (2) to prevent the occurrence of unsafe incidents. Under normal circumstances, hazards should be reported and corrected at the lowest operational level utilizing established lines of authority and responsibility. For other situations, the Hazard and Incident Reporting System provides a means for airport personnel to report recognized safety hazards or reportable incidents to the Safety section for appropriate action.

4.3.1 Non-Punitive Reporting System

PHX SMS policy establishes an incident reporting system to facilitate the collection of information of actual or potential safety deficiencies. All airport personnel are encouraged to voluntarily submit safety deficiency reports no matter how small the issue. PHX Safety has developed a system that accomplishes the following:

- a confidential method for reporting safety deficiencies where an option for anonymity exists;
- a non-punitive approach towards persons reporting safety deficiencies;
- the ability to follow up and mitigate an issue without identification of the person reporting it.

Using a non-punitive reporting system builds trust and encourages a preventive rather than a reactive response. Anonymous confidential reporting creates a willingness to report safety concerns and reveals a more accurate view of the safety of airport operations.

4.4 Safety Reporting Policy (Non-Punitive)

The following statement provides guidance for all PHX airport workers regarding the use of PHX's Hazard and Incident Reporting System.

PHX Safety Reporting Policy

Phoenix Sky Harbor is committed to the safest operation of the airport and its systems to ensure the continuous safety and welfare of its employees, stakeholders, partners, passengers, and customers.

PHX promotes uninhibited non-punitive reporting of all hazards, incidents, and accidents that in any way affect the safety of airport operations, employees, facilities, or the general public.

Through this policy PHX recognizes the efforts of individuals who identify and communicate unsafe acts and conditions for the purpose of promoting safety. It is also the responsibility of each airport worker to communicate any information that could possibly affect the integrity of operations at PHX. All communications made through this reporting process shall be made with the assurance that no retaliation/reprisal shall occur to the individual for submitting any information via the Hazard and Incident Reporting System. The identity of the individual who provided information through this system shall be protected to the extent permissible by law.

Personnel and tenants involved in the accidental/unintentional destruction of airport property are encouraged to report the extent of the damage to their immediate supervisors or airport official without fear of punitive action. PHX is concerned with the accident being reported and identifying a potential hazard as the cause or result of the accident – not punishing the individual.

Individuals who participate in the following conduct (but not limited to) are held accountable:

*Negligence,
Recklessness,
Criminal, or
Illegal behavior.*

PHX takes appropriate action towards an airport worker who knowingly disguises or hides a known hazard from airport management and supervisors. Such actions are not tolerated and are considered a violation of the responsibility each member of the PHX team has for the safety of other team members, tenants of the airport, and other users of airport facilities.

4.5 System Description Safety Hotline/Email

Any airport worker involved directly or indirectly in the operational activities of PHX (i.e., employees, stakeholders, partners, tenants) can report any observed hazard/incident.

4.5.1 Safety Hotline/Email

PHX has established a 24 hour voice messaging Safety Hotline (602.683.3600) / Email (avn.safety@phoenix.gov) to make an immediate notification of a safety concern or anonymously report hazards/incidents or safety concerns.

4.6 Hazard Identification and Incident Reporting Form

PHX Hazard and Incident Report (HIR) form is the basic method to communicate safety-related concerns to the Safety section.

Sources used to identify and communicate hazards at the airport may include the following methods:

- Hazard Incident Reporting System;
- safety self-inspection program;
- maintenance logs;
- monthly safety committee meetings;
- tenant meetings;
- local air traffic control;
- federal, local regulatory reports;
- safety surveys;
- e-mails to PHX Safety; and
- e-mail to the respective Aviation Safety Committee representative.

Report PHX Safety Concerns



- Email
avn.safety@phoenix.gov
- Scan QR code for an online form
- Call 602-683-3600
and leave a confidential message







REPORT SAFETY HAZARDS

REPORT:

- Hazardous Conditions
- Hazardous Behavior
- Near Misses



forms.skyharbor.aero
Scan QR Code with camera
to access form

Submit general email inquiries to
avn.safety@phoenix.gov
or leave a voice message at 602-683-3600.

4.7 Risk Assessment and Mitigation

Hazards identified in this process are assessed to determine the most effective method to reduce or mitigate the risk.

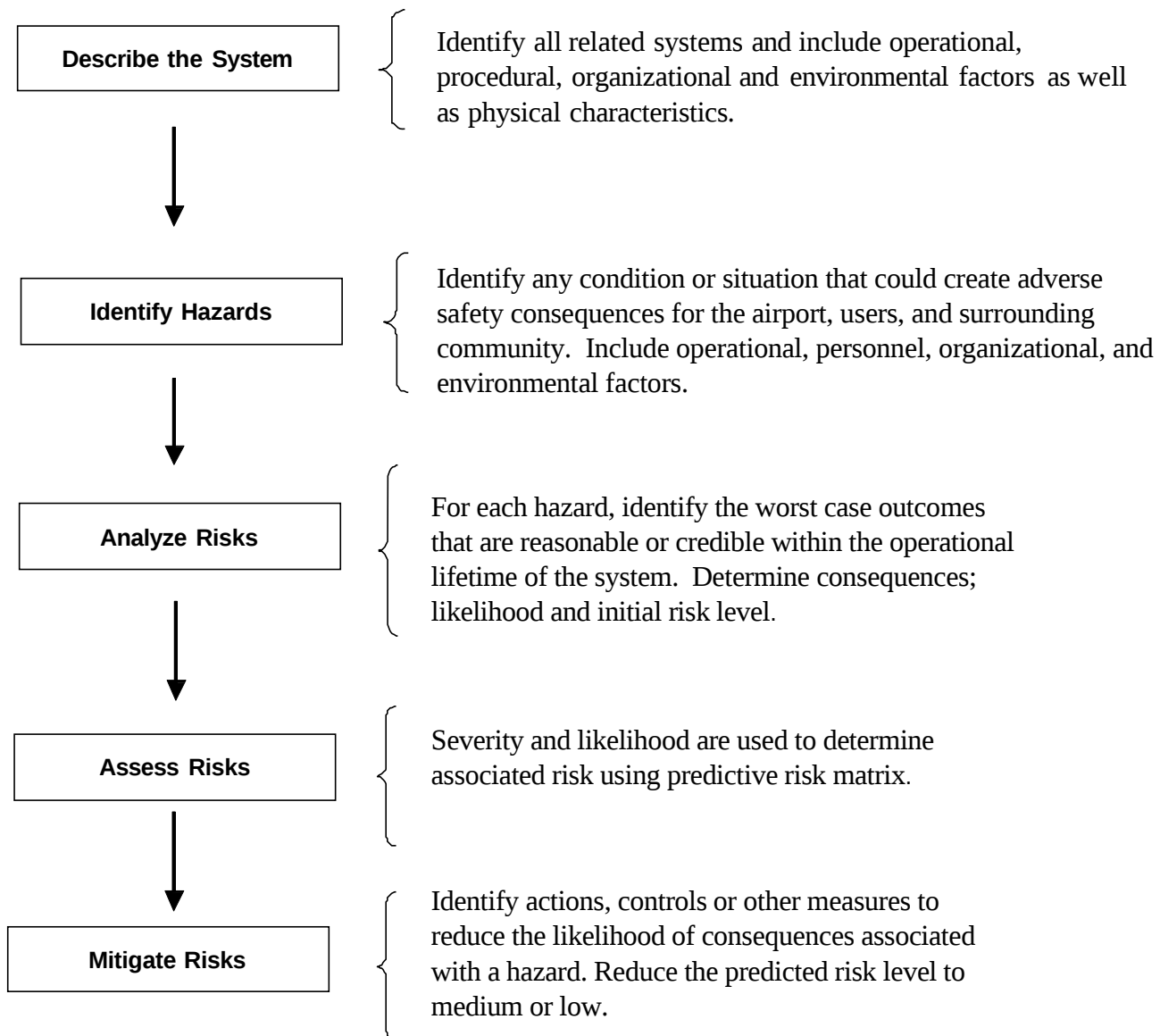
A risk assessment process occurs in the following circumstances:

- alterations to the existing system;
- changes to operational procedures; and
- identifying hazards and ineffective procedures.

PHX uses the following 5-step process when identifying the hazard and assessing the associated risk(s).

1. Describing the System.
2. Identifying Hazards - brainstorm all possible failures, threats, and danger points.
3. Analyzing Risk - identify outcomes, impacts of a hazardous event, and degree of **exposure** to risk. (Ask the question: If this hazard exists, then what happens?).
4. Assessing Risk - evaluate the combined effects of the potential for injury, damage, fatality, etc. risk matrix based upon severity and likelihood of an event occurring.
5. Mitigating Risk - determine mitigations needed, conduct cost/benefit analysis, develop an action plan, and implement controls. (Safety risks must be managed to a level “as low as reasonably practicable” ALARP).

Safety Risk Assessment (SRA) Process



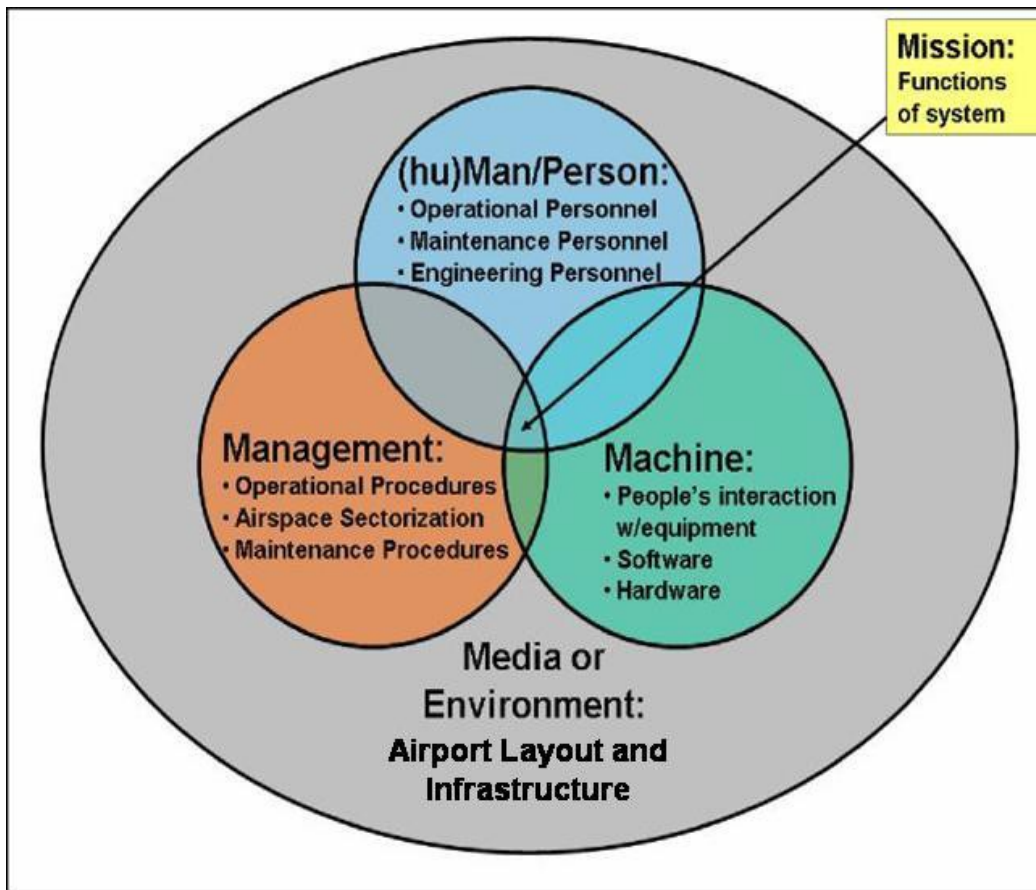
Source FAA Office of Airports Safety Management System (SMS) Desk Reference

The risk assessment process is facilitated by the PHX Safety section when reported hazards are being reviewed. Depending on the issue or change under consideration, the safety risk analysis may be conducted by an individual or team.

4.8 Step 1: Describe the System

The first step in the Safety Risk Assessment (SRA) process is to describe the components of the system by taking into consideration the activities and the conditions present at the time the hazard was identified. The *system* is defined as an integrated set of pieces that when combined form the basis of the objective. These pieces may include people, equipment, information, procedures, facilities, services, and other support services. If

when appropriate, If when appropriate, PHX may reference the 5M Model, to accurately and comprehensively describe the elements involved in the various systems at the airport.



5M Model Source FAA Office of Airports Safety Management System (SMS) Desk Reference

The 5M Model analyzes five pieces which potentially make up the environment in question: Mission, Man, Machine, Management and Media.

- Mission – A clearly defined role of the SRM panel describing, in detail, the approval or standard.
- (hu)Man/Person – The human operators or maintainers.
- Machine – The equipment used in the system, including hardware, firmware, software, human-to-system interface and avionics.
- Management – The procedures and policies that govern the system's behavior.
- Media – The environment in which the system is operated and maintained (i.e. airport).

When describing the system, this includes identifying the existing controls that are currently in place which are associated with the hazard.

4.9 Step 2: Identify Hazards

The second step in the 5-step process involves hazard identification. In this step, hazards to the system, which include hazards to operations, equipment, people, and procedures, are identified in a systematic, disciplined way. The purpose of hazard identification is to detect and identify existing and potential hazards involving equipment, property, personnel or the department. Hazards may be recognized through actual safety events (incidents or accidents), or they may be identified through proactive processes aimed at identifying hazards before they become incidents or accidents.

A hazard is any condition that can cause or contribute to an injury, death, or accident. A hazard is a condition that is a prerequisite to an accident or incident. A hazard is not a danger by itself. Certain conditions need to exist for a hazard to create the potential for resulting in an accident. For example:

- runway rubber build up... *needs* a wet surface to reduce skid resistance;
- unsecured storage containers... *needs* wind or jet blast that could set containers in motion and strike an aircraft or person;
- a vehicle incursion... *needs* an aircraft arriving and departing at the same time at a location on the runway to cause an accident.

Sources of hazards can be many and depending on the nature and size of the system under consideration, these could include:

- natural, environment (geographical conditions, thunderstorms, haboobs, flooding, microburst, dust storms);
- equipment (hardware and software);
- external services (contract support, electric, etc.);
- human-machine interface (vehicle operations, computer workstations, etc.);
- human operators;
- maintenance procedures (rubber removal, marking and striping, etc.);
- operating environment (airspace, roadway design, ramps, etc.);
- operational procedures (aircraft towing, friction measurement, communication, etc.);
- organizational culture (passive, apathy, etc.);
- organizational issues (non-collaborative, divisiveness, competitive, etc.);
- policies/rules/regulations (restrictive, unrealistic, nonconformity, etc.).

4.10 Step 3: Analyze Risk (Risk Analysis)

The third step in the 5-step SRA process requires analysis of the risk associated with the hazard identified in Step 2. Risk is the *potential* of a hazard to result in injury or damage. In this step, each identified hazard is evaluated to determine what risks are associated with the hazard. In addition, relevant and pertinent information obtained through historical data, other airports, and industry publications can be utilized to assist in determining risks associated with identified hazards. It is important that when assessing the hazard to account for the *worst credible* outcome that is realistically possible for each hazard.

Table 1 matrix addresses the severity of the risk, ranked from: Catastrophic, Major, Moderate, Minor and Minimal.

Table 1. Sample Risk Severity Safety Matrix

LEVEL	SEVERITY	FULL DESCRIPTION
A	Catastrophic	Equipment destroyed – multiple deaths
B	Major	Major equipment damage. Loss of one life or serious injury
C	Moderate	Significant damage to equipment and/or injuries. Serious incident
D	Minor	Slight degradation of mission performance. Minor incident or use of emergency procedures
E	Minimal	No significant consequence

LEVEL	SEVERITY	PERSONNEL	ENVIRONMENT	MATERIAL	MISSION
A	Catastrophic	Multiple Fatalities	Massive effect / multiple environments affected	Extensive damage > \$1m	Total mission failure.
B	Major	Single fatality	Major localized effect	Major damage \$200k - \$1m	Multiple significant mission element failures. Unable to continue mission.
C	Moderate	Serious injury / hospitalization	Localized effect	Local damage \$50k - \$200k	Single significant mission element failure. Maybe unable to continue mission.
D	Minor	Minor injury / no hospitalization	Minor effect	Minor damage \$1k - \$50k	Certain mission element failures. Mission may be able to continue with minor degradation.
E	Minimal	Slight / No Injury	Slight / No effect	Slight (< \$xxx) / No effect < \$1k	Minor degradation. Mission continues.

Table 2 addresses the probability or likelihood of each occurrence is categorized as Certain / Frequent to Unlikely / Almost Never. Within each table are the quantitative and qualitative descriptions of each category.

Table 2. Sample Risk Likelihood Safety Matrix

LEVEL	PROBABILITY / LIKELIHOOD	QUALITATIVE DESCRIPTION	QUANTITATIVE DESCRIPTION
1	Unlikely / Almost never	May occur only in exceptional circumstances / unknown in industry	Expected to occur less than once every 10 years
2	Seldom / Isolated	Could occur some time / known in industry	Expected to occur one time every 3 to 10 years
3	Occasional / Possible	Might occur some time / happened before in work environment	Expected to occur one time every 1 to 3 years
4	Likely / Common	Will probably occur at some time / reported > x times in work environment	Expected to occur between 1 and 10 times per year
5	Certain / Frequent	Is expected to occur frequently / reported > x times in location	Expected to occur more than 10 times per year

4.11 Step 4: Assessing Risk

The next step in the 5-step process is assessing risk. Risk assessment is a procedure used to combine the results of Risk Analysis from the previous step. To assess the risk, the Severity and Likelihood values analyzed in the third step are displayed in the Predictive Risk Matrix in Table 3. Correlate the risk rating from Table 3 to the acceptable and unacceptable levels of risk in Table 4. This is considered initial risk since it *does not account* for any mitigation strategies.

The key to risk assessment is to distinguish between the potential of a hazard to cause harm and the likelihood of that hazardous event occurring. PHX may use (or slight variations of) the Safety Risk Management Matrices shown in Table 1, 2, and 3 when assigning safety risk levels to hazards.

Table 3. Sample Predictive Risk Matrix

RISK ASSESSMENT MATRIX		SEVERITY				
		Minimal	Minor	Moderate	Major	Catastrophic
LIKELIHOOD	Unlikely	Low	Low	Medium	High	High
	Seldom	Low	Low	Medium	High	High
	Occasional	Low	Medium	High	High	Critical
	Likely	Low	Medium	High	Critical	Critical
	Certain	Low	Medium	High	Critical	Critical

Table 4: Sample Responsibility for Acceptable and Unacceptable Levels of Risk / Risk Definitions

Low	Risk is tolerable; manage by well established, routine process / procedures; follow up that corrective action is taken within a reasonable time.
Medium	A Control Plan must be developed; existing controls need to be reviewed; follow up that corrective action is taken within 7 days. Target resolution (ideally reduction to low level of risk) should be within 6 months
High	A 'high' risk may also require immediate assessment and management considerations; a Control Plan must be developed; regular monitoring and reported on to the relevant management team; corrective actions taken within 48 hours of notification. Target resolution (ideally reduction to low level of risk) should be within 3 months.
Critical	An 'extreme' risk requires immediate assessment and management consideration is required; a detail Control Plan must be developed; and consideration should be given to ceasing the activity unless the risk can be reduced to a level of high or less; regular monitoring and reported on to the relevant management team; corrective actions should be taken immediately. Target resolution (ideally reduction to low level of risk) should be within 1 month.

4.11.1 Accepting risk is a management decision

All aspects of airport operations bear risk. PHX manages risks to a level that is as low as reasonably practicable. This means that the risk must be balanced with the proposed corrective action. Moving forward with measures to mitigate risk involves cost (monetarily and resources). When the risk has been found to be undesirable or unacceptable, mitigating measures need to be introduced.

Critical Risk:

Severity and likelihood map to the red cells in the risk matrix. The hazardous activity in its current state exists but must immediately cease. This safety risk requires mitigation, tracking, and monitoring, and it can only be accepted at the highest level of management.

High Risk:

Severity and likelihood map to the orange cells in the risk matrix. The hazardous activity in its current state exists but cannot continue unless hazards are further mitigated so that risk is reduced to a medium or low level. In the operational environment, it is understood that high risk may exist in the short term.

Medium Risk:

Severity and likelihood map to the yellow cells in the risk matrix. This is a minimum level of risk whereby the change / corrective action may be implemented or the existing activity is allowed to continue (acceptable risk). If not acceptable, a mitigation action must be developed to reduce the risk to a level which is acceptable or factoring the necessity and/or availability of resources, to a level as low as reasonably practicable.

Low Risk:

Severity and likelihood map to the green cells in the risk matrix. This level of risk is acceptable without restriction or limitation; the identified hazards are not required to be actively managed but are documented. Mitigation of low risk is not required by PHX.

4.11.2 Plotting the Risk Matrix

Plotting the safety risk associated with the identified hazards helps during the assessment process. Using Table 3. Sample Predictive Risk Matrix, plotting provides visualization in terms of ranking the hazard and helps prioritize the

development and implementation of mitigating controls.

4.11.3 Risk Tolerance

After assigning risk ratings, PHX determines the appropriate response. For example, it may be decided that a low risk event is acceptable if it is not likely to occur and would have little impact if it did occur, but a high risk event that is highly likely to occur and would have a large impact would most likely be refused or unacceptable. Acceptable risks require no immediate action, but unacceptable risks require the development and implementation of mitigation measures that either reduce or mitigate the risk to acceptable levels or completely eliminate any risk.

4.12 Step 5: Mitigating Risk

The final step of the 5-step process is mitigating risk by determining as low as reasonably practicable the measures to address the risk associated with the operations

Risk mitigation is the implementation of a strategy in an attempt to reduce the likelihood of occurrence, severity of consequences, or both. There are four general ways PHX mitigates risk:

- risk avoidance is the prevention of the risk by selecting a different approach or not participating in the operation, procedure, or system development. (close the runway /taxiway during maintenance activities, cease the activity);
- risk transfer is the shifting the ownership of risk to another party (NOTAMS, engineering controls such as runway incursion prevention system);
- risk acceptance is accepting the likelihood and the severity of consequences associated with a risk's occurrence. (Risk classified under acceptable level, no mitigation action required in short term);
- risk reduction is the prescriptive actions that lower or eliminate the risk. (policies or procedures, airport design modifications, raising awareness, limit exposure, remove the obstacle, developing redundant systems, training).

4.13 Effective Mitigation Controls

To aid in achieving the desired level of risk reduction, corrective actions may require the implementation of a combination of more than one mitigation measure. When determining the appropriate action, PHX considers the following factors when evaluating the impact of the proposed mitigating controls as an acceptable level of safety:

- effectiveness: do the mitigation measures reduce or eliminate the safety risks?
- cost/benefit: do the perceived benefits of the mitigation outweigh the costs?
- practicality: is the mitigation appropriate in terms of available technology, financial and administrative resources, regulations, etc.?
- acceptability: does the mitigation conform with established practices?
- enforceability: is the mitigation within the realm of compliance with new rules, regulations or operating procedures?
- durability: is the mitigation sustainable and effective?

- residual safety risks: will mitigation result in a residual effect, introduction of a new hazard that is acceptable or require additional measures of control?
- unintended consequences: will the mitigation result in the introduction of new hazards?

Once mitigation strategies are established, PHX creates a mitigation plan which includes the following:

- responsible person assigned – person to implement the mitigation system.
- due/completion date – the date in which the mitigation system is to be implemented by.
- mitigating system – the course of action chosen.
- date completed – the date in which the mitigation system was actually implemented.

4.14 Hierarchy of Controls

PHX considers multiple safeguards to control any one hazard.

The hierarchy of controls outlines the controls to mitigate a hazard from most effective to least effective.

PHX follows the Hierarchy of Hazard Control to protect employees by ranking the ways in which hazards can be controlled for reducing risk to employees.

4.14.1 The Hierarchy Contains Five Items:

1. Eliminate the Hazard - The best way to control a hazard is to eliminate it. This can be achieved by making changes to the work process so that the task is no longer carried out or by physically removing the hazard altogether.

PHX considers elimination as an effective way to control hazards and is used whenever possible.

2. Substitute (One Risk for a Lesser One) - Substitution is the second most effective method for controlling hazards. It is similar to elimination but rather than removing the risk altogether, it involves substituting one risk for another

PHX considers substitution as an effective way to control hazards and is used whenever possible.

3. Engineering Controls - If a hazard cannot be eliminated, isolated, or substituted, the next best approach is to use engineering controls. Engineering controls are implemented by making changes to the design of equipment or a process to minimize its hazard. For example, process control involves changing the way a job activity or process is performed to reduce hazards, such as the use of electric motors rather than diesel motors to eliminate diesel exhaust emissions.

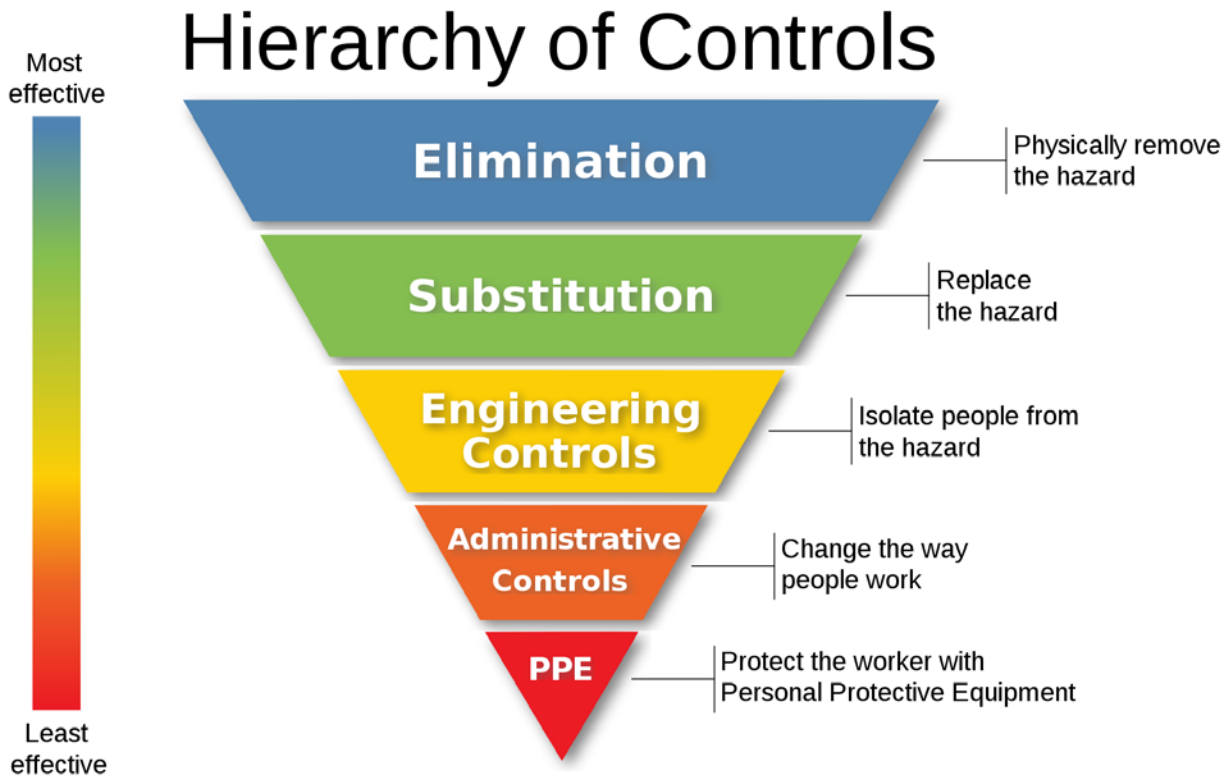
PHX considers engineering controls as an effective way to control hazards and is used whenever possible.

4. Administrative Controls - If engineering controls cannot be implemented, PHX considers implementing administrative controls. Administrative controls involve making changes to the way in which people work and promoting safe work practices through education and training. Administrative controls may involve training employees in operating procedures, good housekeeping practices, emergency response in the event of incidents such as fire or employee injury, and personal hygiene practices such as the washing of hands after contact with hazardous materials.

PHX considers administrative controls as an effective way to control hazards and is used whenever possible.

5. Personal Protection - This is the least effective method of controlling hazards because of the high potential that personal protective equipment (PPE) can be damaged. If PPE is inadequate or fails, the worker is not protected. PPE can also often be uncomfortable, which can place an additional physical burden on the worker. Therefore, PPE should only be used in combination with other control measures from the hierarchy or if there are no other more effective ways to control the hazard.

PHX considers PPE controls as an effective way to control hazards and is used whenever possible.



All Steps—Communication

Threaded throughout all steps of the risk assessment process is risk communication. The risks identified, analyzed and evaluated during the assessment must be communicated to all involved so that everyone has a comprehensive understanding of the existing risks and how they can best be prevented or mitigated to achieve organizational objectives.

4.15 Job Hazard Analysis / Risk Assessment

An unsafe condition or practice could cause injury, illness, or property damage. PHX ascribes to a Job Hazard Analysis (JHA) as a method for identifying and evaluating hazards associated with tasks for a specific job or activity. The purpose of the JHA is to eliminate or mitigate hazards prior to conducting the task to prevent work related injuries or illnesses.

A JHA involves doing the following:

- select the job/activity to be analyzed

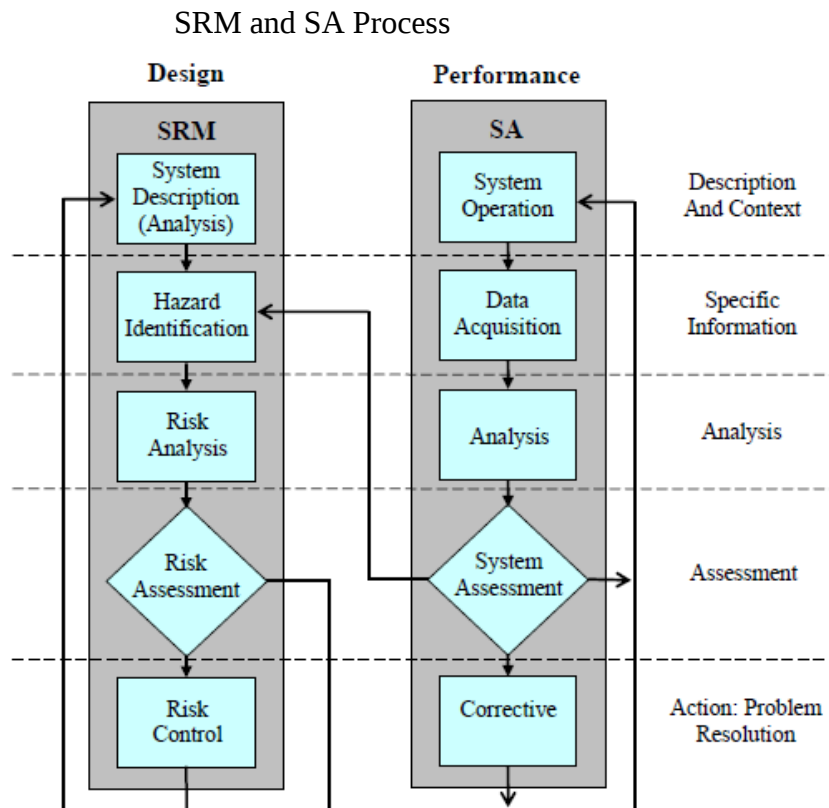
- break the job/activity down into a series of tasks
- identify potential hazards and consequences in each task
- determine preventative measures to overcome these hazards

Section 5: Safety Assurance

Safety Assurance is the third component of PHX SMS.

Safety Assurance (SA) is a set of processes to measure performance in meeting current safety standards and safety objectives. Safety Assurance verifies that newly identified hazards are properly evaluated through the process and that any applied risk mitigations are having the intended affect.

Safety Assurance is inextricably linked to Safety Risk Management (SRM).



Source FAA Order 8040.4B

SRM ensures hazards and their associated risks are identified, analyzed, and assessed and mitigations are put in place when necessary. Safety Assurance processes then take over, using data to evaluate whether the mitigations are having the desired effect

5.1 Safety Performance Monitoring and Measurement / Acceptable Level of Safety

In any system, it is necessary to set and measure performance outcomes in order to determine whether the system is operating in accordance with expectations, and to identify where action may be required to enhance performance levels to meet these expectations.

In determining an acceptable level of safety, PHX considers such factors (as mentioned in section 4.12.1 Effective Mitigation Controls) to include the level of risk applicable, the cost/benefits of improvements, and

public expectations/perception about safety in PHX. PHX expresses its acceptable level of safety using Safety Performance Indicators (SPI).

Safety Performance Indicators: are a measure of the safety performance, PHX operational activities, and are linked to the major components of PHX SMS. This metric is used to determine if the acceptable level of safety has been achieved.

5.1.1 Safety Performance Indicators (SPIs)

The following are examples of Safety Performance Indicators which may include but not be limited to:

- number of runway and/or taxiway incursions;
- number of fuel and other spills;
- number of safety reports received, assessed and followed up;
- number of wildlife events and/or bird strikes;
- number of vehicle accidents or incidents;
- number of equipment-related accidents or incidents;
- number of aircraft accidents or incidents;
- number of FOD events;
- number of passenger/staff injuries (minor, serious) and/or fatalities;
- number of infrastructure events (e.g. damaged pavement, flooding, etc.);
- number of training courses, safety briefing sessions;
- number of work-related injuries; and
- number of safety related Notice of Violation (NOV) issued.

5.2 Change Management

PHX makes every attempt to be proactive in identifying the hazards and managing the risks before changes are implemented. Having the foresight to address the safety implications is invaluable from a design and cost perspective.

Circumstances by which change management could be applied (all of which lends PHX to being proactive):

- a change(s) in the Airport Master Plan is being planned;
- the airport is undergoing rapid expansion or contraction;
- introduction of new equipment is being considered;
- construction and/or use of new facilities is being considered;
- existing equipment is being decommissioned; and
- introduction of new procedures is being planned.

5.3 Continuous Improvement of the SMS

The number one way to ensure that PHX remains on course with its SMS program is the audit process. Audits focus on the integrity and provide assurance to managers of procedural compliance within their areas of responsibility. Audits also demonstrate that management is taking a continuing interest in the safety of their employees by seeking means to improve/enhance the level of service.

Simply waiting for an accident to happen; then reacting when it happens; at the same time applying a fix to prevent it from happening again is not managing risk to a level as low as reasonably practicable. The goal, as is with change management and what has been said so far, is to proactively seek and search for hazards so that damage/ injury can be avoided with certainty.

PHX recognizes two general types of audits:

- internal audits- to confirm conformance with the safety management system; and
- external audits- to confirm conformance with the regulatory requirements (e.g. OSHA, ADOSH, ADEQ, FAA Part 139, TSA Part 1542, NFPA, etc.).

5.3.1 Audit

Safety internal audits are important in assessing the overall effectiveness of an SMS. It is the duty and responsibility of the SMS Administrator to ensure that audits are conducted periodically.

At the completion of an audit, planned remedial actions would be documented for all identified areas of concern. It is the responsibility of the SMS Administrator to develop a corrective action plan setting out the actions to be taken to resolve identified deficiencies or safety shortcomings within an agreed upon and reasonable time frame.

Section 6: Safety Promotion

Safety promotion is the fourth component of SMS and combines communication and training on safety.

Through Safety Promotion, PHX establishes a safety culture in which education, communication, and training support the implementation and operation of its SMS.

The safety promotion process at PHX includes:

- training and education;
- safety communication; and
- safety competency and continuous improvement.

PHX Safety Promotion activities may range to include the following activities:

- basic airport safety/SMS initial training for PHX employees and tenants;
- distribution of safety brochures/material for safety awareness & information;
- the development of safety posters;
- the development and dissemination of a safety newsletter (Safety Tailgates/Safety Advisory);
- the identification of a Safety Coordinator to establish point of contact for stakeholders;
- safety committee meetings that address safety topics and safety issues/concerns; and
- establish a non-punitive reporting policy to encourage participation in the reporting of safety hazards.

6.1 Safety Culture

The PHX safety culture objective is to achieve an airport-wide focus on ensuring the overall safety, health, and security of airport employees and the traveling public. To help ensure this concept of an airport-wide safety culture PHX acts to:

- establish an airport-wide award program to recognize achievements in the area of Safety and or Safety Awareness;
- establish a branding and advertising effort;
- establish a hazard incident reporting system; and
- establish an airport-wide safety awareness program.

6.2 Training and Education

PHX safety culture is linked to the success of its safety training program. All PHX airport badged personnel are introduced to the airport's safety philosophy, policies, procedures and practices, and understand their safety roles and responsibilities within the PHX safety framework.

6.2.1 Initial safety training for airport workers

Who:	PHX badged airport workers
How:	Virtual
When:	In conjunction with the security badging process
Why:	Create awareness of (1) the objectives of SMS, (2) basic airport safety, and (3) the importance of developing a positive safety culture.

6.3 Safety Coordinators (Voluntary Program)

PHX provides specific SMS training for individuals who are in of positional authority and responsibility and/or occupy positions with safety responsibilities. These individuals are identified as Safety Coordinators and represent either their company (as a whole) or that of divisions or sections within their organization. SMS training may include subject matter in the following areas:

- overview of the PHX SMS Plan;
- understanding the Safety Culture; and
- understanding the Safety Management System.

6.3.1 Safety training for Safety Coordinators

Who: PHX badged Safety Coordinators (Select management /supervisors)
How: Virtual
When: Security badging process in conjunction with security Authorized Signer training
Why: Ensure managers and supervisors are familiar with the principles of SMS and their responsibilities and accountabilities for safety

6.4 Safety Communication

PHX is committed to ensuring clear and continuous safety-related information. PHX promotes its safety communication through a variety of media and activities to ensure robust safety awareness at the airport.

Ideas and methods to effectively communicate safety information may involve:

- safety bulletin boards;
- safety flyers and posters;
- email;
- staff shift briefings/presentations (upon request);
- safety Committee meetings; and
- newsletters.

6.4.1 Safety Communications Process

PHX's approach to achieving safety promotion is through:

- motivating people;
- providing them useful information that helps improve attitudes and judgment; and
- fostering a positive safety culture.

PHX safety communication is founded on the transfer of information that occurs bidirectionally and highly encourages feedback.

6.4.2 Types of Information

There are two types of safety information PHX can distribute: Critical and Advisory information.

Critical Information: Critical information is safety information that requires rapid action and that may result in damage or injury if not acted upon. Examples of action information include safety reports, significant regulation changes, and recommendations following incident reports, hazard reports and safety alert messages.

Advisory Information: Advisory information is safety information that is not of an urgent nature but could require an action to be undertaken. This includes FYIs, periodicals, FAA/NTSB advisories, OSHA advisories, websites, newsletters, etc.

6.4.3 Communication Methods

As noted previously, PHX Safety has the primary responsibility to ensure procedures are in place to disseminate and/or receive safety information. The primary methods utilized are briefly described in the following summaries.

Training Programs: All individuals going through the intake process of acquiring a PHX airport badge undergo basic airport safety training.

Flyers/Posters: PHX “Safety Policy” is available in appropriate locations of the work area.

Hazard Incident Reporting: To capture the reporting of accidents, near misses, safety suggestions, etc., PHX has a safety email address and safety hotline phone number.

Promotional Campaigns: PHX provides/promotes safety topics based on their potential to control and reduce loss due to accidents and incidents, situational awareness, health and/or welfare.

Safety Reviews and Newsletters: PHX safety reviews and/or newsletters contain a varied selection of airport safety topics.

6.4.4 Aviation Safety Awards Program

To encourage and help foster a culture that values the importance of safety, PHX has a recognition and rewards program, Safety Awareness for Everyone (SAFE). PHX SAFE was created and developed to stimulate interest in accident/incident prevention, build support of a strong safety culture, and promote safety in the workplace.

PHX encourages its airport workers to maintain a high level of safety consciousness. While employees are mindful of safety goals and concepts, success in this area is not always celebrated or acknowledged leaving the chance for employees to wonder whether their efforts are being noticed and truly appreciated. Recognizing exceptional safety conduct is one way that PHX promotes safe work practices as valued and expected.