Phoenix-Mesa Gateway Airport

Safety Management System Manual

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Record Of Revisions

Revision Number	Revision Date	Effective Date	Affected Pages	Summary
12-01			**All**	**Initial Issue and Distribution**

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Definitions

Accident – An unplanned or unexpected event or series of events that results in death, injury or damage to, or loss of, equipment, property, assets or confidence.

Accountable Executive- That person in the organization which has full control of human and financial resources, is responsible for, and has authority over, all activities at the Airport. This person has final responsibility for all safety issues.

Audit – Formal reviews and verifications to evaluate conformity with policy, standards and contractual requirements. It can be an internal audit when conducted by or on behalf of the organization being audited, or an external audit when conducted by an entity outside of the organization being audited.

Corrective Action – Action to eliminate or mitigate the cause or reduce the effects of a detected nonconformity or other undesirable situation.

Gap Analysis – Identification of existing safety components, compared to SMS program requirements. Gap analysis provides an operator with an initial SMS development plan and a roadmap for compliance.

Hazard – Any existing or potential condition that can lead to injury, illness or death to people; damage to or loss of a system, equipment or property; or damage to the environment. A hazard is a condition that is a prerequisite to an accident or incident.

Incident – A near-miss episode, malfunction or failure without accident-level consequences that has a significant chance of resulting in accident-level consequences.

Likelihood – The estimated probability or frequency, in quantitative or qualitative terms, of a hazard's effect.

Oversight – A function that ensures the effective promulgation and implementation of safety standards, requirements, regulations and associated procedures. Safety oversight also ensures that the acceptable level of safety risk is not exceeded in the air transportation system.

Procedure – A specified way to carry out an activity or a process.

Risk Assessment – Assessment system involve an analysis of a job, process or the interaction of activities in order to identify hazards that have been or could be "built in", this analysis could include Job Hazard Analysis, failure modes and effects, analysis, ergonomics assessments, etc. The analysis must result in improved work practices and employee communication and training as (particularly with process analysis) preventive engineering controls where hazards are discovered.

Risk Management -The identification, analysis and elimination (and/or mitigation to an acceptable or tolerable level) of those hazards, as well as the subsequent risks, that threaten the viability of an organization.

Records – Evidence of results achieved and activities performed. In this context, it is distinct from documentation because records refer to SMS outputs.

Safety – The state in which the risk of harm to persons or property damage is reduced to, and maintained below, an acceptable level through a continuing process of hazard identification and risk management.

Safety Assessment – Systematic and comprehensive evaluation of a system to check whether the safety requirements are met.

Safety Assurance – SMS process management functions that systematically provide confidence that organizational products/services meet or exceed safety requirements.

Safety Culture – The product of individual and group values, attitudes, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of, the organization's management of safety.

Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures.

Safety Management System (SMS) – The formal, top-down business-like approach to managing safety risk. It includes systematic procedures, practices, and policies for the management of safety (including safety risk management, safety policy, safety assurance, and safety promotion).

Safety Objective – Safety goals or desired outcomes, which are typically measurable.

Safety Policy – Defines the fundamental approach to managing safety that is to be adopted within an organization. Safety policy further defines the organization's commitment to safety and overall safety vision.

Safety Promotion – Combination of safety culture, training, and data-sharing activities that support the implementation and operation of an SMS in an organization.

Safety Risk – Composite of predicted severity and likelihood (i.e., risk) of the potential effect of a hazard. As an example, the possibility of an overshoot by an aircraft landing on a wet runway (extremely wet runway is the hazard) would be considered a safety risk of the hazard.

Safety Risk Control – Anything mitigates the safety risk of a hazard. Safety risk controls necessary to mitigate an unacceptable risk should be mandatory, measurable, and monitored for effectiveness.

Safety Risk Management (SRM) – A formal process within the SMS composed of describing the system, identifying the hazards, assessing the risk, analyzing the risk, and controlling the risk. The SRM process is embedded in the operational system; it is not a separate/distinct process.

Severity – The consequence or impact of a hazard in terms of degree of loss or harm.

System(s) – An integrated set of elements that are combined in an operational or support environment to accomplish a defined objective. These elements include people, hardware, software, firmware, information, procedures, facilities, services and other support facets.

I. INTRODUCTION TO SAFETY MANAGEMENT SYSTEMS

Safety Management is a systematic approach to managing safety, including the necessary organizational structures, accountabilities, statements, policies, objectives, processes and procedures.

SMS is a tool that facilitates the management of safety risks associated with the operation of a particular organization. In part, it achieves this by including safety and risk management as an everyday element in the planning and performance of all operational and business activities. SMS materializes through a series of complimentary processes and procedures aimed at identifying, measuring, controlling and eliminating or mitigating safety risks. These processes are closely coordinated and supported through a well-defined organizational structure where the safety roles and responsibilities of all participants, including top management, are clearly defined and understood by all.

PMGAA recognizes the complexities of implementing a comprehensive safety management system and as such demands full organizational focus, including the development of specific programs and the allocation of dedicated resources. In this context PMGAA is targeting it's efforts to support the implementation of SMS in the following manner:

Following regulatory guidance, international standards, and industry best practice, PMGAA will develop SMS programs targeted at airside operations.   However, reports received related to landside hazards and events will be approached and acted on equally.

PMGAA views Safety Management as a comprehensive approach to the reduction of safety risk in all areas, and as such, is developing safety programs encompassing airside and landside activities.

Where applicable, elements of risk and safety management can be considered in, and transferred to, other areas of operation, such as Security, Quality, and Customer Service.

II. SAFETY POLICY AND ORGANIZATION

Policy Statement

The Phoenix-Mesa Gateway Airport Authority (PMGAA) values the preservation of life and the environment; we are committed to providing and maintaining an environment conducive to the safety and health of our employees, public, tenants, and customers through a Safety Management System that reduces incidents and mitigates risk to acceptable levels. Phoenix-Mesa Gateway Airport Authority has primary responsibility for establishing a Safety Management System (SMS); every individual has a shared responsibility to support and actively participate in the Airport Safety Management System and incident prevention programs.

Objectives

- Establish and maintain a Safety Action Team dedicated to executing goals and objectives as defined in the SMS Manual.
- Integrate Safety Risk Management as part of daily operations to ensure hazard identification, risk assessment and mitigation

- Establish a Safety reporting mechanism to encourage employees to report safety issues without fear of reprisal
- Continuous improvement through oversight and audits
- Ensure delivery of annual SMS training to all employees
- Monitor and Report the status of Safety Performance indicators (SPI)
- Build and maintain a Safety Conscience Culture
- Build Safety Accountability – ensure each individual is aware of their accountabilities and responsibilities regarding the safety management system and maintaining a safe work environment.
- Provide each individual with adequate and appropriate safety information and training, to ensure that they are competent in the performance of their duties.

Responsibilities

Executive Director

The Executive Director is the accountable executive and has ultimate responsibility to:

- Fully endorse the Phoenix-Mesa Gateway Airport SMS Manual and support the implementation and maintenance of the Safety Management System.
- Ensure the organization supports the staffing and resource requirements to implement, adhere to, and maintain an effective Safety Management System.
- Exercise final authority in decisions regarding human resources, financial issues, organizational affairs, and operational certificates as they relate to maintaining an effective SMS.

Director of Operations and Maintenance

- Champion the Safety Management System in all levels of the organization and stakeholder groups
- Ensure personnel and resources are in place to support the Safety Management System Policy and Processes
- Support and monitor preventative actions and mitigating actions taken by Operational Managers and Supervisors

Operational/ Department Managers and Supervisors

- Support the activities and efforts of the Safety Management System programs
- Monitor daily operational activities for compliance with safety and operational procedures
- Immediately correct observed deviations in safety and operational procedures
- Immediately correct safety deficiencies or halt an operation until deficiencies are corrected
- Participate in, and support, all safety investigations and hazard reports
- Participate in hazard risk assessments and implement accepted action plans to mitigate or eliminate reported hazards
- Manage preventative or corrective actions and monitor for daily compliance
- Deliver safety information to operational personnel

PMGAA Staff

- Participate in the SMS Process

- Perform their duties in a safe manner
- Report hazards in a timely manner and in acceptable formats
- Respond to requests for information including written reports and interviews
- Complete SMS training as directed

Safety Action Team

The Safety Action Team composition and responsibility:

Safety Action Team Position	Airport Position	Responsibility	Rotating/ number in group
Facilitator	Administrative Support Team Member	Schedule meeting dates, communicate meeting time and location, and produce committee minutes.	No / 1
Chair	Appointed Safety Officer	Ensure SMS protocol and principles are integral to committee work, promote SMS elements, champion safety and the continuous improvement process.	No / 1
Member	Employee – Supervisory Capacity or Lead level 2- O&M 2 FBO 1 DNC 1 ADMIN	Participate in Airport SMS processes. Complete hazard analysis and recommend actions when appropriate. Participate as working group member when appropriate. Review, remark, and modify reports from working groups. Review all Safety and Hazard Reports from SMS inputs. Promote/champion SMS. Promote Safety Awareness. Lead by example.	Yes / 5
Advisory	Member of Leadership Team	Monitor SAT activities to ensure team is maintaining focus on objectives. Provide input on safety discussions. Provide input on hazard mitigation recommendations.	Yes/1

The Safety Action Team is charged with producing deliverables in the form of written recommendations, working group reports, hazard reports, and participating in special purpose system reviews.

System Safety Manager

The System Safety Manager is responsible to:

- Develop, revise, and monitor processes needed to implement and maintain an effective SMS
- Monitor the safety level of the organization through specified metrics and trend analysis
- Ensure various SMS activities are carried out by responsible process owners
- Ensure completion of tasks and activities assigned to the Safety Officer(s)
- Report/ Present safety levels to the accountable Executive and Executive Team

- Review Safety Risk Assessment Reports and present reports to the Leadership Team
- Present Safety Recommendations that will improve the safety level of the organization
- Coordinate Safety and Emergency Planning

Safety Officer

The Safety Officer is responsible for completing safety related activities including but not limited to:

- Reviewing safety hazard reports
- Conducting risk assessments
- Leading incident investigations
- Chairing the Safety Action Team
- Conducting safety assurance audits
- Conducting job hazard assessments
- Leading special working groups
- Conducting safety training
- Recommend actions to mitigate or eliminate hazards
- Receiving injury investigation reports
- Review information from safety inputs and respond when appropriate

Qualifications

The Safety Manager and Safety Officer demonstrate attributes, qualifications, and experience unique to a Safety Professional. In addition, operational experience adds to a Safety Professional's ability to identify and resolve hazards associated with aviation, airport, and airline operations.

These attributes and qualifications include:

- Broad operational knowledge and experience in the functions of the airport (e.g. training, aircraft operations, air traffic control, airport operations and maintenance);
- Sound knowledge of safety management principles and practices;
- Experience in accident/ incident investigation;
- Knowledge of various safety analysis techniques;
- Good written and verbal communication skills;
- Well-developed interpersonal skills;
- Computer literacy;
- The ability to relate to all levels, both inside and outside the organization;
- Organizational ability;
- Capable of working unsupervised;
- Good analytical skills;
- Leadership skills and an authoritative approach; and
- Worthy of respect among peers and management.

Safety Organization Chart
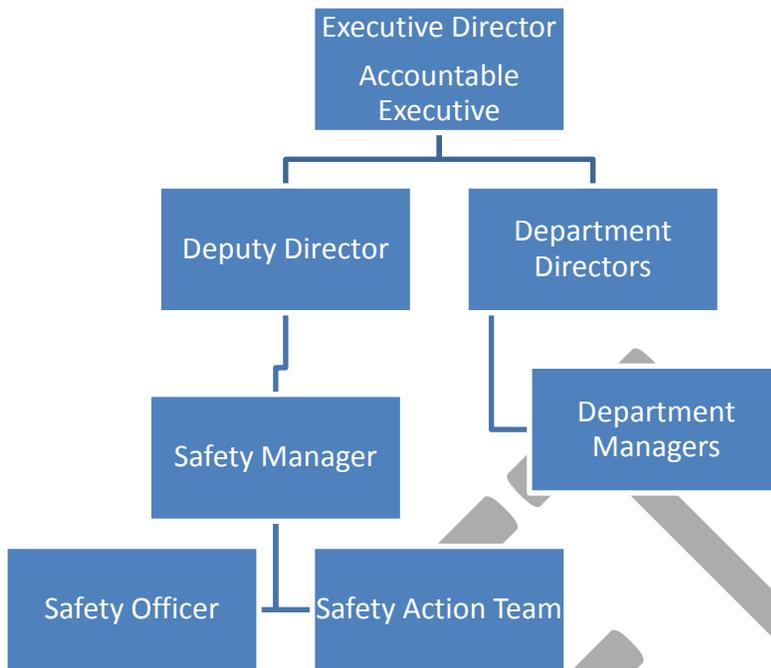
System Description

Phoenix-Mesa Gateway Airport is a Part 139 certificated, commercial service, small-hub airport in Mesa, Arizona. The airport hosts multiple air carriers servicing various domestic destinations, and serving over 1 million passengers. Three aircraft manufacturing service centers are located on the airport, along with multiple flight schools, aviation service companies, and federal agencies. The airport owns a full service FBO, providing fuel and services to the general aviation and military community, and supporting charter and air taxi operations.

Airport staff operates and maintains the airfield, multiple facilities, and select roadways. Skilled tradesmen, who perform specialized task under the direction of supervisory staff, are employed by the airport, as well as administrative support staff. Large scale construction projects such as facility expansion and airfield reconstruction are accomplished by contractors, under the supervision of airport staff.

SMS Documentation

SMS documentation is comprised of all information stored in written or electronic format that supports SMS. The Safety Management System Manual is the primary document to identify key safety management processes and ensure those processes are standardized across the organization. Other documentation, such as reports, decision documents, meeting minutes, and investigation documents, are records that show that an event has taken place. The following process is aimed at providing a standard and efficient method of document and record management.

The System Safety Manager, Safety Officer, and Department Managers are charged with managing all SMS process documents that are within their area of responsibility, including documents that result from SMS outputs and

processes, daily operational documents, and regulatory documents. These individuals must ensure the protection, generation, distribution, revision, storage, retrieval, and destruction of documents as required.

Department Managers

- Employee training and job needs analysis
- Effective completion of hazard identification and hazard resolution/mitigation
- Safety related meeting minutes

System Safety Manager/ Safety Officer

- SMS Manual
- Safety data collection and trend analysis
- Safety Reports and Investigation Reports
- Safety Assurance Reports
- SMS Awareness Programs
- Safety Action Team minutes and safety recommendations
- Safety Risk Assessment Reports

Maintenance of Safety Policy and Manual

The Safety Management System Manual is part of the Document Control Procedures used in the Operations Department; all revisions and distribution of the Safety Management System Manual is accomplished through these established document control methods. The System Safety Manager is responsible for ensuring the Safety Management System Manual is reviewed for adequacy and appropriateness, annually. The manual is updated annually and periodically if conditions change.

III.   SAFETY RISK MANAGEMENT

The PMGAA Safety Management System Program works toward improved safety by managing risk proactively. Identifying hazards and systematically assigning risk in terms of likelihood and severity provides a structured, uniform, and disciplined way to assess risk through-out the entire scope of the operation and the life cycle of the system.

The Safety Risk Management (SRM) Process consists of 5 steps that form a continuous improvement process until risk is mitigated to an acceptable level.
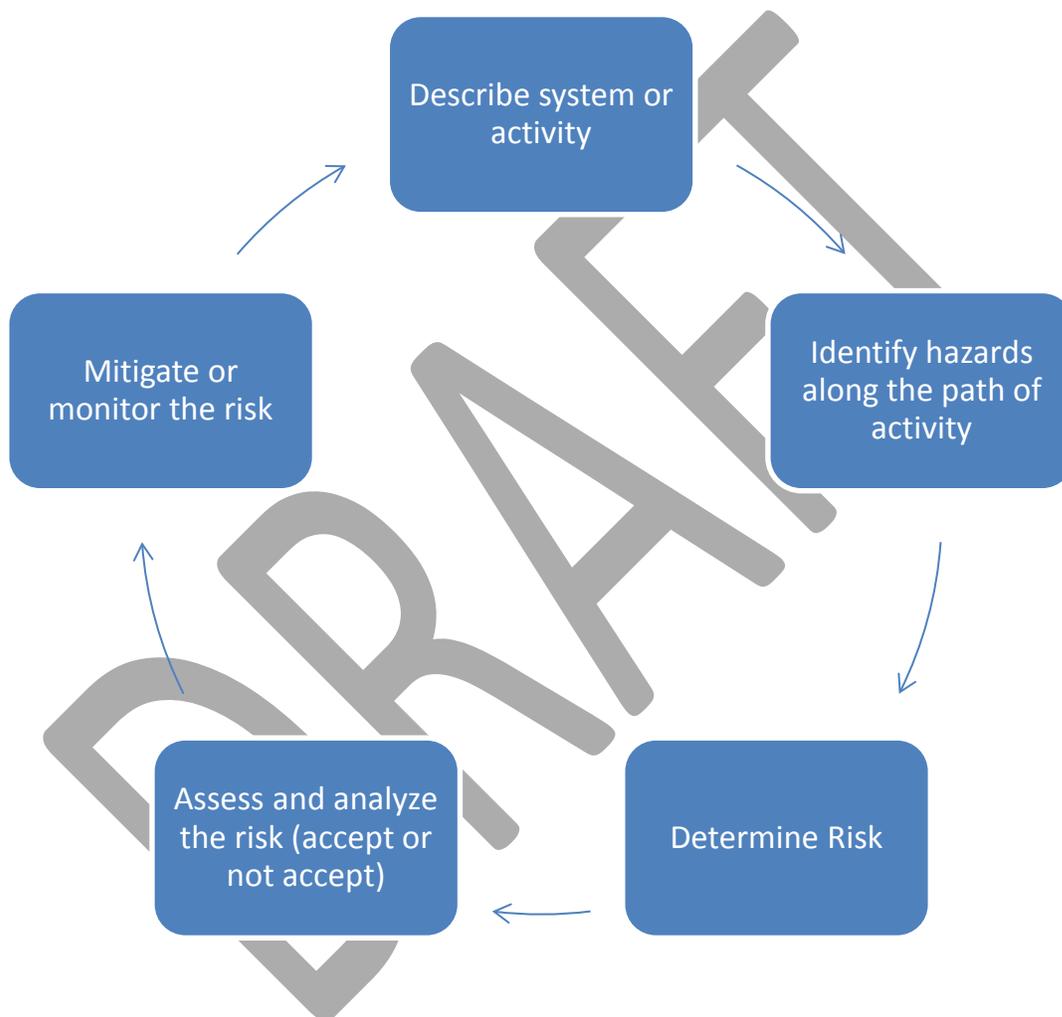
Risk Matrix

The risk matrix is a table, divided into columns and rows. The columns represent severity and the rows represent probability, where the columns and rows meet represents the assessed risk-level.

Risk-Levels

Low Risk – Green

Medium Risk – Yellow and Orange

High Risk – Red

Risk Matrix		Severity				
		A-Negligible	B-Minor	C-Moderate	D-Critical	E-Catastrophic
Probability	5-Frequent	A5	B5	C5	D5	E5
	4-Probable	A4	B4	C4	D4	E4
	3-Infrequent	A3	B3	C3	D3	E3
	2-Seldom	A2	B2	C2	D2	E2
	1-Improbable	A1	B1	C1	D1	E1

Airport SMS Definitions	People	Property or Business	Environment	Value
Negligible	• No injury to employee or passengers • No threat of injury	• None to Minor technical delay • Operational disruptions under 15 minutes • No aircraft or equipment damage – no time out of service • $0 fine • No regulatory finding	• No impact	A
Minor	• First Aid injury • No disability • No lost time • Passengers – no broken bones/no blood/ requires assessment	• Technical delay under 15 minutes • GSE – cosmetic damage, no operational impact • Aircraft – cosmetic damage, no structural impact, no disruption to operation • No regulatory fines • No public relations impact	• Contained release (any size) • No contamination	B
Moderate	• Minor Injury, emergency medical care beyond first aid but no hospitalization • Passenger/ Public requires emergency medical care beyond assessment Transportation to Emergency Room • Injury recorded as LTI • No immediate disability • Potential for long term health effects • Potential for acquisition of injury over time such as hearing loss	• Moderate technical delays • System deficiencies resulting in poor air carrier performance or sporadic disruption of service • Additional public relations resources needed • Lower public confidence; high profile media coverage • Damage to aircraft – minimal time out of service, immediate repair or MEL • Fine under $10K • Moderate reduction in Security causing air carrier minor air carrier impact • Potential to cause sustained irregular operations until	• Uncontained release under 50 gallons • Small environmental impact/ contamination	C

		- correction - Regulatory findings with or without fines		
Critical	- Severe Injury, injury resulting in hospitalization (not emergency room) - Potential for disability / loss of function - Large reduction in safety margins, operators cannot perform tasks accurately or completely	- Major delays for technical reasons - Chronic or extended delay to air carrier schedule - Aircraft - out of service - GSE – out of service - Criminal/ Civil penalty - Fine between $10K and $24.9K - Security finding or LOI requiring immediate corrective action or extensive air carrier disruption - Large public relations impact requiring internal and external resources to manage event	- Uncontained release – 50 to 99 gallons - Medium contamination area	D
Catastrophic	- Public exposed to life threatening hazard - Fatal Injury	- Total loss of aircraft - Total loss of Equipment - Airport-wide shutdown - Loss of public confidence –public will not use airport - Fines over $25,000 - Criminal charges - Security degradation causing operations to cease	- Uncontained release over 100 gallons - Exposure that travels off of airport and into community - Large contamination area	E

Probability	
Improbable	Very remote probability, almost inconceivable	1
Seldom	- Unlikely to occur but physically possible - Not known to have occurred in the industry - Auditor unlikely to identify in a standard or special inspection - Activity occurs less than 25% of the time	2
Infrequent	- Unlikely, but possible - Activity or event occurs infrequently, between 25 and 50% of the time	3

	• Events are sporadic in nature • Potential for auditor to identify during a special review • Infrequent in the industry; but known to occur	
Probable	• Likely to occur at some time • Activity or event is performed 50-99 % of the time • Following normal process or procedures can cause events to occur • Auditor or regulator is likely to identify the issue with minimal audit activity • Process performance failures are evident to trained auditors • Is known to have occurred more than once in the industry	4
Frequent	• Likely to occur many times • Will be continually experience unless action is taken • Is known to occur regularly in the industry	5

Risk Tolerance

The risk matrix forms the basis for judging the tolerability of the risk and the management level at which the level of tolerability lies. The SMS Mission Statement specifies that we are committed to reducing and mitigating risk to the lowest possible level. Sometimes a risk rating if "LOW" is not possible and the lowest possible risk-level is "MEDIUM". Whenever possible, medium risk-level hazards and operations must be mitigated to the lowest level. In no case is a high risk-level tolerable or accepted as the lowest possible level of risk. High risk hazards must be mitigated.

- • Tolerable Risk – LOW/ MEDIUM, green, yellow, orange squares on the risk matrix
- • Un-tolerable Risk – HIGH, red squares on the risk matrix

Mitigating Risk

Mitigation alternatives should address both the probability and severity of the hazard, with the intent on lowering both. Mitigating activities that are accepted and implemented by the department manager are documented and monitored by the Safety Manager or designee.

Risk can be mitigated using several strategies, such as avoidance, transfer, assumption, or control. The department manager may need to employ a combination of these strategies to manage risk down to a tolerable level.

Risk Avoidance- Prevent the probability by selecting a different approach, or by eliminating the procedure, operation, or system. Avoidance strategies involve all stakeholders associated with the proposed change. Ceasing operations is an avoidance alternative when timely mitigation actions are not available for intolerable risk.

Risk Transfer – Shift the ownership of the risk to another. Risk transfer is primarily employed to transfer the risk or assign ownership/responsibility to the part of the operation/system most capable of managing it. Any transfer of risk requires the new owner to accept responsibility, which should be document (through operational procedures). It is not acceptable to simply transfer risk without mitigating it down to a tolerable level.

Risk Assumption – Accept the likelihood and probability of the consequences associated with the hazard or system. When the risk-level is in the tolerable level, you assume that no mitigating action is required.

Risk Control – Examine actions and alternative options that lower the risk-level. Risk Control mitigation actions include:

1. **ELIMINATION-** eliminate the element of the system that poses the risk. (remove the obstacle).
2. **SUBSTITUTION –** can the activity or equipment be substituted for a lower risk alternative?
3. **ENGINEERING CONTROL –** Is there a technical solution to reduce the risk –level?
4. **GUARDING –** Consider barriers, guards, rails or other systems that remove access to the risk or reduce the severity (fall-arrest systems).
5. **PROCEDURAL –** Develop procedures which limit exposure to the hazardous conditions.

Control measures 1, 2, and 3 are preferable because they are less dependent on human behavior. In many cases, control solutions will incorporate a combination of these controls.

Safety Risk Management Process

The SRM process can be applied to a single hazard, an operation, or a system. As described in the beginning of this section, SRM incorporate 5 steps. For simplicity, the descriptions below use the term system.

Describe the system- defining the boundaries and activities in the system helps to focus in on the hazardous activity and will lead to a better assessment of the hazards in the system.

Identify the hazards in the system – Once the system, sub-system, and activities are defined, identify the hazards. Some activities may have one or more hazards associated with them.

Determine the risk – Determine risk using all possibilities, even those with little chance of occurring. Ask yourself what could go wrong.

Assess and Analyze risk – Using the risk matrix analyze the risk-level. Use the worst credible scenario to analyze the probability and the severity in each risk scenario.

Mitigate and Monitor – After the risk associated with each identified hazard is assessed and classified, management must determine mitigating strategies and prioritize the implementation of such strategies. When mitigating actions are in place, monitor for effectiveness.

Hazard Identification

Hazard Identification is the process of identifying conditions and situation that, given certain conditions, have the potential to result in injury or damage to persons, equipment, business, or reputation. The following methods are used at PMGAA to identify and record hazards:

- Internal, proactive hazard identification
- Reporting process and analysis
- Monitoring and trending
- Safety Assurance Monitoring

Hazards identified through proactive and reactive processes are submitted to the System Safety Manager for safety risk analysis and mitigation.

The process of hazard identification should be completed organization-wide during implementation of the Safety Management System. After initial implementation each departmental conducts an annual review of the hazard assessment and initiates a new hazard identification process when conditions change.

Proactive Hazard Identification Process

The most effective form of hazard identification is proactive hazard identification that begins in the daily field of operation. Instead of waiting for incidents to occur, or assessments and reports to come in, PMGAA takes the lead in safety by identifying the main hazards associated with operational activities and controlling them.

All Department Managers will perform hazard identification and assessment for safety significant activities performed by their department. These include:

- Operations and Maintenance
- Design and Construction/ Environmental and Archeological
- Gateway Aviation Services
- Administration

The System Safety Manager also encourages the following partners to perform proactive hazard identification through safety related communications and meetings:

- Mesa Police Department
- Mesa Fire Department
- Airlines
- Maintenance and Repair Organizations
- Terminal Tenants
- Flight Schools

1. Describe the system – this means identifying safety significant events and the components that are involved in such an event. Components in most events include people, procedures, equipment, environment, materials, software and hardware.
2. Identify, and discuss what set of events or condition in each component presents a hazard.
3. Compile the list of hazards for the safety significant event.

Reactive Hazard Identification Process

Additional methods of identifying hazards are employed by the System Safety Manager such as identifying trends in "near hit" events, incident/accident reports, and findings of safety assurance activities.

Safety Investigations

The purpose of the Safety investigation is to identify root causes, system deficiencies and operational hazards, not identifying a "guilty party". They are conducted in a systematic, transparent and constructive manner, gathering factual information and analyzing events. The Safety Manager may initiate an investigation and a result of an incident, accident or a reported hazard in order to:

- Learn about a system vulnerability

- Develop strategies for change
- Prioritize investment of safety and financial resources

Operational Supervisors and Managers must report all injuries and damage which occurs to airport or tenant property and facilities. (Employee injury reports require the completion of an OJI packet, including the Safety Report. All paperwork is routed to Human resources, and the Safety Report is forwarded to the Safety Officer.)

All incidents have the potential to become injury/damage related accidents or to result in a higher severity. The following types of incidents should be investigated to determine contributing factors and direct causes, indirect causes, and root causes.

Types of events:

- Accident- an undesired and unplanned event that results in personal injury or property damage.
- Incident – an undesired and unplanned event that adversely affects the completion of a task.
- Near Miss – incidents where no property was damaged and no injury occurred, but given a slight shift in time or position, damage or injury could have occurred.

Conducting an investigation

Gather information from all available sources, including, but not limited to the following:

Physical Evidence – physical evident is the "tangible evidence" that in some way related to the accident/incident. Example include equipment or materials at the scene, photos, measurements, positions of personnel involved, weather conditions and other environmental conditions. Examine and document all physical evidence.

Eyewitness reports and interviews – Gather information from eyewitness reports and, if possible, conduct interviews with involved parties. Ensure the interview comes from a "fact finding" perspective and not a "fault finding" perspective.

Background Information – All policies, procedures, inspection reports, maintenance records, training records, and other relevant documents should be considered, and appropriate information gathered as part of the investigation.

After gathering information, the investigator(s) analyze the data using one or more analysis techniques to draw conclusions such as root cause, contributing factors, and concerns. Conclusion are supported using evidence and reasoning. Drawing conclusions based on the gathered information may lead to gaps in the analysis. If gaps are discovered, the information is re-examined and additional information gathered to bridge the gaps.

The final step is to draft a written investigation report and recommendations for corrective actions. If relevant, this will include improvements to safety policies and procedures, and operating procedures. The purpose of the written recommendation is to prevent accidents/incidents of a similar nature from occurring in the future. The written recommendations are as specific as possible and address all root causes and contributing factors.

The written report is addressed to the responsible department manager, with a copy distributed to the Safety Action Team. The responsible department manager is responsible for accepting and implementing all safety recommendations or proposing alternate recommendations.

Final Incident Reports, including recommendations, and corrective action plans are monitored for completion by the Safety Manager. The status of Safety Investigation Reports and Recommendations are reported quarterly to Executive Team, Leadership Team, and Safety Action Team.

IV.   SAFETY ASSURANCES

Safety Assurances validate the effectiveness and efficiency of the documented SMS Program as well as other regulatory and operational requirements.

Continuous Improvement

Start the continuous improvement cycle by objectively reviewing and evaluating compliance to safety, operational, and regulatory procedures and requirements; then complete the cycle by conducting root cause analysis to determine where or how the system failed, determining comprehensive actions to prevent recurrence and monitoring these actions for effectiveness.

Airport systems are also periodically audited by Regulatory Agencies to monitor compliance with statutes, directives, and guidance. PMGA will take all actions necessary to accommodate and cooperate with regulatory inspectors.

System Reviews

System reviews can be referred to as audits, reviews, surveillance, surveys, and evaluations. These terms may be used interchangeably in this manual. System reviews are conducted in a transparent and objective manner, using prepared checklists and a schedule of activities. The schedule remains flexible to allow for extended evaluation in areas needing additional attention.

The SMS Program tracks the completion of the following audits:

- Ramp Safety Audit – quarterly
- Terminal/ Passenger Safety Audit - monthly
- Employee/ Occupational Safety Audits - quarterly
- ADA Compliance Audit – annually
- Fire Safety and Evacuation Plan Review - annually
- Pre-FAA Inspection Audit – annually (3-6 months before scheduled inspection)
- Pre-TSA Inspection Audit – annually (3-6 months before scheduled inspection)
- Prohibited Items Checklist (TSA) - monthly
- Special Purpose Security Audit/ Security Directive Review – As needed
- Regulatory Training Requirement Audit – annually
- Special Purpose Observations and Surveys as needed
- The SMS Program will also manage the following Regulatory Reviews
  - Wildlife Hazard Assessment

Review Preparation

When scheduling and preparing for an audit or review, the evaluator will take the following into consideration:

- Previous findings and concerns
- FAA surveillance and inspection findings
- TSA inspection findings
- FAA and TSA Letters of Investigation
- Industry identified trends or problem area

- Trends identified by the PMGA Safety Program
- Trends identified through safety inputs and data collection (ie: safety reports, hazard reports, investigations)
- Areas of emphasis identified by the Executive Team or the Leadership Team
- Requests or concerns raised by the department or by employees
- Time span between reviews
- Follow-up reviews and special reviews
- Regulatory requirement for periodic review

Reporting and Corrective Action

The System Safety Manager or designee conducts reviews to gather information on the current status of the systems involved, in order to assist the department manager return to a state of compliance through immediate corrective action and comprehensive corrective actions. At the conclusion of the system review the evaluator (or evaluation team) will compile the results and complete the documentation procedures.

Result Classification

Findings

- Findings are conditions that must be corrected immediately.
- Findings are evidenced by a pattern of non-conformity (repeat concerns) or pose a higher risk if action is not taken immediately.
    - State what non-conforming issues have been found and why they are considered findings.
    - Provide detailed audit evidence supporting the finding.
    - Reference and quote the requirement from the standard, regulation, or procedure.
    - Each Finding is recorded on a separate *Corrective Action Report Form.*
    - The responsible manager must complete the *Corrective Action Report Form* and return to the evaluator.

Concerns

- Concerns are possible instances of non-conformity, or
- A condition that may lead to a finding if not immediate corrected
    - State what non-conforming issues have been found and why they are concerns.
    - Provide detailed audit evidence supporting the concern.
    - Reference and quote the requirement from the standard, regulation, or procedure.
    - Concerns are reported in the narrative of the Review Report and do not require a response from the responsible department manager.

Areas of Outstanding Performance

- If appropriate, document areas that are maintained in a state of conformity or are maintained in a manner over and above compliance standards.
    - State what factors lead to this conclusion
    - State the results of maintaining outstanding compliance, if possible.

The report is reviewed by the Leadership Team and the Safety Manager. If accepted by the Leadership Team and the Safety Manager, a formal report is sent to the responsible department manager and Division Director.

The department manager is responsible for developing a Corrective Action Plan (CAP) and submitting the plan to the Safety Manager within 14 business days. If additional time is needed, contact the Safety Manager to discuss a revision to the completion date.

The Safety Manager, or designee, will consider the following when evaluating the Corrective Action Plan:

Does the CAP identify and eliminate the root cause of non-conformity?

- Is the CAP comprehensive, eliminating recurrence from the same root cause?
- Is the CAP economically feasible?
- Is the CAP achievable within the operating constraints of the system?
- Is the CAP achievable in the timeframe allotted?

The Safety Manager, or designee, makes a determination on whether the Corrective Action Plan is adequate and complete. If additional work is needed, the Safety Manager, or designee, will work directly with the department manager to determine actions needed to enact an adequate CAP.

CAPs are entered into a tracking database and monitored for completion and effectiveness. The Safety Manager prepares a quarterly report for the Safety Action Group, the Leadership Team and the Executive Team. Quarterly Reports include the age of CAPs, number of CAPs generated, number of CAPs closed.

Follow-up reviews may be scheduled to evaluate the status of corrective action plans.

Safety Performance Indicators

Phoenix-Mesa Gateway Airport uses the following measurements of safety performance to evaluate overall airport safety and risk. The Safety Performance Indicators (SPI) is available no later than the 10th of the month for the previous months reporting cycle. All SPI Reports are made available to the Accountable Executive, the Executive Team, the Leadership Team, and the Safety Action Team on a monthly basis.

Injury Rate

Injury Rate/Employee – measurement of the rate of employee injuries to total work hours. Both reportable and recordable injuries are used to calculate the injury rate.

Injury Rate/ Passenger – measurement of the rate of passenger injury to total passengers. This includes all injuries requiring more than an EMT assessment. (Passenger refusal of assessment or transportation is still counted if there is visible injury such as bleeding or bruising).

Property and Equipment Events

Count of property and equipment events in the previous 12 months.

Environmental Events

Count of spills or releases (contained or uncontained) in the previous 12 months.

Audit Reports

Internal and External Audit reports – as completed

Coordination of Emergency Plans

Emergency Plans and Contingency Plans are coordinated through the Safety Management System Manager. Plan coordination pro

V.   SAFETY PROMOTION

Identification of hazards is a fundamental activity underlying the management of safety. Gateway believes the personnel in the best position to report a hazard are the people who are most familiar with the way a system is supposed to work; therefore, hazard reporting by operational personnel is the cornerstone of effective safety management. The Safety Management System reviews all hazard reports, performs a risk assessment, and ensures the outcome of the risk assessment is part of each months safety data reporting.

Confidential Reporting Systems

The Airport Authority has established confidential reporting systems to allow employees to freely or anonymously communicate safety concerns.

Airport employees and tenants are encouraged to report hazards and safety violations to their Supervisor, however, reports are also accepted at Safety@phxmesagateway.org or in writing submitted to the Safety Officer via US Mail, internal company mail, e-mail, or in person. All reported hazards and violations generate a hazard report file number and are investigated.

Non-Retaliation/Reprisals

No employee will suffer reprisals for or be retaliated against for reporting any safety hazard, policy violation or participating in an investigation.

SMS Training

SMS Familiarization Module, developed by the Safety Officer is used during new Airport employee training. This 2 hours training includes:
- The need for SMS
- Gateway safety policies and objectives
- Safety Organization – roles and responsibilities
- Safety risk management – including human and organizational factors
- Safety assurance
- Safety promotion

The module includes knowledge-proving in the form of a test to determine the effectiveness of the training provided.

Supervisor/ Manager Training

The Supervisor/Manager Training expands on the SMS , risk management philosophy, and SRM process using work exercises and examples. This detailed module addresses the non-punitive reporting system and policy. A work exercise is included to determine and resolve potential issues from the perspective of Gateway managers and supervisors. This course includes knowledge proving and is given as part of Supervisor/ Manager initial training and repeated annually.

Safety Communication

The Safety Office promotes safety objectives through regular production and distribution of the following:

- Safety Alerts – a summary of each incident and suggested preventative actions
- Critical Safety Information – industry related information that supports safe/ low risk operating procedures
- Safety Letter – periodic newsletter imparting general safety information or safety article in existing publications
- Quarterly Report on Safety Performance – dashboard of Safety Performance Indicators
- Summary of Hazard Reports – Summary of completed hazard analysis originating from safety inputs