

**JACKSONVILLE AVIATION AUTHORITY**

**Safety Management System (SMS)**

**Manual**

Version 3.0  
01 August 2009



presented to

Jacksonville Aviation Authority (JAA)  
Jacksonville International Airport

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## STATEMENTS

### JAX Safety Statements

The Jacksonville Aviation Authority (JAA), Jacksonville International Airport (JAX) tenants and contractors shall systematically integrate safety into management and work practices at all levels so that airport operations are accomplished while protecting the public, the worker, and the environment. This is accomplished through effective integration of safety management into all facets of work planning and execution. The application of an effective Safety Management System (SMS) is integral to all of our airport activities with the objective of achieving the highest levels of safety standards and performance. Safety is the responsibility of everyone and the participation of JAX employees is paramount to the success of the SMS. As such our commitment is to:

**Safety Culture.** Continuously promote a safety culture across all types of airport operations that recognizes the importance of safety in our daily activities and the value of an effective safety management program.

**Safety Accountability.** Ensure that all staff members are aware of their accountabilities and responsibilities in the execution of and participation in the safety management program. Provide all staff with adequate and appropriate safety information and training, to ensure that they are competent in the performance of their duties.

**Resource Allocation.** Provide sufficient skilled and trained personnel and other resources as necessary to ensure the effectiveness of our safety management system. Only assign tasks to our staff that are commensurate with their skills, abilities and available resources.

**Risk Management.** Manage the risk(s) associated with airport related accidents or incidents to a point which is/are *as low as reasonably practicable/ achievable*. Measure our safety performance against objectives and/or targets on a regular basis, and take appropriate corrective actions to improve safety.

**Safety Assurance.** Comply with and wherever possible exceed local, State, and Federal legislative and regulatory requirements and standards. Continue to improve our safety performance by conducting safety and management reviews and ensuring that relevant actions are taken.

**Safety Standards.** Perform our safety procedures and processes in accordance with recognized, established standards. Strive for the highest levels of safety standards and performance in all of our activities.

Steven Gossman  
Executive Director/CEO

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## JAX Confidential Reporting Statement

The Jacksonville Aviation Authority (JAA) is committed to the safest airport operations standards possible. To achieve this, it is imperative that we encourage uninhibited reporting of all incidents, occurrences, and hazardous conditions which may compromise the safe conduct of our operations. To this end, every employee is responsible for communicating any information that may affect the integrity of airport operations. Such communication may be confidentially reported through the JAX SMS Program:

- The JAA will facilitate the uninhibited reporting of incidents, occurrences and conditions by removing any fear of retribution to all personnel at JAX through our confidential reporting system.
- Our method of collecting, recording and disseminating information obtained from safety reports has been developed to protect, to the extent permissible by law, the identity of any employee who provides safety information;
- This policy shall not apply to information received by the organization from a source other than the employee involved in the event, or which involves an illegal act, or a deliberate or wilful disregard of promulgated regulations or procedures;
- I urge all staff to use our confidential reporting system to help JAX become a leader in providing our customers and employees with the highest level of safety.

.....  
 Steven Grossman  
 Executive Director/CEO

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## PREFACE

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This manual is the Jacksonville International Airport Safety Management System Manual. It is compatible with the guidelines established in the FAA Advisory Circular AC 150/5200-37 (02/28/2007) Introduction to Safety Management Systems (SMS) for Airport Operators, and describes those processes applicable to SMS, that are an integral part of the JAX organization business system.

In addition to the processes described, some guidance material has been added to the annexes of this Manual, in support of actions required for the SMS implementation at JAX.

## Purpose

The purpose of the JAX SMS Manual is to:

- Support the development and implementation of Safety Management System at JAX;
- Document the processes by which the Jacksonville Aviation Authority will manage its Safety Management System;
- Provide a ready reference to the organization's SMS program;
- Serve as a safety awareness tool for JAX staff.

## Control

The issuance, control and updates of this document fall under the responsibility of the SMS Administrator. No changes or deviations shall be performed without prior authorization from this office. Questions with respect to the use of this manual or information contained herein shall be directed to the SMS Administrator.

## Revisions and Amendments

All Revisions and amendments to this manual are prepared by the SMS Administrator. Revised pages are distributed to all manual holders. It is required that all manual holders perform the required changes in a timely manner. A list of effective pages is provided with each revision to enable verification of currency and completeness.

## Manual Responsibility

Each person assigned a copy of the SMS Manual is responsible for its up keep and is required to read and be familiar with the material contained in the manual as it relates to his/her responsibilities.

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The SMS Manual shall be considered property of the JAA, and must be returned when employment is terminated.

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## DEFINITIONS

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

**Accountable Executive** – A single, identifiable person within the organization who will assume full accountability of the SMS. The Accountable Executive must have adequate control over financial and human resources to respond to organizational safety needs.

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

**Confidential** – Spoken, written, or acted on in strict privacy.

**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 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.

**Injury** – An occurrence or mishap that results in a need for first aid or professional medical attention.

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

**Line Management** – Management structure that operates the production/operational system.

**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.

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

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**Risk Assessment** – Assessment of the system or component to compare the achieved risk level with the tolerable risk level.

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

**Safety Assessment** – A systematic and comprehensive evaluation of a system to see if the safety requirements are met.

**Self-Assessment Plan** – A formal, management-approved document that describes an airport operator’s self-assessment activities and how often they occur, provides a schedule for completing the assessments, and identifies the reports to be generated.

**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 and practices for the management of safety (including safety risk management, safety statements, safety assurance, and safety promotion).

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

**Safety Statement** – Defines the fundamental approach to managing safety that is to be adopted within an organization. Safety statement further defines the organization’s commitment to safety and overall safety vision.

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

**Safety Risk** – The composite of predicted severity and likelihood of the potential effect of a hazard.. As an example, the possibility of an overshoot by an aircraft landing on an icy runway (icy runway is the hazard) would be considered a safety risk.

**Safety risk control** – A characteristic of a system that reduces safety risk (i.e., either or both the risk of an event and its severity). Controls may include process design, equipment modification, work procedures, training or protective devices. Safety risk

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controls must be written in requirements language, measurable, and monitored to ensure 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; is not a separate/distinct process.

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

**SMS Output** – The result or product of an SMS process. In this context, it is the result of a process, which is intended to meet a requirement described in this Standard (e.g. results of safety risk analyses, safety audits, and safety investigations).

**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.

**Top Management** – The person or group of people that directs and controls an organization. Sometimes it is also referred to as senior management and may be the Chief Executive Officer, Board of Directors or Administrator.

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## ABBREVIATIONS

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ACI	Airports Council International
ACM	Airport Certification Manual
AE	Accountable Executive
AEP	Airport Emergency Plan
AOCC	Airport Operations Control Center
ASRS	Aviation Safety Reporting System
ATCT	Air Traffic Control Tower
CEO	Chief Executive Officer
CFR	Code of Federal Regulations
COO	Chief Operating Officer
DOT	Department of Transportation
EB	Engineering Brief
FAA	Federal Aviation Administration
FANG	Florida Air National Guard
FBO	Fixed Base Operator
FOD	Foreign Object Debris
GSE	Ground Support Equipment
GPU	Ground Power Unit
HBS	Hold Baggage Screening
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMS	Integrated Management System
JAA	Jacksonville Aviation Authority
JAAFD	Jacksonville Aviation Authority Fire Department
JAAPD	Jacksonville Aviation Authority Police Department
JAX	Jacksonville International Airport (KJAX)
JSC	JAX Safety Committee
NASA	National Aeronautics and Space Administration
NAVAID	Navigational Aid
NOTAM	Notice to Airmen
OSH	Occupational Safety and Health
SAC	SMS Advisory Committee
SAMS	Signs and Markings Supplement
SMM	Safety Management Manual
SMS	Safety Management System
SOP	Standard Operating Procedure
SRM	Safety Risk Management
TSA	Transportation Security Administration
USPS	United States Postal Service
VDGS	Visual Docking Guidance System

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## INTRODUCTION

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### What is SMS?

A Safety Management System (SMS) is a systematic approach to managing safety, including the necessary organizational structures, accountabilities, statements, processes and procedures.

#### What does this mean?

SMS is essentially a tool that facilitates the management of safety risks associated with the operation of a particular organization. In part, it achieves that by including safety as an every day element of the planning and performance of any and all operational and business activities.

It materializes itself through a series of complementary processes and procedures aimed at identifying, measuring, controlling and eliminating or mitigating safety risks. These processes and procedures are closely coordinated and supported by a well-defined organizational structure where the safety roles and responsibilities of everyone, including top management, are clearly defined and understood by all.

### Scope

The nuances and complexities of implementing a comprehensive system such as SMS, have been deemed by JAA as an effort that demands full organizational focus, including the development of specific programs, and the allocation of dedicated resources.

In this context, JAX will initially target its efforts to support the implementation of SMS within the following boundaries:

- Following international guidance and best industry practices, JAX will initially focus SMS development and application towards airside operations. However, reports received pertaining to landside areas will be approached and acted on equally.
- SMS is aimed at improving aviation safety by focusing on activities related to aircraft operations. In this sense it differs from other programs currently in place at JAX, such as Occupational Safety and Health (OSH), which focuses on personnel safety and wellbeing, regardless of the area of activities and the circumstances to which they are exposed. In spite of the many similarities of these two programs; JAX will not pursue amalgamation of the SMS and OSH programs at this time. Both programs will be considered independent and stand

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alone;

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- JAX, as many other airport operators, has a Risk Management program in place. Many of its elements are transferable to SMS, and the skills and lessons learned from its execution and management, will be valuable assets to support SMS at JAX. The existing risk management program however has a different purpose, and full integration with SMS is not contemplated at this time.

As SMS evolves and matures within JAX, consideration will be given to its possible integration with other related programs, perhaps under the umbrella of an Integrated Management System (IMS), and expanded to include "all airport operations".

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## **1. SAFETY STATEMENT AND OBJECTIVES**

### **1.1 Management Commitment and Responsibilities**

JAX management is committed to implement and support SMS at JAX. This commitment materializes through the adoption of specific activities aimed at:

- Setting the safety standards and statements for the organization;
- Encouraging participation in the SMS process;
- Facilitating the flow of information and supporting safety objectives by allocating the required resources.

#### **1.1.1 Statement**

JAX safety statements state the unequivocal commitment of JAX top management to SMS. There are two fundamental statements:

- SMS Safety Statement: it is the vehicle that conveys to the staff and other airport personnel the path that JAX is taking to ensure SMS success; and
- Confidential Reporting Statement: it facilitates the acknowledgment of hazardous situations, by removing the fear of retribution to all personnel working at JAX.

The Director of Aviation Management at JAX, in his/her role as Accountable Executive (AE), is responsible to ensure that both these statements are available and current.

The Director of Aviation Management will take the initiative to establish a Safety Statement and a Confidential Reporting Statement in conjunction with the Department Managers. The Director of Aviation Management will endorse them and make them available to all JAX staff and other airport personnel. These statement will be communicated through the following vehicles:

- Display in prominent and highly visible areas within JAX facilities, including tenant's leased facilities if applicable;
- Post in the JAA intranet and safety newsletters;
- Discussion in SMS and safety related training sessions;
- Discussion of the statements in safety related meetings;
- Inclusion of a copy in this Manual.

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These statements will be reviewed in conjunction with JAX department managers at least once a year to ensure that they are current and reflect the values adopted by the organization. Should this statement review exercise reveal a need for updates or modifications, the AE will once again take the initiative to bring this need to the Chief Executive Officer (CEO), to ensure that proper modifications are implemented.

### **1.1.2 Objectives**

Safety objectives are a series of measurable targets that provide direction and guidance for safety management activities.

Within JAX, several individuals are responsible for setting safety targets:

The AE is responsible for setting up a series of measurable safety objectives for the organization as a whole, in accordance with the Safety Statements.

Department managers also develop their own departmental safety targets, in support of those established by the AE.

During the early stages of SMS at JAX, the SMS Administrator will set up his/her own safety targets. The purpose of this exercise is to take an active role in promoting SMS and supporting the department managers until SMS becomes an integral part of JAX businesses.

The process for setting these objectives is similar regardless of the level at which these objectives are set up and follows these steps:

The person responsible for setting up the objectives will meet with their immediate level of support staff (i.e. the AE with the department managers; department managers with supervisors or foremen; etc.)

- Identify the guiding document (for the AE this is the Safety Statements, for the Department Managers is the List of Objectives set up at the organizational level by the AE);
- Define a series of measurable objectives that will support those in the guiding document;
- Identify the metrics that will be used to measure the progress of the objective;
- Set up a data collection and storage mechanism for these metrics.

In setting these goals, the following elements should be considered:

- Legal obligations; and

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- Early assessments of safety hazards and risks.

Objectives from all levels are to be posted in the JAA intranet, and on employee boards throughout JAX. On a yearly basis, the objectives will be assessed, reviewed and updated as necessary.

The objectives set up by JAX for this year are included in Annex A.

## **1.2 Safety Accountabilities and Responsibilities**

### **1.2.1 Accountable Executive (AE)**

The Director of Aviation Management is the designated AE for Jacksonville International Airport.

In the fulfillment of his/her duties as they pertain to SMS, he/she is responsible for:

- Developing and promoting the SMS Safety Statements;
- Providing adequate resources to ensure implementation and management of the SMS;
- Providing leadership in safety related issues by actively participating in safety significant events;
- Promoting and encouraging a positive safety culture within JAX;
- Ensuring ongoing effectiveness of the SMS by facilitating and participating in periodic reviews and evaluations.

### **1.2.2 SMS Administrator**

The Risk Management Administrator is the designated SMS Administrator for Jacksonville International Airport (JAX).

The responsibilities of the SMS Administrator include:

- Providing advice to the AE and Department Managers in safety related issues;
- Providing support as primary resource to Department Managers in all SMS specific processes;
- Establishing and maintaining a reporting system to collect safety related data;
- Reviewing and directing safety reports to the appropriate department manager;
- Providing feedback to the appropriate parties on events reported;

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- Conducting hazard identification, risk management and trend analysis;
- Monitoring industry safety concerns and legal requirements that could affect the organization;
- Monitoring industry safety best practices and programs;
- Supporting the development of training curriculum and syllabus for employees, airport tenants, operators and contractors;
- Developing airport-wide safety initiatives, events and programs to promote SMS
- Establishing industry and airport liaison on safety matters;
- Developing Safety Goals and metrics within JAX;
- Reporting unresolved hazards directly to the AE;
- Conducting periodic reviews to determine the effectiveness of the program;
- Developing a safety awareness and education and communication (promotion) program;
- Ensuring a safety audit and surveillance system;
- Chairing airport wide safety meetings;
- Collecting and monitoring safety data;
- Developing and maintaining the SMS Manual;
- Distributing minutes and safety promotion material to airport employees and tenants;
- Leading or coordinating safety related investigations when appropriate;
- Integrating SMS principles with existing Part 139 regulatory requirements.

### **1.2.3 Department Managers**

Department Managers have the following responsibilities:

- Developing safety goals and metrics within his/her department;
- Ensuring that safety is a priority in all matters pertaining to JAX operations;
- Encouraging the reporting of hazards within the department;
- Implementation and maintenance of the SMS components specific to airside operations;
- Determining and implementing effective corrective and preventative actions based on SMS hazard analysis;
- Performing reviews as necessary to ensure efficiency of the actions taken;

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- Communicating with the SMS Administrator regarding departmental changes that may trigger a review of SMS documentation or procedures;
- Promoting employee awareness in all matters pertaining to safety;
- SMS Documentation and storage in accordance with Document Management Protocol (Annex B).

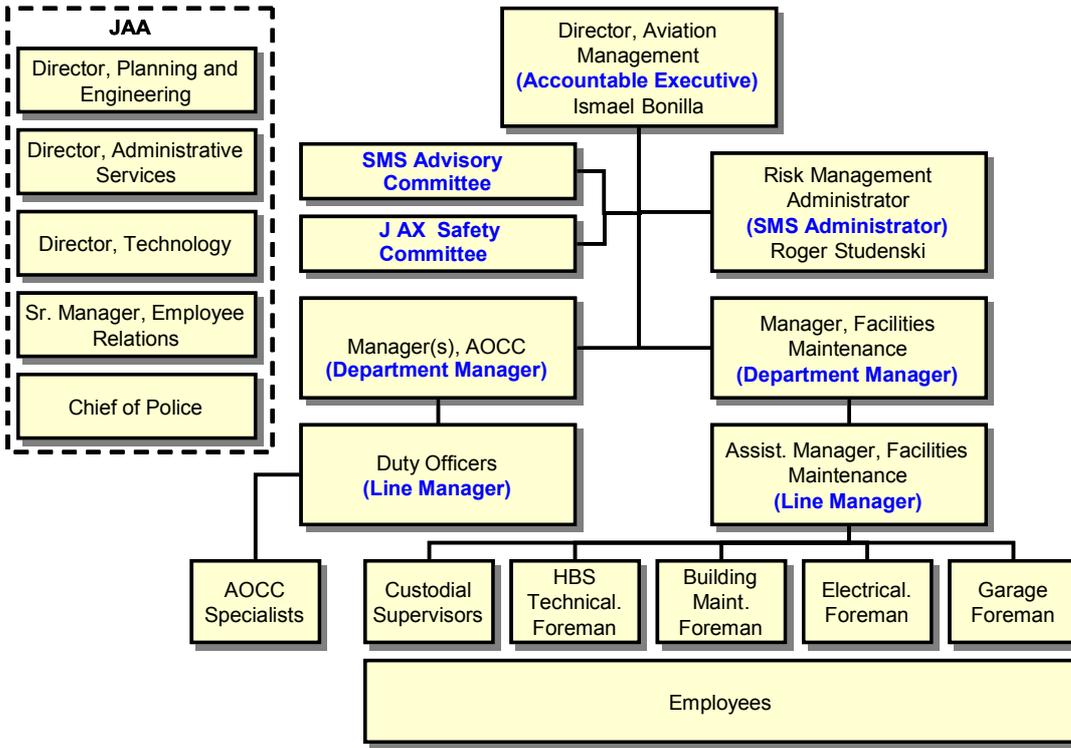
## 1.2.4 Employees

Employees are responsible for:

- Performing their duties in a safe manner;
- Reading and acknowledging their understanding of safety information provided;
- Reporting hazards in a timely manner in the accepted formats;
- Responding to requests for information including written reports and interviews in a timely manner;
- Completing the company SMS training program;

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**Figure 1- JAX Organizational Chart**

## 1.3 Documentation

### 1.3.1 Legal and Other Requirements

All JAX operations take place in a regulated environment. Ensuring that standards and regulations are kept up to date not only ensures that compliance can be met, but also allows benefits from best practices normally reflected in the regulations.

Department Managers are responsible to ensure that all regulatory requirements applicable to their department are identified, updated and that the information contained in them is distributed to the appropriate parties.

To ensure that this requirement is met the following process should be followed:

- Identify all those regulations and requirements applicable to the department;

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- Create a list or compendium of this information;
- Document, organize and post this list on the JAA intranet;
- Establish a procedure to check for updates on a periodic basis. This could include:
  - Establishing liaison with national, regional or local authorities or other responsible party;
  - Identifying a website or other venue where this information is posted and updated;
  - Subscribing to automatic update services from the appropriate agencies.
- Document this procedure as per the document management process described in Annex B;
- Once changes to the Regulation are identified:
  - Assess the change;
  - Inform the parties affected that a change has occurred;
  - Review and revise documents as appropriate to reflect changes;
  - Provide training to personnel, if applicable.

The frequency of the review period will be established as necessary to ensure compliance at all times; but in no case will it be longer than six months.

A list of all applicable regulations to functional JAX departments is included in Annex C.

### **1.3.2 SMS Documentation**

SMS documentation is all the information kept in either written or electronic format that supports SMS. The SMS manual is the primary document to identify the key processes that are part of the safety management system at JAX. It also ensures that those processes are standardized across departments. Besides the Manuals, other documentation is also produced to support the system. These include reports, decisions taken, operating procedures, agendas and minutes of meetings, etc. This requirement aims to provide a process to ensure efficient and proper management of that documentation.

The Department Managers and the SMS Administrator are in charge of managing all SMS documentation that falls within their responsibility. These include all documentation produced as a result of SMS and safety significant activities. Among others they include:

**i. Department Managers:**

- Hazard Identification and Risk Management sessions and outcomes;
- Employee training programs and jobs needs analysis;

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- Minutes of SMS related meetings.

**ii. SMS Administrator**

- SMS Manual;
- Safety Data collection and trend analysis results;
- Safety Reports;
- SMS awareness programs.

The issuance, control and updates of all documents will be processed following the documentation management system set up by the JAA at the corporate level, and adopted by JAX.

A copy of the JAA document management process is described in Annex B.

### **1.3.3 Documentation and Data Control**

Transfer of information and the development and preservation of corporate memory are key contributors to continuous improvement within an organization, and by extension, to an effective SMS. Documentation is the process by which this goal is achieved. By registering events and actions in either hard copy or electronic form, an organization ensures that this information is generated, distributed, stored, retrieved and disposed of when obsolete. The goal of this requirement is to ensure that an efficient system to manage this process is in place and appropriately managed and used at JAX.

The AE, Department Managers and the SMS Administrator are responsible to ensure that all documentation that falls within their authority and responsibility is managed according to the set process.

The process for SMS documentation management and control to be used at JAX must be designed and implemented. A description of requirements for the system is included in Annex B.

### **1.3.4 Records and Records Management**

Records, register events and actions that have taken place, unlike documents that can be revised and updated, do not change over time. These are the main vehicles used at JAX to discharge its legal and regulatory responsibilities.

Department Managers and the SMS Administrator are responsible for ensuring that all records produced by their department are properly managed, organized and stored.

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The process to be used at JAX for records management is that described in the documentation management and control process developed and implemented by the JAA. A description of the system is included in Annex B.

A list of identified documents classified as records is also included in Annex D.

### 1.3.5 Operating Procedures

Airside operations take place in a complex environment, normally aggravated by the interaction of multiple operators with their own operations, and sometimes conflicting procedures.

These factors could potentially create hazardous situations. The JAX approach to proactively manage these hazards is to develop common operating procedures that will set minimum standards for activities conducted by any person working on the airside, including those employed by the JAA, airport airline operators, other tenants and regulatory, enforcement or other agencies affected by airside operations.

The JAX AOCC Manager(s) are responsible for the identification, development, implementation and enforcement of the Jacksonville International Airport Rules and Regulations.

JAX, through the high standards required to fill the position of AOCC Manager, ensures that the individual in this capacity has, amongst other skills, extensive knowledge and experience in airside operations. However the complexity of the operation, the coming-and-going of different airport tenants and the constant internal changes of operational procedures and equipment, makes it unfeasible that a single individual can gather the level of understanding and expertise to unilaterally generate standard operating procedures that are effective for every circumstance and safely accommodate all parties operating in such an environment.

To ensure the success of this process, and ultimately to improve the overall safety at JAX, the AOCC Manager(s) will adhere to the following process:

Initially the JAX AOCC Manager(s) will address those operational procedures necessary to control the hazards identified as per 2.1.1. The operating procedures will be developed in coordination with the JAX Safety Committee described below. Once the committee is formalized, members can raise their own concerns. If these lead to a need for an operational procedure, they will be addressed by the JAX AOCC Manager(s), or delegated to the appropriate party.

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The sequence of procedures to be brought up to the Committee will correspond to the Risk Ranking obtained as per 2.3 of the hazards originating these procedures.(i.e. those with the highest risk value will be addressed first)

The JAX AOCC Manager(s) ensure that a first draft of a generic operating procedure applicable to JAX is produced by the department.

The JAX AOCC Manager(s) will issue a draft of the procedure developed to the members of the JAX Safety committee at least 5 working days prior to the next scheduled meeting.

The procedure will be discussed during the following meeting if:

- a. The JAX AOCC Manager(s) deem that enough members are in agreement with the outcome, he/she will modify the draft to reflect the changes agreed and close the procedure for discussion;
- b. There is still need for discussion and the delay expected to conclude the procedure does not create a hazard with an unacceptable level of risk associated to it, the discussions will continue on the following meeting;
- c. Despite the efforts to obtain agreement, a positive outcome is not foreseeable; the process will be considered closed for discussion with no-agreement.

Once a procedure has been closed for discussion, either with agreement or disagreement, the JAX AOCC Manager(s) will review it with the Director of Aviation Management who will make the decision to process it through the appropriate JAA channels for Board approval, if necessary.

After Board approval the procedure will be issued as an addendum or amendment to the Airport Rules and Regulations and communicated to all SMS Manual holders.

Prior to implementation, the JAX AOCC Manager(s) will ensure that appropriate time is allowed for all parties to develop and provide appropriate training when applicable.

## 1.4 Safety Committees

Safety issues often require inputs from a variety of different fields and safety committees can provide a forum for discussing safety-related issues from different perspectives, especially for safety issues requiring a broader viewpoint. JAX SMS will be supported by two safety committees to ensure the active involvement of senior management, as well as feedback and coordination with other organizations working at JAX.

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Initially, the SMS Advisory Committee will serve as an advisory group for JAX AE and the SMS Administrator on the SMS implementation. The second is the JAX Safety Committee that will address safety issues and coordination of activities in the ramp area.

### **1.4.1 SMS Advisory Committee**

An SMS Advisory Committee (SAC) will be established at the senior management level and will include the SMS Administrator as well as other JAX senior managers. The objective of the committee is to provide a forum to discuss issues related to the safety performance of the airport and the health of the SMS. The SAC makes recommendations concerning safety statement decisions, and reviews safety performance results. Following the initial implementation phase of the SMS, the SMS Implementation Team will be replaced by the SAC. The terms of reference for the SAC are presented in Annex N.

### **1.4.2 JAX Safety Committee**

A specially created JAX Safety Committee (JSC) will be convened to reduce accidents and incidents, and avoid serious injuries in the ramp area of JAX. This committee will be constituted by JAX departments, airport airline operators, other tenants and regulatory, enforcement or other agencies affected by airside operations in the ramp area. The terms of reference for the JSC are presented in Annex O.

The JSC will provide support and advice to the AOCC Manager(s) on the development of standard operating procedures, promoting safety awareness for personnel involved in activities at the ramp, and coordination of airside work in the apron area. A plan to integrate apron safety management into JAX SMS is described in Annex P.

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## **2. SAFETY RISK MANAGEMENT**

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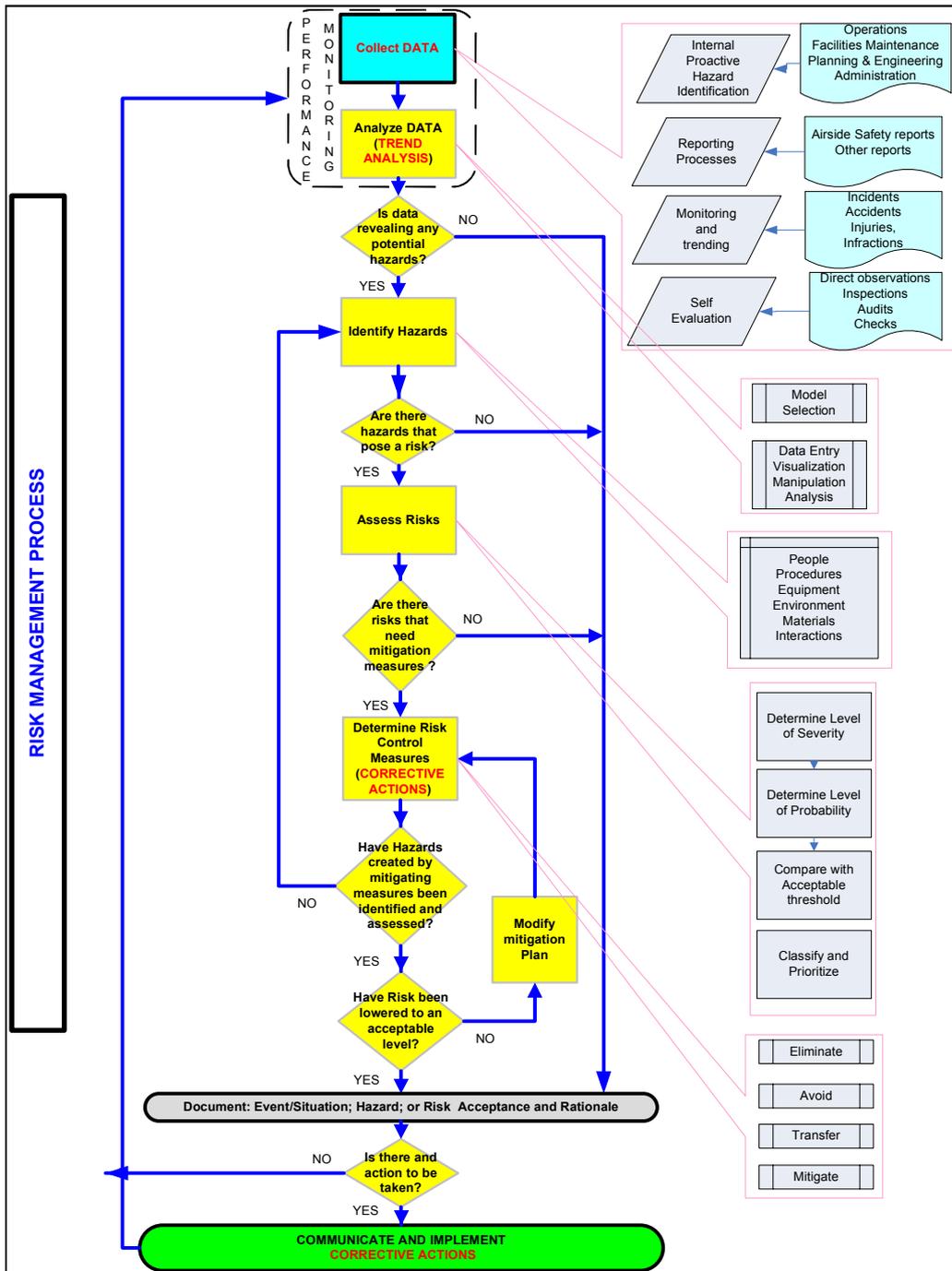
The manner in which SMS improves safety is by proactively managing risk. Risk management is a proactive activity that looks at the risks associated with identified hazards and assists in selecting and prioritizing actions to maintain an appropriate level of safety when faced with these hazards. It is a process that includes hazard identification and an evaluation of the potential for injury or loss due to the hazard and the management of that probability and its consequences. This concept includes both the likelihood of a loss and the severity. Control measures are then used to reduce risk to an acceptable level.

This is achieved through the SRM (Safety Risk Management) process. It comprises the following steps:

- Step 1 – Describing the system – Identifying the safety significant activity;
- Step 2 - Identifying the hazards;
- Step 3 - Determining the risk;
- Step 4 - Assessing and analyzing the risk;
- Step 5 - Treating the risk (i.e., mitigate, monitor and track).

The overall process that provides JAX staff with a structured, disciplined way to successfully assess risk is depicted in the following flow chart:

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**Figure 2 - Risk Management process flow**

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## 2.1 Hazard Identification

The hazard identification process allows for the identification of events or situations that, given certain conditions, could potentially cause injury or damage. There are many different ways to go about doing this. At JAX the following methods are used:

- Internal proactive hazard identification;
- Reporting processes;
- Monitoring and analysis of trends;
- Self-evaluation processes.

### 2.1.1 Internal Proactive Hazard Identification

One of the fundamental improvements that SMS brings to bear is the distinctive approach to managing safety in a proactive manner. What this means is that JAX does not wait for reports to come in or incidents to take place before addressing safety issues, but that it takes a lead in identifying the main hazards associated with its operational activities and controlling them.

At JAX every functional Department Manager that is responsible for activities having a clear direct impact on airside operations will perform proactive hazard identification and assessment for all safety significant activities performed by their departments. They include:

- Operations (JAA, airlines, ground handling, cargo, FBO's, JFRD Station 16);
- Facilities Maintenance;
- Planning & Engineering;
- JAA Police;
- Administrative Services.

The AOCC Manager(s) at JAX are also responsible to ensure that proactive hazard identification is performed by all those having safety significant activities taking place in Airside Operations at JAX, regardless of who is responsible for its execution.

#### i. Process

- The first step in this proactive approach is to describe the system or more specifically, to identify the safety significant activity. For this, the JAX functional department managers will conduct brainstorming sessions with their support

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- staff and subject matters experts:
  - The tools used at JAX to perform this exercise are provided in Annex G, and Annex H;
  - The components analyzed through these sessions will cover at least the following areas: equipment, environment, people, materials and procedures.
- After all safety significant activities are listed, the associated hazards for each (depending on the activity, each of them may have multiple hazards) will be discussed, identified and listed using the same template;
- At the end of this session, the outcome is a list of hazards associated with each significant activity, for each department.

The documentation produced through this exercise will be stored and managed through the JAX Document Control and Management System.

As guidance, a list of safety significant activities performed by JAX personnel is included in Annex I.

### **Periodicity**

After the initial organization-wide assessment; a periodic review of the hazard assessments will be carried out every year or when major operational changes take place (see 3.2).

Hazards identified through this process will be submitted to the risk assessment and control process as described later in 2.2

## **2.1.2 Reporting Processes**

Another method used by JAX to become aware of existing hazards, is through the information contained in reports. The main vehicle used at JAX for SMS hazard reporting is the **SMS Confidential Reporting System**.

Within the context of SMS, this program is in place at JAX to make the organization aware of potentially hazardous airside situations before they translate into undesirable incidents or accidents. This includes capturing all those events not covered by the existing mandatory reporting systems or other programs currently in place.

The SMS Administrator is responsible for the SMS Confidential Reporting System. In his/her role of managing this program these responsibilities include:

- Promotion of the program;

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- Ensuring that SMS Confidential Reporting forms (both electronic and hard copies) are available;
- Collection and analysis of the reports produced;
- Following up with the appropriate party for the actions necessary to assess and control the risk associated with the hazard;
- Providing feedback about the reports produced;
- Managing the data collected under the Documentation Management and Control Process.

All functional department managers at JAX are responsible for:

- Promoting hazard reporting
- Addressing those hazards identified by the SMS Administrator as falling under their responsibility
- Upholding the confidential reporting statement issued by the AE

All JAX employees are responsible for:

- Reporting all those hazards identified, whether during the performance of their duties or as a result of becoming aware under other circumstances.

All other personnel performing duties at JAX are encouraged to:

- Report all those hazards identified, whether during the performance of their duties or as a result of becoming aware of them under other circumstances.

**Process**

- There are three main ways to produce an SMS Confidential Report within JAX:
  - 1) A hard copy form as described in Annex F is available online, through all organizations operating at JAX, and at key common areas throughout the facilities. This form can be completed and submitted by fax, email, US mail, or delivered personally to the JAX SMS Administrator office;
  - 2) The safety information may be submitted electronically via the web by visiting [www.jaa.aero/sms](http://www.jaa.aero/sms) and completing an online report;
  - 3) In the event that members of the general public or employees with no access to the secured area or under the urgency of the situation merit the use of the 2020/2040 access reporting lines, AOCC staff will receive the information, fill out

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the SMS Confidential Reporting Form and process it as described through the SMS Administrator office.

- The SMS Administrator will ensure that the reports are collected from all these sources on a regular basis, but in no event later than at 48 hour intervals;
- All hazard, incident and accident reports submitted to the SMS Administrator office will undergo a preliminary review to determine their validity;
- The SMS Administrator office will determine who the responsible party is to address the hazard identified:
  - If the event falls within the jurisdiction of JAX, the SMS Administrator will forward it to the appropriate department manager for follow-up;
  - If the event falls within the operational control of a different organization operating within JAX; the SMS Administrator will bring it to the attention of the affected party for follow-up;
  - If the event falls within a multiparty jurisdiction, the event will be brought up as an agenda item in the JAX Safety Committee for follow-up.
- The responsible parties will communicate to the SMS Administrator the follow-up actions developed to address the hazard. If the responsible party is not a JAX employee, the SMS Administrator will take the initiative to obtain information about the follow-up actions planned.
- Once the information about the follow-up plan is known by the SMS Administrator, he/she will do the following:
  - If the personal information of the individual producing the report is available, the individual authoring the report will be notified in a confidential manner.
  - If the personal information of the individual producing the report is not available, the follow-up action proposed will be disseminated by one or several of the following mediums:
    - a. JAX Intranet
    - b. A Safety bulletin or newsletter
    - c. A posting on the SMS online bulletin board
    - d. A discussion on ensuing minutes publication of a safety meeting
    - e. Any other suitable safety event.
- The data contained in the report will be stored and managed as per the Documentation Management and Control process, and it will be included in the

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database used for trend analysis.

Formalized procedures for reporting are already in place within JAX, such as those included in the *Employee Safety Manual*.

The processes described here will, at this stage, only address those events that are reported through the SMS Confidential Reporting System and those that are currently not covered under any existing program. As SMS develops and integrates further within JAX business activities, all events, incidents and accidents reporting and investigation processes will be gradually integrated to be dealt with in a similar manner.

### **Other reports**

Hazard information can be originated as the result of a specific SMS Confidential Report, according to the process previously described, or following the sharing or analysis of data generated through reports aimed at monitoring similar or other activities. Much beneficial information can be drawn from these reports in order to improve overall safety.

These mandatory or proprietary reports will by no means be modified, adapted or submitted to compulsory sharing mechanisms within JAX to satisfy SMS.

The SMS Administrator will endeavour to develop agreements and research programs to obtain and share relevant information that will enhance and expedite the process of lessons learned in this matter.

All functional Department Managers are responsible to review, assess and share information on hazards obtained through other reports processed by their department, that are relevant to SMS, as per the processes described in this manual.

These reports include:

- Occupational Health and Safety reports;
- 2020/2040 notifications;
- Incident/Accident reports;
- Risk Management/ Liability reports;
- Law enforcement reports;
- Reports generated through other agencies and organizations (Airlines, Air traffic Control, FBOs, ,FANG, Fuelling companies, etc);
- Pilot Deviation Reports;
- Pilot reports;

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- Industry reports (such as those available from NASA/FAA ASRS, ICAO, IATA, ACI, Flight Safety Foundation, and publicly available reports from civil aviation organizations around the world).

Hazards identified through this process will be submitted to the risk assessment and control process as described later in 2.2.

### **2.1.3 Monitoring and Analysis of Trends**

Hazards will also be identified at JAX through the monitoring and analysis of data gathered. This allows for the discovery of trends that could lead to hazardous situations, and permit JAX management to take actions before they compromise safety.

The SMS Administrator will perform monitoring and trending of data and all information gathered.

Since this process will also be valuable in ensuring that actions taken and the SMS program as a whole is producing the desired effect, more information has been included in the next section: 3 - SAFETY ASSURANCE.

Hazards identified through this process will be submitted to the risk assessment and control process as described later in 2.2.

### **2.1.4 Self-Evaluation Processes**

The periodic performance of inspections, reviews and audits carried out by JAX personnel, will also generate data that could identify hazardous situations, events, activities or procedures.

Specific information about responsibilities and process details are included in the following section: 3 - SAFETY ASSURANCE.

Hazards identified through this process will be submitted to the risk assessment and control process as described later in 2.2.

## **2.2 Determination of Risk**

Once hazards have been identified through the many channels previously discussed, the following step is to determine and define the risks associated with each hazard (*What can go wrong with that situation?*).

Functional Department Managers at JAX will ensure that as a follow-up to the Hazard

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identification process, all risks associated with a particular hazard are identified.

The SMS Administrator or a designee will assume a primary role in this exercise, should this need be requested by the Department Manager.

The process to achieve this task begins with brainstorming sessions with operational personnel and other subject matter experts, using the supporting tool attached in Annex G.

## 2.3 Assess and Analyze the Risk

The risks identified in the previous step will be analyzed and assessed by estimating the probability and severity of the risk, assigning values, and classifying them in different categories.

Functional Department Managers at JAX will ensure that as a follow-up to the processes of hazard identification and determination of risks, every risk identified is assessed and ranked.

The SMS Administrator will provide a supporting role in this exercise, should this need be requested by the Department Manager.

The risk assessment process used at JAX for this purpose is:

- i. Each functional manager will convene a meeting with its immediate support staff and other subject matter experts as he/she deems necessary.
- ii. All risks previously identified will be assessed independently for severity (of consequences), and likelihood (of occurrence). First, hazard severity is assessed, then probability, then these factors are considered together to determine the final risk.
  - o The support tool used by JAX is the risk matrix and it is presented in Annex J. Hazards are ranked according to the severity and the likelihood of their risk, which is illustrated by where they fall on the risk matrix
- iii. Following this matrix and the template included in the same section, each risk will be assigned a value of:
  - o High Risk
  - o Medium Risk
  - o Low Risk

Hazards with high risk will receive higher priority for treatment and mitigation.

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## 2.4 Treat the Risk

Risk Control addresses any risks identified during the evaluation process that require an action to be taken to reduce them to an acceptable level. It is here that a Corrective Action Plan (CAP) is developed.

Department Managers are responsible for the development and implementation of a Corrective Action Plan, to address all hazards identified within their respective areas of jurisdiction.

The following process will be used at JAX for this purpose:

- i. Identify the risks that need a Corrective Action Plan.
  - High risk – Unacceptable level of risk: The proposal cannot be implemented or the activity continued unless hazards are further mitigated so that risk is reduced to an acceptable level under the existing circumstances. Tracking and management involvement are required, and management must approve any proposed mitigating controls. Catastrophic hazards that are caused by:
    - (1) single-point events or failures;
    - (2) common-cause events or failures;
    - (3) undetectable latent events in combination with single point or common cause events are considered high risk, even if extremely remote.
  - Medium risk – Acceptable level of risk: Minimum acceptable safety objective; the proposal may be implemented or the activity can continue, but tracking and management are required.
  - Low risk – Target level of risk: Acceptable without restriction or limitation; the identified hazards are not required to be actively managed, but are documented.
- ii. Develop a Corrective Action plan that includes at least:
  - (1) The designation of a responsible person for implementing the action;
  - (2) A timeline for completion;
  - (3) A timeline for a follow-up review of the implemented actions for effectiveness.
- iii. The office of the SMS Administrator will ensure that the Corrective Action Plan is logged in the SMS Safety Hazards Database.

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The top ranked hazards will be added to the SMS goals as improvement activities for the next period.

### **2.4.1 Monitoring the Corrective Action Plan**

All actions derived from this process (CAP) require a follow-up review. Monitoring is essential to ensure the corrective action plan that is in place is effective to address the stated issues or hazards.

Department Managers are responsible to ensure that a check for outcome and effectiveness is performed.

The SMS Administrator, in support of the Department Manager, will monitor through information and data obtained from reports, inspections, and audits; the outcome produced by the Corrective Action Plan.

The timeline for the follow-up period will depend on the event and on the solution adopted, but in any case it should not exceed a period of 30 days from the date of final implementation, if feasible.

### **2.4.2 Internal Safety Investigations**

This process involves the study and analysis of a safety significant event. It will normally be applied following an incident or accident, although it could also be triggered by the identification of a significant hazard. The goal is to have a systematic, open and constructive process for analyzing events with the intent of improving overall safety by tackling the root causes of accidents.

Department Managers and the SMS Administrator are responsible to ensure that, when warranted, an investigation will follow-up the identification of hazards, incidents and accidents that fall within their area of responsibility.

The Lead Investigator is a temporary position created for the purpose of assigning a responsible individual for managing, coordinating and carrying out all the steps necessary to investigate a specific event with the purpose of identifying its root causes.

Department Managers, the SMS Administrator, or their delegates can assume this role during a safety investigation.

### **Trigger Events**

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Incidents and Accidents should always be followed up by an investigation with the objective of identifying the root causes of the event.

Reported hazards could trigger either a cursory review or a full investigation, depending on the nature and circumstances of the issue.

### **Process**

The investigation process will follow the steps described below.

- i. The Department Manager, SMS Administrator or their representatives will define the trigger event, and determine whether an investigation is warranted or not.
- ii. Following this determination the Department Manager responsible or the SMS Administrator (if the event falls within his/her jurisdiction) will appoint/self-appoint a Lead investigator.
- iii. The lead investigator will initiate the investigation as soon as practically possible, but in no event later than 48 hrs following the identification of the hazard or event.
- iv. Based on preliminary information obtained, the lead investigator will determine if there is a need to convene a panel of experts to support the investigation. If so he/she will select the appropriate personnel to assist.
- v. The main objective of the investigation is to determine the root causes of the event, and not to focus in laying blame or finding a guilty party. To ensure this outcome the investigation will:
  - o Evaluate every possible factor from different categories:
    - People;
    - Statements and procedures;
    - Training;
    - Equipment;
    - Organization;
    - Environment; and
    - Materials.
  - o Screen the evidence collected and,
  - o Provide consistent order to the evidence collected.
- vi. The investigation will be performed through the use of a comprehensive system that includes the consideration of Human Factors as an aid to the investigator. The main steps involve:
  - o Collecting and reviewing all reported information.
  - o Laying out the sequence of events.
  - o Identifying and recording the Critical Events.

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- Identifying and recording the Causal Factors.
- As each Critical Event is identified and recorded, ascertain (ask WHY?) the event occurred. The investigator must be careful to drill down far enough to uncover the underlying causes (5 Whys).
- Identify and record suspected root causes and contributing factors.

A sample investigation technique to be used at JAX is included in Annex K.

Depending on the nature of the event, a short term action plan should be implemented as a temporary solution to minimize immediate risk until further information can be drawn from the ongoing investigation, to be followed-up by a definitive solution.

All documentation originating from the procedures of the investigation will be processed following the Documentation Management and Control system.

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### **3. SAFETY ASSURANCE**

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The Safety Assurance component of SMS aims to ensure that the activities, plans and actions taken to improve safety (as discussed in the previous elements) are implemented and effective. There is also an element that evaluates how effectively the SMS is functioning as a whole.

#### **3.1 Performance Measurement and Monitoring**

Safety management activities and corrective action plans are selective measures designed to either prevent undesirable events, or effect changes to existing undesirable situations. One of the alternatives available for assessing effectiveness of implemented measures is by comparing the changes experienced through time.

This requirement aims at setting up a process to identify and select measurable parameters, collect data related to them, and track and compare this information over time.

The SMS Administrator is responsible for collecting, storing, analyzing, interpreting and monitoring the safety significant data selected for the measurement of SMS performance at JAX.

Department managers are responsible for collecting, storing, analyzing, interpreting and monitoring the safety significant data selected for the measurement of SMS performance that are relevant to their departments.

The process in place at JAX is:

The persons responsible for setting up the measurable parameters will meet with their immediate level of support staff or other JAX personnel as they deem necessary.

- Prior to defining the proper indicators, the group will:
  - review the organizational/departmental objectives defined for the period
  - discuss areas that by collective experience are known to be a safety weak point
- Identify those metrics that can provide the most suitable indication of performance.
- Set up a data collection and storage mechanism for these metrics

Metrics will be assessed, reviewed and updated on a yearly basis, or as necessary to identify trends or obtain more meaningful data.

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The SMS Administrator and Department Managers will collect and summarize this data in a suitable format that allows for the monitoring of values and trends.

The safety performance indicators set up to measure and monitor for 2009 by JAX are included in Annex L.

This information will be reviewed and discussed during the safety committee meetings and management reviews. Adjustment of parameters and further breakdown will be implemented when further exploration is needed to define the root causes of observed trends.

### **3.1.1 Audit**

A series of proactive activities are carried out by JAX to ensure that the systems and procedures implemented are effective and that potential hazards are identified immediately. They include reviews and audits of its processes, procedures, analyses, inspections and training.

For each of these inspections and audits, the Department Manager responsible will ensure that a copy of the results is sent to the SMS Administrator for storage.

#### **Airside:**

Airside inspections are carried out daily by the Airport Operations Department staff. They include runways, taxiways, aprons and safety areas in accordance with the ACM, and utilize the appropriate form as designated in the Exhibits.

The results obtained from these daily checks will be reviewed by the Air Operations Manager, and corrective actions will be implemented as necessary.

#### **Airport Safety Inspections:**

A nightly safety inspection, including lighting and windsock status will be performed by Operations as described in the ACM, Airport Self Inspections. These inspections are also to be undertaken under unusual conditions as described in the same section of the ACM.

The results obtained from these daily checks will be reviewed by the Air Operations Manager, and corrective actions will be implemented as necessary.

#### **Wildlife Inspections:**

At least once daily, JAAPD or Airport Operations will perform a perimeter fence and wildlife inspection in accordance with the ACM.

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Should corrective actions be necessary to recuperate damaged sections of the perimeter fence, Airport Operations will inform Facilities Maintenance which in turn will make necessary repairs within 48 hrs.

Should wildlife procedures be necessary to address safety issues, Airport Operations will inform Airport Police Wildlife Officers for the appropriate actions, according to the ACM.

The results obtained from these daily checks will be reviewed by the Duty Manager, and corrective actions will be implemented as necessary.

### **Construction Daily Inspections:**

Airport Operations personnel will undertake daily inspections of any construction sites and/or activities taking place at JAX. The inspections will ensure that contractors are compliant with their stated safety program and to ensure that activities or situations that could potentially create an airside safety hazard are prevented and discontinued.

### **Facility Safety Inspections**

Facility safety inspections are to be carried out by Department Managers and the Risk Management Administrator as per the procedures set up in the existing audit program.

They are to be performed on a periodic basis and corrective action plans will be responsibility of the functional Department Manager(s).

### **Process and Practices Review**

The functional Managers are responsible to perform a review of the processes and practices exercised by their sectors. These reviews will include the participation and feedback of the line supervisors (Duty Officers and Foreman), as frequent as deemed necessary, but in no case at more than 12 months intervals. The feedback of the review will be incorporated as an update into the applicable operating procedures and training will be provided or updated if applicable.

All procedures and findings are to be recorded and stored.

### **Training Syllabus Review**

The functional Managers are responsible to perform a review of the training programs and associated syllabus and curriculum on periodic bases. These reviews will include the participation and feedback of the line supervisors (Duty Officers and Foreman) as frequently as deemed necessary, but in no case at more than 12 months intervals. The feedback of the review will be incorporated as an update into the applicable training programs.

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### **System Review**

The SMS Administrator in conjunction with the Department Managers and the AE will perform a System review once a year. The information discussed will be used as the foundation to set up goals and objectives for the following year.

### **Safety Culture Survey**

One of the main indicators to measure performance of SMS activities and related actions taken is the status of employee perception and attitude towards safety. The SMS Administrator will include as one of the key safety events to be performed every year a representative survey to monitor safety culture. The process to perform this survey is a web-based questionnaire to be completed through the JAA intranet/website.

### **External Audit**

During the early stages of SMS implementation, JAX will secure the services of a qualified external party to perform a thorough SMS review. Once SMS is fully implemented at JAX, this process will take place once a year. The purpose of this audit is to analyze SMS performance and effectiveness.

The external audit to be performed will be carried out in accordance with the provisions stated in this Manual.

All documentation generated through these reviews and processes will be stored and processed according to the documentation management and control system.

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<b>Activity</b>	<b>Location</b>	<b>Participant</b>	<b>Frequency</b>	<b>Method</b>	<b>Output</b>
<b>Inspection</b>	Airside (including apron, taxiways, runways and safety areas)	Airport Operations	Daily	Drive through inspections using checklists	Completed checklist
	Construction sites	Airport Operations	Daily	Walk-through	Report if hazards are identified
	Airside, fences and NAVAIDS	JAAPD and/or Airport Operations	Daily	Drive through inspections	Report if hazards are identified
<b>Facility Safety Inspection</b>	JAX staff work areas	Department Managers	Weekly or monthly	Walk-through	Completed checklist
<b>Facility Safety Inspection</b>	JAX staff work areas	Risk Management	Monthly or quarterly	Walk-through	Completed checklist
<b>Process/ Practice Review</b>	Airport Operations	Department Manager & Duty Officers	Yearly	Brainstorm document review	Report /Corrective Action
<b>Training Syllabus</b>	Airport Operations	Department Manager & Duty Officers	Yearly	Document review/ analysis of efficiency	Report /Corrective Action
<b>System Review (Management Review)</b>	JAX	JAX Safety Committee	Yearly	Scheduled meeting	Goals and objectives for the following year
<b>Safety Culture Survey</b>	JAX	SMS Administrator	Yearly	Survey	Report
<b>External Audit</b>	JAX	Third Party Contractor	Yearly	Review and Inspections	SMS Performance Review

**Figure 3 - Summary of Proactive Safety Measures at JAX**

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### 3.2 The Management of Change

Major changes experienced by the JAX organization can potentially introduce unnoticeable hazards even when the origin of the change is not obviously related to safety. The purpose of this requirement is to ensure that there is a mechanism in place at JAX to identify and control hazards associated with any change before it is implemented.

The individual in charge of implementing the change within JAX is responsible to ensure that the proposed change is assessed through the hazard identification and risk management process. This applies equally to all management levels and every JAX staff member.

The analysis process is applicable when a major operational change (including equipment, procedure or facility) is planned, when an expansion or other construction project is considered, or if substitution of key personnel is proposed. Some examples of such "trigger" events include:

- New operator or tenant at the airport;
- New aircraft type being operated at JAX (either by an existing operator or new);
- New equipment or technology to be deployed by the JAA or JAX tenants;
- New procedures or regulations are introduced;
- New or revised training programs;
- New construction or renovation of existing facilities;
- Labour disputes;
- Significant organizational changes;
- Budget changes.

Documentation of the process, decisions and proactive measures to control the proposed changes should be stored and managed under the documentation management and control system.

If applicable, training will be provided to all affected personnel.

### 3.3 Continuous Improvement

JAX strives to continuously work towards making the system better: more efficient, effective, and ultimately safer. Continuous improvement is achieved through regular,

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periodic and planned reviews, which are conducted in light of JAX safety processes and performance.

JAX Top Management (AE, SMS Administrator and Department Managers) will review the SMS system every 12 months to ensure its validity and effectiveness in terms of scope, scale and completeness.

Standing Items to be reviewed by this process include:

- Safety Statement;
- Safety Objectives;
- Safety Goals;
- Performance Management;
- Employee Awareness;
- Corrective Action Plans;
- State of JAX Safety Culture.

A record of discussions and decisions will be kept and managed by the documentation management and control process.

Modifications and changes originating from this review will be reflected in the proper documentation and training programs.

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## 4. SAFETY PROMOTION

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SMS is most effective when it takes hold within an organization with a strong safety culture. The elements related to Safety Promotion support efforts in developing and maintaining a strong safety culture.

### 4.1 Training and Education

JAX is committed to providing all its employees with the skills and competencies necessary to perform their duties in an effective and safe manner; this is ensured through the implementation of a training program that follows a Systems Approach to Training (SAT).

The responsibility to develop, implement, deliver and assess a training program falls to within many individuals at JAX. The allocation of these responsibilities is described in the section describing each of the different programs, as stated in sections 4.1.1 to 4.1.4. In certain circumstances, various subject components may be combined, such as safety and security, for more efficient use of employee and trainer resources.

All training programs will follow the SAT approach as depicted in Figure 4. It includes the activities described below.

Department Managers with support from the JAA Employee Relations department will perform the following steps in the process:

- **Analysis:** Identifying the jobs and the tasks associated with each job, and determining the related knowledge and skills required to safely perform those tasks;
- **Design:** Defining the training objectives and the methods by which training will be delivered, and designing test items and testing methods to establish whether training objectives have been met;
- **Development:** Establishing the sequence in which the training topics will be presented, developing lesson plans, developing or assembling training manuals, gathering all required training materials, and assigning instructors.

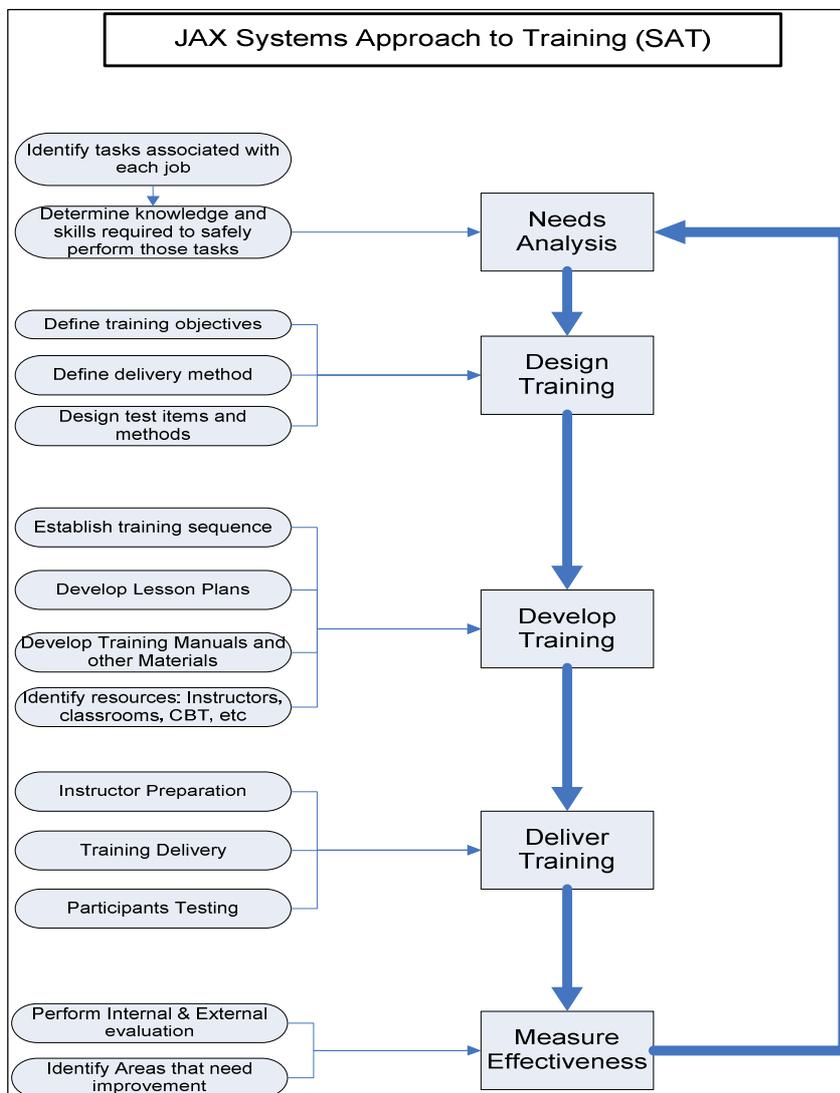
Depending on the specific program, the following steps could be carried out by either the department managers or their immediate support staff:

- **Instruction:** Instructor preparation, training delivery, and assessment (testing) of the participants;
- **Program Evaluation:** Measuring the effectiveness of the training program

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through internal and external evaluation to validate the program and promote identification of areas where improvement might be indicated;

- **Feedback:** Based on the results obtained during the Program Evaluation phase, revisions and updates to the program will be made;
- **Documentation:** All documentation generated during these processes is managed following the document control and management process.



**Figure 4 - Systems Approach Training (SAT)**

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Under the SMS framework, four specific types of training are provided at JAX:

1. Indoctrination training;
2. Job specific;
3. SMS awareness and training;
4. SMS skills training.

### **4.1.1 Indoctrination Training**

All employees hired by JAA to work a JAX, will undergo indoctrination training prior to being assigned duties to any functional department. This training will be the responsibility of the Employee Relations department, and will include at least:

- JAA Statement;
- Administrative routines;
- Familiarization with the airport including airside if applicable;
- Familiarization with statements and procedures;
- Introduction to SMS.

### **4.1.2 Job Specific**

For each functional department at JAX, a needs analysis will be conducted for all different positions existing within the department. Each Department Manager will be responsible to ensure that each position within his/her department has a current needs analysis and an updated training program. In the performance of this function the department managers will be supported by the JAA's employee relations department.

This exercise, once performed organization-wide, will be reviewed at least once a year by all functional department managers at JAX to ensure that they are current.

The training program should at least address the following categories:

- Department familiarization;
- Job specific training;
- Rules and Regulations;
- Basic Safety training:
  - The importance of safety;

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- Main hazards on the Job;
- Key safety procedures;
- Names and contact information of key safety personnel;
- Roles of key safety personnel;
- SMS awareness and processes;
- Emergency procedures.

### **4.1.3 SMS Awareness Training**

SMS awareness training is provided to all personnel performing duties at JAX with access to secured areas. This includes personnel from all organizations authorized to operate at the airport, including aircraft operators, fuel providers, catering organizations, ground services companies, FBOs, enforcement agencies, government organizations, etc.

SMS awareness training is delivered in conjunction with SIDA training and prior to the issuance of the access control card.

This training delivery, presented in a classroom setting, includes several supporting materials such as:

- Training pamphlet;
- Introductory brief;
- Video;
- Power Point presentation.

The session is completed by a review of the material presented, and a follow-up test that allows for a first evaluation of the training effectiveness.

The training program, delivery and contents development falls under the responsibility of the AOCC Manager(s), and is delivered through the Access Control section.

Mandatory yearly recurrent sessions provide for employee currency and materials update, and provide information on the very fluid changes in regulatory requirements. Unscheduled recurrent training is conducted when a safety investigation indicates problems with employee retention of SMS awareness training content.

The contents and format of the course is assessed for effectiveness once a year by the Operations department under the supervision of the Department manager. The review will consider at minimum:

- Employee feedback;
- Direct Observations and review;

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- Identification of hazards and Risks assessed throughout the yearly operation;
- Changes to rules and regulations;
- Changes to procedures;
- Changes to airside infrastructure.

The contents of the program will include a least:

- Introduction to SMS;
- Applicable regulations;
- JAX SMS statement;
- JAX Confidential Reporting statement;
- Roles and responsibilities:
  - JAX personnel;
  - Every employee.
- SMS communications program;
- SMS safety activities taking place at JAX;
- Current safety issues at JAX;
- Current problems with safety reports;
- Lessons learned;
- Changes impacting JAX safety.

#### **4.1.4 SMS Skills Training**

To ensure effectiveness of the SMS program at JAX, those individuals with a direct role in the management of the program will supplement their skills through specific training programs.

They include:

##### **JAX Managers (including SMS Administrator)**

- Basic principles of SMS;
- Legal requirements;
- Corporate statements;
- JAA goals and objectives;

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- Roles and responsibilities;
- Reporting process;
- Confidential Reporting Statement;
- Hazard Identification;
- Risk assessment;
- SMS Concepts:
  - Safety Culture;
  - Safety Promotion;
  - Continuous Improvement.
- SMS specific programs and activities.

### **SMS Administrator**

- Investigation techniques;
- Reviews, inspections and audit techniques;
- Data collection and database management;
- Trend analysis;
- Audit procedures and techniques.

### **Documentation**

Records of all training sessions, attendees, test results and syllabus review and updates, will be stored and managed following the documentation management process adopted by JAX, and described in section Annex B.

The SMS Administrator will also keep track of these activities, and present the results during the Management Review and safety committees for review and discussion.

## **4.1.5 Training Effectiveness**

Training provided to JAX workers will be evaluated for effectiveness to determine needs for improvement.

After each training session, a test will be issued to each participant. This test will require a minimum successful mark, established as a percentage of correct questions answered.

Effectiveness of delivery methodology will be obtained through a questionnaire that will

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require each participant to assess specific issues of the training delivery, such as trainer behavior and knowledge, length of course, supporting material, relevance with their job description, etc.

A review follow-up will take place between the immediate supervisor and the training participant to obtain further feedback on the effectiveness of the course based on the "on the job" experience in the last six months.

The results of these evaluations will be used to review and improve the specific training program.

## 4.2 Safety Communication

A free flow of information is vital to encourage and ensure a healthy safety environment. Specific processes are in place at JAX to promote safety communication. The main objectives of these processes are the dissemination of safety specific information, and safety promotion.

### 4.2.1 Meetings

A series of venues are available at JAX for the free exchange of information. Although these forums are not always safety specific, safety is discussed as a standing agenda item. They include:

#### Internal to JAA/JAX

- **Airport Operations (AOCC) meeting:** These take place weekly and include the participation of the Department Manager and Duty Officers;
- **Facility Maintenance meeting:** These take place weekly and include the Department Manager, Assistant Manager(s) and Foremen;
- **Terminal Expansion meetings:** These meetings are run by the Planning and Engineering Department, and are focused on the periodic terminal expansion projects taking place at JAX;
- **Operations Staff meeting.** Weekly meeting chaired by the AE that includes participation of JAX management staff;
- **Monthly JAA Managers meeting.** These meetings include JAX and all other managers of JAA to include CEO and COO;

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- **SMS Advisory Committee meeting.** This meeting is chaired by the AE or his/her delegate and includes JAX department managers and invited airport stakeholders. The main purpose is to provide advice to the AE and SMS Administrator on relevant safety issues at JAX. Discussions will include means for promoting safety awareness, sharing of safety significant information and best practices, and review and discussion of JAX safety as measured through selected performance indicators.

### External

- **JAX Safety Committee meeting.** This meeting is chaired by one of the JAX AOCC Managers, and includes aircraft operators, other airport tenants and FAA. Its purpose is to develop common operating procedures, safety promotion and ramp coordination to mitigate airside hazards, accidents and incidents at the apron area;
- **Monthly operations meetings.** This meeting is chaired by the Director, Aviation Management, and includes aircraft operators and other airport tenants;
- **Wildlife Hazard Management meeting:** This is a monthly meeting that includes the wildlife workgroup formed by JAX, JAAPD and other interested parties.

JAX personnel also participate in other meetings within the airport community. The most significant are:

- **Quarterly Runway Safety Meetings.** Chaired by the FAA ATCT;
- **Customer Forum.** Chaired by FAA ATCT on a quarterly basis.

### Documentation

All decisions and actions taken as a result of these meetings will be recorded, distributed and stored. The means of distribution will depend on the audience targeted, but at least a copy will be posted in JAA intranet and a hard copy on the safety board of the department affected.

### 4.2.2 Postings

Other than the regulatory required safety significant information distribution methods, such as NOTAMS, JAX distributes safety significant information through the following means:

- **Tenant advisory bulletins;**

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- **Safety Squawks.** Safety newsletters produced quarterly and disseminated internally through the JAA intranet and emailed to JAX tenants;
- **SMS Website.** Provides information on the Safety Management System at JAX and provides feedback on reported occurrences.

### 4.2.3 Safety Programs and Events

The SMS Administrator will develop a program or programs that support the promotion of safety. The nature of these programs will be defined and communicated to the airport community as they become available.

Special events aimed at promoting safety and encouraging employee participation, will also be organized when feasible. The SMS Administrator will endeavour to arrange for this kind of activity to take place at least yearly. Some of these programs are described in Annex R of this Manual.

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## **ANNEX A. JAX SAFETY OBJECTIVES 2009**

### **Organizational Safety Objectives**

1. Promote SMS awareness within the airport community as a whole;
2. Provide effective training;
3. Encourage safety reporting;
4. Benchmark number of incidents and accidents on the airside;
5. Rationalize airside operations.

### **Operations Goals**

Objective: With support from the Employee Relations department, perform a needs analysis of all existing positions, and design and develop an appropriate training program.

Metrics: Number of jobs analyzed and training programs developed

Objective: Ensure that all personnel within the department receive SMS training.

Metrics: Number of sessions performed and employees that received SMS training

Objective: Develop a mitigation plan within 7 days from the date the hazard was identified.

Metrics: Number of hazards identified that fell within the department responsibilities and number of days taken to produce a Corrective Action Plan.

Objective: With support and in consultation with airport operators and service providers, develop and approve Standard Operating Procedures (SOP) that establish guidelines for operational activities on the airside and reflect the goals and objectives of SMS.

Metrics: Number of meetings convened; number of procedures agreed upon.

### **Facilities Maintenance Goals**

Objective: With support from the Employee Relations department, perform a needs analysis of all existing positions, and design and develop an appropriate training program.

Metrics: Number of jobs analyzed and training programs developed

Objective: Ensure that all personnel within the department receive SMS training.

Metrics: Number of sessions performed and employees that received SMS training

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Objective: Develop a mitigation plan within 7 days from the date the hazard was identified.

Metrics: Number of hazards identified that fall within the department responsibilities and number of days taken to develop a Corrective Action Plan.

Objective: In coordination with the Operations department, upgrade and update signs, markings and guidance infrastructure to ensure standard operating practices are used by JAX, and that they are reflected in all appropriate training programs.

Metrics: Number of items identified, number of items corrected.

### **SMS Administrator Goals**

Objective: With support from the Employee Relations department, perform a needs analysis of all existing positions, and design and develop an appropriate training program.

Metrics: Number of jobs analyzed and training programs developed

Objective: Develop an SMS Awareness campaign that includes JAX staff and all airport employees dealing with airport operations.

Metrics: Number of sessions performed and employees that received training

Objective: Set up a database to record airport safety significant events, incidents and accidents.

Metrics: Number of incidents and accidents recorded

Objective: Set up an SMS database and keep records of reports received.

Metrics: Number of reports received and recorded

Objective: Provide feedback of reports received through the SMS Confidential Reporting Program within 5 days.

Metrics: Average number of days taken to provide feedback for reports received.

Objective: Set up an SMS Advisory Committee.

Metrics: Number of meetings convened, number of issues raised, and number of issues resolved.

Objective: Set up a Ramp Safety Committee.

Metrics: Number of meetings convened, number of standard operating procedures developed and approved, and number of issues resolved.

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## **ANNEX B. DOCUMENTATION MANAGEMENT PROTOCOL**

### **Purpose**

This Annex describes a set of guidelines required to control the creation, modification and access of electronic and printed documents, including maintaining the document's creation history, its distribution list and usage.

### **Scope**

This procedure applies to all JAX documents and records relevant to the SMS.

### **Responsibility & Authority**

The SMS Administrator is responsible for implementation of this process.

### **Importance**

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 independent advice to the AE and department managers and other personnel on safety-related matters.

In addition to the need to maintain updated information on legal requirements for airport safety, operating an SMS generates significant amounts of information — some as documents and some as data in electronic format, for example:

- SMS Confidential Reports;
- Corrective Action Plans (CAP);
- Meeting Agendas;
- Meeting Minutes;
- Audit records and performance measurement data and trends;
- Safety culture survey results;
- Implementation strategies selected;
- Resource needs identified;

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- Design approach selected;
- Assessments of pilot test effectiveness;
- Hazard investigation and risk assessment reports;
- Standard operating procedures (SOP);
- Training materials and records;
- General reports, periodicals and newsletters;
- Safety promotion material and plans;
- Feedback records.

This information is essential to the SMS and the risk management process. Without the tools and skills and other resources to record, store, secure, retrieve and analyze the necessary information, such information is essentially useless and its collection a waste of time.

### **Responsibilities**

The SMS Administrator will maintain a record of the measures taken to fulfill the objectives of the SMS, including the measures taken to control risks and to ensure that adequate levels of safety are maintained. The information may be used in the event of an external investigation of an accident or serious incident. These records should be maintained in sufficient detail to ensure traceability and accountability of all safety-related decisions.

JAX AE is responsible for providing resources to acquire appropriate equipment, software and that technical support is available for managing safety information.

JAX Department Managers and the SMS Administrator are responsible for:

- Identifying applicable aviation safety regulations, standards, and procedures used by JAX;
- Identifying exemptions and the reasons for them;
- Tracking changes to regulations and standards.

JAX SMS Administrator is responsible for:

- Maintaining and controlling distribution of updated versions of the JAX SMS Manual;

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- Documenting and demonstrating on-going SMS compliance;
- Assuring that updated SMS information is available to staff;
- Applying appropriate measures for the protection of sensitive and confidential safety information;
- Assuring that documents and records are updated regularly;
- Appropriate staff have access to safety databases;
- Staff has received the necessary training for using and maintaining safety information.

### **The SMS Manual**

A current hardcopy of the SMS Manual will be maintained by the SMS Administrator in the JAX Administration building.

The SMS Administrator (or designee) is responsible for coordinating yearly 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 associated corrective and preventive action. Suggestions for changes from these, or other processes, will be used in the yearly revision and updating of the SMS Manual.

The SMS Administrator (or designee) is responsible for making the actual changes to any controlled documents in the SMS Manual. He/she is also responsible for maintaining an effective document protection system to prevent others from making changes to either the computer files containing the current working manual, or to electronic copies of the manual that are available over the internet.

Distribution of controlled copies of the SMS Manual is the responsibility of the SMS Administrator (or designee). Controlled copies are marked "Controlled" with the distribution date. Uncontrolled copies can be issued by the SMS Administrator (or designee) and are to be marked "Uncontrolled-For Reference Only".

A distribution list for controlled documents is maintained by the SMS Administrator (or designee). A majority of the controlled documents will be accessed by JAX staff online over the local area network. If any changes are made to the latest copy of the SMS Manual, everyone on the distribution list will be notified via e-mail or hardcopy of those changes. The message will include:

- notification that changes have been made to the SMS Manual, and the date those changes are effective
- specific details of changes that have been made, and to which documents

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- notification that all previous copies of those documents in the SMS Manual are obsolete and should be replaced with the new version
- summary of any changes in procedures that may occur as a result of the changes
- instructions for insertion of the current documents into a hardcopy (if applicable)
- contact name and number should there be any questions about the changes

Each individual issued a controlled copy of the SMS Manual is responsible for maintaining a current version, and for the manual's safekeeping.

Uncontrolled copies of the SMS Manual may be distributed outside of JAX. All uncontrolled copies are to be marked "Uncontrolled-For Reference Only". Uncontrolled copies of the JAX Safety Statements and Objectives and other information (at the discretion of the Accountable Executive) will be posted on the JAX Homepage.

### **Procedures for Document Numbering**

Documents are generated as part of the SMS in five main sections: statements, planning, implementation, checking and corrective action, and management review. In addition, in each of these categories, five types of documents may be prepared: statements, procedures, manuals, reports and safety newsletters. In order to ensure tracking and retention of these documents, the following numbering system has been developed:

- The first component includes three letters: SMS indicating the document is relevant to JAX SMS. The letters will be followed by a period;
- The second component is a number assigned according to the appropriate type of document and will be followed by a period. The types are outlined below:
  - 1 – Manual;
  - 2 – Procedure;
  - 3 – Report;
  - 4 – Plan;
  - 5 – Annual Goals;
  - 6 – Meetings;
  - 7 – Promotional/Incentive Program;
  - 8 – Training;
  - 9 – Communication/Feedback;
  - 10 – Audit/Survey.
- A third set of numbers may be added in numerical order, followed by a dash, if the document has different versions;
- The fourth element is the document version number.

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An example of this document numbering system is that set for this Manual. It falls under "1 Manual". It is the first Manual associated with JAX SMS and therefore the second number is also 1. Since it is the first version, it is followed by -1. The number assigned to this example is SMS.1.1-1.

**Document Control and Revisions**

All documents will be maintained by the SMS Administrator. The SMS Administrator will retain the master document and have sole access for changes.

The initial draft of documents will be submitted to the affected Departments for comment. All comments received will be incorporated into the document or discussed until a resolution is reached.

The final draft will be submitted to the AE or Department Manager for review, revisions, and final signature.

The final signed document will be dated, converted to a PDF file, and placed on the JAA intranet for distribution.

Documents will be reviewed annually for updates or as regulations or conditions change. This same process described above will be utilized for document revisions. The version number will be indicated on the document number as described above. Each document will contain a Revision Record, a Document Control Table and a Distribution Control Table as depicted in the examples below:

<b>REVISION RECORD</b>			
<b>Document: SMS Manual</b>			
<b>DATE</b>	<b>REVISION NUMBER</b>	<b>PAGES REVISED</b>	<b>INITIALS</b>

Every safety-related document must be accessible, stored appropriately and have a distribution list to assure information control and dissemination. Relevant documents will

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be periodically reviewed and the SMS Administrator will remind and make sure the revisions are actually carried out.

The SMS Administrator will keep a Distribution Control Table containing summary information available for every SMS document.

<b>DISTRIBUTION CONTROL TABLE</b>					
<b>Document: SMS Manual – SMS.1.1-1</b>					
<b>NAME</b>	<b># COPIES</b>	<b>FROM (version)</b>	<b>TO (version)</b>	<b>DATE</b>	<b>NOTES</b>
AOCC	1	1.0	1.0	02/15/2008	First issue, controlled

The SMS Administrator will keep a Document Control Table listing each SMS document, as depicted below.

<b>DOCUMENT CONTROL TABLE</b>				
<b>DOC</b>	<b>DATE</b>	<b>COMPILED BY</b>	<b>CHECKED BY</b>	<b>AUTHORIZED BY</b>
SMS.1.1-1	02/15/2008	ARA	R. Studenski	I. Bonilla

**Document Status**

Document status will be controlled by the SMS Administrator and will define if the document is current and to whom it has been distributed, the review time and review date.

Some documents will be reviewed annually for destruction if new versions have been approved. If it is determined the document needs to be retained, the SMS Administrator will reassign a destruction date. The table below shows the information that will be included in the Document Status List:

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<b>DOCUMENT STATUS LIST</b>					
<b>DOC #</b>	<b>TITLE</b>	<b>STATUS</b>	<b>DISTRIB.</b>	<b>REVIEW TIME</b>	<b>REVIEW DATE</b>
SMS.1.1-1	SMS Manual	current	AE, SMS Adm, AOCC	1 yr	02/15/08

Safety records will be appropriately stored and updated and department managers will ensure the data is collected, updated and that information is passed to the SMS Administrator. SMS records will be kept organized to demonstrate due diligence, conformance with the SMS, achievement of objectives and targets, and regulatory compliance.

Records will be legible, identifiable, meaningful, traceable, readily retrievable, and protected against damage. Record retention times will be established by the SMS Administrator.

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## **ANNEX C. LIST OF REGULATIONS APPLICABLE TO JAX**

- Statutory Materials—United States Code, Title 49:
  - Chapters 401 (General Provisions), 417 (Operations of Carriers), 449 (Security), 461 (Investigations and Proceedings), 471 (Airport Development), 475 (Noise).
- Regulations—Code of Federal Regulations (C.F.R.), Title 14 and Title 49 Aviation Laws:
  - 14 C.F.R. Part 1 (Definitions and abbreviations);
  - 14 C.F.R. Part 13 (Investigative and enforcement procedures);
  - 14 C.F.R. Part 16 (Rules of practice for federally assisted airport enforcement proceedings);
  - 14 C.F.R. Part 21 (Certification procedures for products and parts)
  - 14 C.F.R. Part 36 (Noise standards: Aircraft type and airworthiness certification);
  - 14 C.F.R. Part 71 (Designation of class A, B, C, D, and E airspace areas: air traffic service routes; and reporting points);
  - 14 C.F.R. Part 77 (Objects affecting navigable airspace);
  - 14 C.F.R. Part 91 (General operating and flight rules);
  - 14 C.F.R. Part 139 (Certification of airports);
  - 14 C.F.R. Part 150 (Airport noise compatibility planning);
  - 14 C.F.R. Part 157 (Notice of construction, alteration, activation, and deactivation of airports);
  - 14 C.F.R. Part 161 (Notice and approval of airport noise and access restrictions);
  - 14 C.F.R. Part 300 (Rules of conduct in DOT proceedings under this chapter);
  - 14 C.F.R. Part 302 (Rules of practice in proceedings);
  - 49 C.F.R. Part 18 (Uniform Administrative Requirements for Grants and Cooperative Agreement to State and Local Governments);
  - 49 C.F.R. Part 1520 (Protection of sensitive security information);
  - 49 C.F.R. Part 1540 (Civil aviation security: general rules);
  - 49 C.F.R. Part 1542 (Airport security);
- FAA Regulations and Policies;
- FAA Orders and Notices;
- FAA Advisory Circulars;
- FAA Policy and Guidance;
- FAA Environmental Records of Decision;
- FAA Airport Noise and Land Use Information;

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- Florida Statutes, Chapter 333;
- Florida Administrative Code;
- Other FAA Documents:
  - Certalerts;
  - Engineering Briefs (EBs);
  - Signs and Marking Supplement (SAMS).
- TSA Security Directives
- NOTAMs for JAX.

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## **ANNEX D. LIST OF RECORDS TO BE MAINTAINED**

### **Operations**

All Documents as identified in 14 CFR Part 139.301. They include:

- All Emergency Personnel : 24 months;
- Airport fuel provider inspection records: 12 months;
- Fuel provider personnel training records: 12 months;
- Self inspection records: 12 months;
- Movement area and safety area training records: 24 months;
- Accident and incidents occurring in the movement and safety areas: 12 months;
- Airport condition reports: 12 months;
- Training records; 60 months.

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## **ANNEX E. REFERENCE LIST OF COMMON AIRSIDE HAZARDS**

- Airside Construction;
- FOD;
- Runway incursion;
- Wildlife;
- Miscommunication;
- Vehicles striking aircraft and/or people:
  - Traffic rules governing such issues as speed limits, especially on approach to aircraft and in the vicinity of people;
  - Correct vehicle maintenance, especially of safety critical components such as brakes and steering;
  - Driver training and refresher training;
  - Driving standards;
  - Competence/attitude of drivers;
  - Apron management;
  - Markings.
- Hazards to passengers on the apron;
- Moving aircraft:
  - Taxi;
  - Pushback;
  - Power back;
  - Tows;
  - Markings;
  - Aircraft parking;
    - Markings and limits of aircraft per stand.
- Signs, Markings and guidance;
- Live aircraft engines:
  - Blast;
  - Fumes;
  - Designated run up engine areas;
  - Suction ingestion;
  - Propellers.
- Falls and falling objects;
- Operation of jet bridges and other servicing equipment;
  - SOP;

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- Markings;
- Training.
- GSE and other airside equipment;
- Hazardous substances and Dangerous Goods:
  - Hydraulic and other equipment fluids;
  - Toilet waste;
  - Container leaks;
  - Cleaning products;
  - Flammable.
- Inadequate lighting, glare or confusing lights;
- Adverse weather conditions (including winter operations):
  - Strong winds;
  - Low visibility;
  - Electrical storms.
- Electrical hazards:
  - GPU;
  - Lighting (apron and airfield);
  - Power supplies;
  - Etc.
- Faults and Defects.

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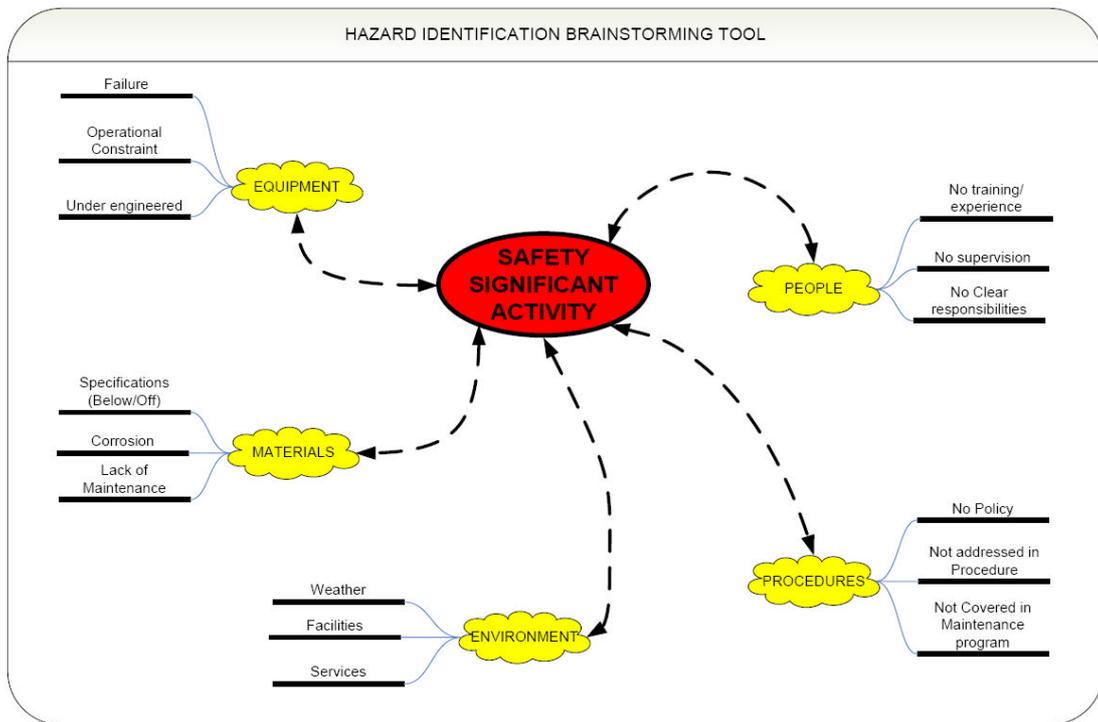
## **ANNEX F. SAFETY REPORT TEMPLATE**

The following template will be used to report hazards and assess risks.



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## ANNEX G. PROACTIVE HAZARD IDENTIFICATION BRAINSTORMING TOOL



**Figure 5 - Hazard Identification Brainstorming Session**

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## ANNEX H. PROACTIVE HAZARD IDENTIFICATION TEMPLATES

<b>Functional Department</b>	Operations <input type="checkbox"/>	AOCC <input type="checkbox"/>	
		Wildlife <input type="checkbox"/>	
		Other <input type="checkbox"/>	
	Maintenance <input type="checkbox"/>	Building <input type="checkbox"/>	
		Electrical <input type="checkbox"/>	
		Custodial <input type="checkbox"/>	
		Garage <input type="checkbox"/>	
		HBS <input type="checkbox"/>	
	Planning & Engineering <input type="checkbox"/>	New facility <input type="checkbox"/>	
		Renovation <input type="checkbox"/>	
		Other <input type="checkbox"/>	
	Administration <input type="checkbox"/>	New Tenant <input type="checkbox"/>	
		New Operation <input type="checkbox"/>	
Other <input type="checkbox"/>			
<b>Safety Significant Activity</b>		.....	
<b>Topic</b>	Equipment <input type="checkbox"/>	People <input type="checkbox"/>	..... <input type="checkbox"/>
	Environment <input type="checkbox"/>	Materials <input type="checkbox"/>	..... <input type="checkbox"/>
	Procedures <input type="checkbox"/>	Other <input type="checkbox"/>	..... <input type="checkbox"/>



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## ANNEX I. JAX SAFETY SIGNIFICANT ACTIVITIES

Department	Main Activity	Safety Significant Activity	
Operations	Identification and Training	Issue Driver Licenses New employees training Recurrent training	
	Monitor and Control	Perform daily airside and other inspections Access to runway and other manoeuvring areas	
	Administration and Management		Allocate Gates and Parking stands
			Establish and Issue Airside Operating Procedures
			Issue NOTAMS
	Wildlife Control		Issue ACM and Airport Information
Handling of Weapons Handling of Pyrotechnics			
Facilities Maintenance	Maintenance	Perform Maintenance of critical Airside infrastructure (Jet Bridges, Runway/Taxiway lights, Movement areas surfaces, etc)	
		Provide and maintain aircraft service infrastructure (ground power, air conditioning, surface markings, etc)	
	Training	Provide and/or supervise JAX owned airside infrastructure use for users (Jet Bridges, etc)	
	Coordination	NAVAIDS maintenance coordination	

**Figure 6 - JAX Safety Significant Activities**

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<b>Department</b>	<b>Main Activity</b>	<b>Safety Significant Activity</b>
Planning and Engineering	Construction/renovation	Issuance of Tenders
		Award of contracts
		Overseeing and Control of contractors (new personnel, hot work, storage, creation of dust, FOD, etc))
		Construction of new facilities
		Authorizations of unusual equipment (Cranes, vehicles, etc)
		Renovation of existing facilities
Administration	Marketing and Business	New Tenant Agreements
		Authorization of users facilities (constructions)
	Approval of new operators	New Operations
		New Aircraft Types

**Figure 6 (cont'd) - JAX Safety Significant Activities**

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## ANNEX J. RISK MANAGEMENT MATRIX

**Table 1 - FAA Severity Definitions**

Hazard Severity Classification				
No Safety Effect <b>5</b>	Minor <b>4</b>	Major <b>3</b>	Hazardous <b>2</b>	Catastrophic <b>1</b>
<ul style="list-style-type: none"> <li>- No effect on safety</li> <li>- Inconvenience</li> </ul>	<ul style="list-style-type: none"> <li>- Slight reduction in safety margin or functional capabilities</li> <li>- Physical discomfort of aircraft occupants</li> </ul>	<ul style="list-style-type: none"> <li>- Significant reduction in safety margin or functional capability</li> <li>- Physical distress possibly including injuries</li> </ul>	<ul style="list-style-type: none"> <li>- Large reduction in safety margin or functional capabilities</li> <li>- Serious or fatal injury to small number of people</li> <li>- Physical distress/ excessive workload</li> </ul>	<ul style="list-style-type: none"> <li>- Hull loss</li> <li>- Multiple fatalities</li> </ul>

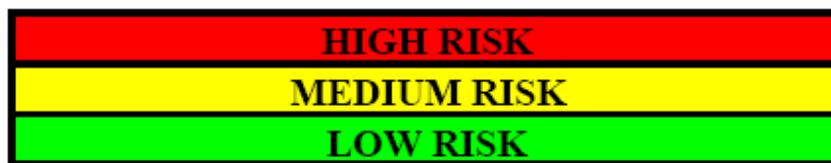
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**Table 2 - FAA Likelihood Levels**

	<b>Quantitative (per operation)</b>	<b>Qualitative</b>	
<b>Frequent A</b>	Probability of occurrence per operation is equal to or greater than 1 in 1000 operations	Expected to occur frequently for an item	Expected to occur more than once per week
<b>Probable B</b>	Probability of occurrence per operation is less than 1 in 1,000, but equal to or greater than 1 in 100,000 operations	Expected to occur several times in the life of an item	Expected to occur about once every month
<b>Remote C</b>	Probability of occurrence per operation is less than 1 in 100,000 but equal to or greater than 1 in 10,000,000 operations	Expected to occur sometime in the life cycle of an item	Expected to occur about once every 1 - 10 years
<b>Extremely Remote D</b>	Probability of occurrence per operation is less than 1 in 10,000,000 but equal to or greater than 1 in 1,000,000,000 operations	Unlikely but possible to occur in an item's life cycle	Expected to occur about once every 10-100 years
<b>Extremely Improbable E</b>	Probability of occurrence per operation is less than 1 in 1,000,000,000 operations	So unlikely, it can be assumed that it will not occur in an item's life cycle	Expected to occur less than once every 100 years

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Severity \ Likelihood	No Safety Effect	Minor	Major	Hazardous	Catastrophic
Frequent					
Probable					
Remote					
Extremely Remote					
Extremely Improbable					



**Figure 7 – FAA Risk Matrix**

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**Risk Ranking**

	Assessment Value	Action Level Required

**Corrective Action Plan**

	Action Level Required	SHORT TERM ACTION	LONG TERM ACTION

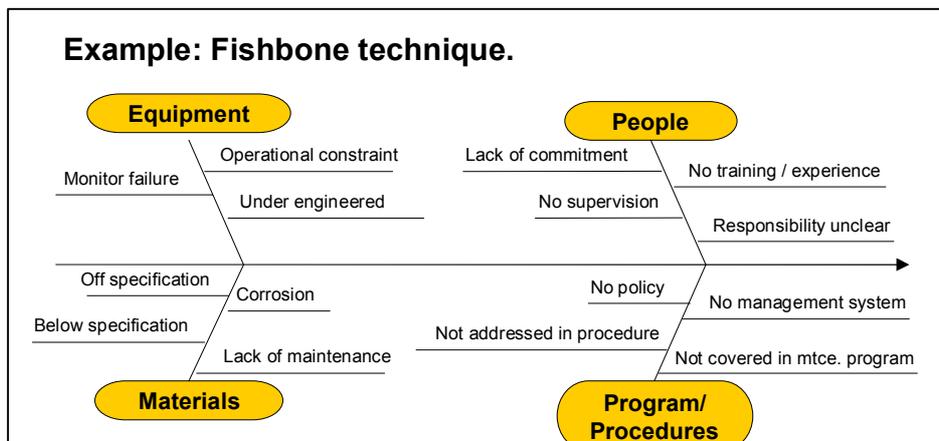
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## ANNEX K. INVESTIGATION TECHNIQUES

Investigation and analysis follows reporting, hazard identification or high risk concern. Usually this is done by a team of knowledgeable people who bring their expertise to the table. The objective of any investigation is to focus on “*Fact Finding*” and not “*Fault Finding*” so that it becomes a key link in the continuous improvement process. It is often the case in safety incidents that the person is blamed and the underlying reasons on why the person behaved as they did is ignored. There are two commonly used techniques to try to understand the underlying causes of incidents. These are the “*Fishbone Analysis*” and the other is the “*5 Whys*”.

### Fishbone Analysis

The analysis is used in more complex investigations and is particularly useful when many experts are gathered. Typically each will have their own particular expertise and concerns and the fishbone analysis focuses all participants in the investigation to defined aspects of the operation. An outline of the technique is shown in the figure below.



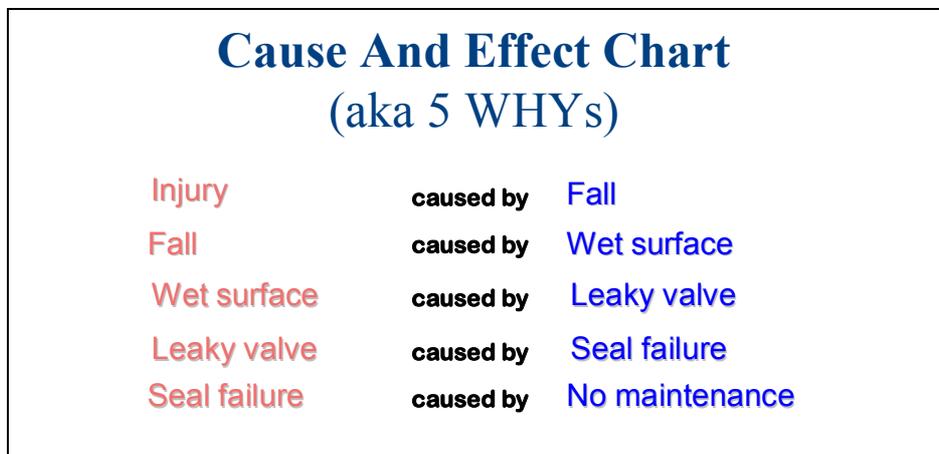
**Figure 8 - Fishbone Investigation Process**

In the example above all participants are asked to focus on issues related to defined topics. These are Equipment, People, Materials, and Programs/Procedures. Each is discussed in turn and concerns for each are written on to the diagram. Other defined topics may be added at the discretion of the investigating team. At the end of the analysis the resultant fishbone will look somewhat like the example shown. Each of the concerns identified are then investigated in detail in order to get to the underlying root causes of the issue. It can clearly be seen that this technique will allow many root causes to be permitted ranging from mechanical to human and organizational factors.

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## 5 Whys

The example below is a simple example of the questioning technique used in the 5 Whys. In the example below the "No Maintenance" could be due to a purchasing issue in getting the wrong part or it could be design issue on the seal. The important point is that the investigation is discussing issues that would preclude repeats of the problem.



**Figure 9 - "5 Whys" Investigation Process**

Typically once the issues in the fishbone have been identified the 5 Whys technique is applied to each in an attempt to find the root causes of each. These techniques allow a skilled team to focus in turn on different aspects of an issue so that all the underlying causes can be addressed. It ensures that no one person is able to dominate the discussion with preconceived ideas and it also allows both hard engineering issues as well as the human factors issues to be drawn out equally in discussions. It is not normal for people to want to make mistakes and so these techniques try to ask why the person found themselves in the position to make the error in the first place.

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## **ANNEX L.           SMS PERFORMANCE MONITORING INDICATORS FOR 2008**

- Number of airside accidents
- Number of airside incidents
- Number of job related injuries at the ramp
- Number of job related injuries at other airside areas
- Number of runway incursions
- Number of airside accidents and incidents involving wildlife
- Number of airside driving infractions
- Number of airside safety violations
- Damage to stationary aircraft: by passenger handling equipment, aircraft loading equipment, and by aircraft service equipment
- Damage to moving aircraft: by another aircraft, by jet blast, by gate guidance procedure, by fixed objects, by parked ground equipment, and by FOD
- Property/equipment damage from jet blast
- Equipment to equipment damage
- Number of spillage accidents

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## ANNEX M. EXAMPLE OF SRM

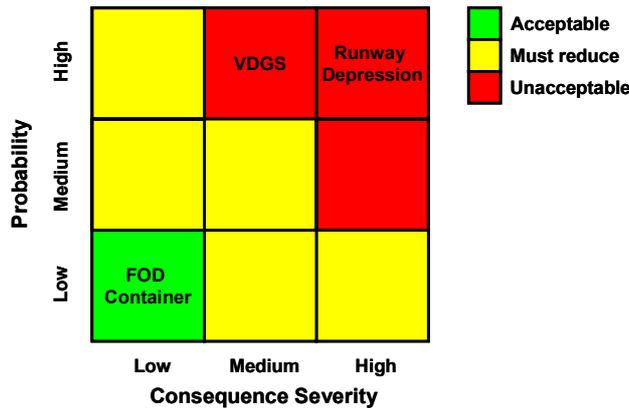
### Example

#### Step #1 – Hazard Identification

During a self inspection (3.1.1) at the airport, the following hazards (2.1.1) were identified:

- 1) The container provided at the gate to dispose of FOD is old and rusty
- 2) The Visual Docking Guidance System (VDGS) is not working properly.
- 3) There is a large depression on the runway surface.

Hazard	Associated Risk
Rusty FOD container	Container can break and release all FOD contents onto gate area
VDGS out of order	Aircraft collision with air bridge or equipment. Low speed likely to cause medium aircraft damage only.
Runway surface depression	Water can accumulate and cause aircraft to hydroplane and loose control, possibly departing the runway with catastrophic consequences



#### Step #2 – Risk Assessment

Hazard	Associated Risk	Probability	Severity	Classification of Risk
Rusty FOD container	Container can break and release FOD contents onto gate area	Low	Low	Acceptable
VDGS out of order	Aircraft collision with air bridge or equipment	High	Medium	Unacceptable
Runway surface depression	Water can cause aircraft hydroplaning and loss of control during operation	High	High	Unacceptable

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**Step #3 – Risk Mitigation**

Hazard	Associated Risk	Category of Risk	Risk mitigation type	Risk mitigation action
Runway surface depression	Water can cause aircraft hydroplaning and loss of control during operation	Unacceptable	Operating Procedure	<i>Short-term:</i> Issue NOTAM to warn pilots, restrict operations during heavy rains, <i>Long-term:</i> plan, design and execute runway surface correction
VDGS out of order	Aircraft collision with air bridge or equipment	Unacceptable	Operating procedure/ Corrective Action	Require Marshaller for gating operations / Re-calibrate VDGS
Rusty FOD container	Container can break and release FOD onto gate area	Acceptable	Corrective Action	Replace container

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## **ANNEX N.      SMS ADVISORY COMMITTEE**

**SMS Advisory Committee**

This is the main source of expertise and advice on airside safety matters. The focus of this committee is on "action", as opposed to "dialogue".

**Terms of Reference**

**Purpose**

The main purpose of this committee is to provide advice on safety matters to the Director of Aviation Management and to the SMS Administrator. The Committee has the following functions:

1. review and discussion of JAX safety performance as measured through the performance indicators.
2. review the progress on identified hazards and actions taken following accidents and incidents;
3. make safety recommendations to address safety hazards;
4. review internal safety audit reports;
5. review and approve the audit response and the actions taken;
6. encourage lateral thinking about safety issues;
7. help identify hazards and defences; and
8. prepare and review safety reports to be presented to the CEO.

**Chair**

This meeting will be chaired by Airport Operations with the Safety Administrator acting as the Secretary.

**Membership**

JAX will ensure that functional department managers or suitable delegates are present at the meeting. This includes the SMS Administrator who is the Committee Secretary.

Any airport operator, tenant or other airport stakeholder at JAX, including fuel providers, catering organizations, ground services companies, FBOs, enforcement agencies, government organizations, etc. may be invited to participate in an SMS Advisory Committee meeting.

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**Process**

The Airport Operations will issue a proposed Meeting Agenda at least 5 days in advance of the scheduled date. Members will have the opportunity of proposing changes to the agenda no later than 48 hrs prior to the scheduled date.

During the meeting all items on the agenda will be discussed.

Discussions and decisions taken will be recorded, presented to the AE, and stored.

Minutes of the meeting will be issued to the AE and Committee participants no later than 48 hrs after the meeting.

The SMS Administrator will monitor the actions approved by the AE and review the progress made with those who have a commitment for action.

**Responsibility**

The SMS Advisory Committee does not have the authority to direct individual departments. It makes recommendations for action by the responsible managers. The AE will review these recommendations and ensure that corrective actions are taken.

**Schedule**

Regular meetings will be carried out at least once every quarter.

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## **ANNEX O. JAX SAFETY COMMITTEE**

### **JAX Safety Committee**

The objective of the JAX Safety Committee is to communicate safety concerns and propose actions to reduce accidents and incidents and avoid serious injuries in the ramp area of JAX. This committee will be consultative in nature and will have no executive authority.

#### **Terms of Reference**

##### **Purpose**

The scope of this committee is to review operating procedures as necessary to ensure that JAX airside is as safe as possible, and coordinate activities that affect airside operations in the apron area, including hangars, cargo and mail facilities, building interfaces (such as jet bridges, construction activities, etc) and any other that the JAX AOCC Manager(s) deem appropriate to address ramp safety. The Committee has the following functions:

1. Advise the JAX Airport Operations on development of standard operating procedures applicable to the apron area.
2. Help to develop and implement coordination actions for activities taking place at the ramp area.

The following activities are expressly excluded from the scope of this committee:

1. Discussion of any safety issues that do not include promoting ramp safety or coordination of ramp operations with the objective of increasing safety.
2. Discussion of any issues that are already being dealt in other airport or tenant sponsored forums.
3. Customer service or financial issues unless they specifically relate to the proposed operating procedure at hand.
4. Any other grievances that the parties may have with the Aviation Authority or any other tenant, operator.

This meeting will be chaired by one of the AOCC Managers with the SMS Administrator acting as the Secretary.

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**Membership**

The membership of this committee will be constituted by all JAX departments, airport operators, tenants and regulatory, enforcement or other agencies affected by Airside Operations. This following list (non-comprehensive) should at least include:

1. Aircraft Operators
2. FBO's
3. Ground Services Providers
4. Fueling Companies
5. Aircraft Maintenance Companies
6. Catering Companies
7. Air Traffic Control
8. FAA Field Maintenance
9. Florida Air National Guard (FANG)
10. JAX Facilities Maintenance
11. JAX SMS Administrator
12. JAA Engineering & Construction
13. JAAPD (Police Department)
14. JAAFD (Fire Department)
15. USPS (Postal Service)

**Process**

Airport Operations will issue a proposed Meeting Agenda at least 5 days in advance of the scheduled date. Members will have the opportunity of proposing changes to the agenda no later than 48 hrs prior to the scheduled date.

During the meeting all items on the agenda will be discussed as time permits.

Discussions and decisions taken will be recorded, presented to the AE, and stored.

Minutes of the meeting will be issued to the AE and Committee participants no later than 5 business days after the meeting.

**Responsibility**

The SMS Advisory Committee does not have the authority to direct individual departments. It makes recommendations for action by the responsible managers. The AE will review these recommendations and ensure that corrective actions are taken.

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**Schedule**

This committee will meet on a monthly basis for a period of 12 months. At the end of this period a reassessment of the Terms of Reference and frequency of gatherings will be performed by the JAX AOCC Manager(s).

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## **ANNEX P. PLAN TO INTEGRATE APRON SAFETY MANAGEMENT INTO JAX SMS**

### **Introduction**

A disturbing level of accidents and incidents are taking place within the airport air operations area and costs to the aviation industry are becoming unacceptable. A specific plan to integrate apron safety management into JAX SMS will help avoid accidents in an area of high risk.

### **Current Practice**

JAX apron is a non-movement area and activities are individually managed by the organizations working in that area, including JAX employees, airlines, ground-handlers, fuel providers, etc. Currently, JAX is developing rules and regulations that are applicable to all organizations working in the apron area. These regulations establish SOPs for specific activities carried out at the apron. However, for the time being, each organization has their own SOPs and these are not communicated to JAX.

### **Major Causes of Apron Accidents**

There are very few sources of information on apron accidents and incidents because ground occurrences are rarely reported to the airport operator or the FAA, unless it is a serious accident. However, based on industry experience, the major causes of apron accidents are the following:

1. The existing regulations or SOPs are inadequate or not followed;
2. There is poor discipline and inadequate supervision, particularly related to excessive vehicle speed;
3. Ground handling is incorrectly used or even abused, or the equipment maintenance is poor;
4. The environment is very dynamic and requires permanent awareness;
5. Sometimes the weather sets limits to human performance;
6. It is common to have new and relatively unskilled and unsupervised workers who are permanently exposed to high risk situations;
7. Apron activities are highly dependent on human performance and accidents frequently occur due to misjudgement, obscured vision, stress, distraction, time pressures, complacency, ignorance, fatigue, and insufficient supervision or oversight.

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### Safety Management at the JAX Apron

Apron operations present scenarios with often-conflicting goals that require rapid risk management decisions. Balancing the requirement for safety against operating pressures to provide a quick turnaround of the aircraft to avoid delays and disruptions calls for trade-offs. Shortcuts in following SOPs may be taken to facilitate on-time departures, usually without adverse consequences. Workers may be reprimanded and even penalized for failure to keep things moving. Yet, they may be “punished” if the practices they followed contributed to an accident.

JAX plan to improve ramp safety include the following elements, in this order:

1. Establishing an Apron Safety Subcommittee (described in Annex O of this Manual). This is a forum for promoting safety, improving coordination and SOPs for the apron activities. The Subcommittee will have members from every organization having activities in the JAX ramp area;
2. Establishing SOPs that will be approved by JAX and included in the airport’s Rules and regulations. The SOPs will be well understood, practiced and enforced;
3. Defining performance indicators that are specific to ramp operations to monitor safety trends and pointing out specific needs for corrective actions;
4. Setting up a safety promotion and awareness campaign that targets safety issues specifically occurring at the apron (e.g. high traffic speed, fuel spillage, FOD, etc.);
5. Developing a structured training geared to staff capabilities, including:
  - a. Orientation for safety;
  - b. Safe operation of ground support equipment;
  - c. Need for compliance with SOPs; and
  - d. Skills training such as marshalling signals.
6. Diligent internal investigations of apron mishaps, with particular emphasis on the human performance aspects. The results of such investigations will be communicated to airport workers, including the conclusions, lessons learned and recommended actions;
7. Establishing periodic safety audits for monitoring of ground system safety.

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## **ANNEX Q. TABLE FOR AIRSIDE RISK ASSESSMENT**

The following table can be used by the SMS Administrator to summarize information for the existing list of airside hazards.

Hazard #	Consequences	Likelihood	Initial Risk	Short-Term Actions	Residual Risk	Long-Term Actions	Responsibility	Due Date	Residual Risk

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## **ANNEX R. SAFETY PROGRAMS AND EVENTS**

Establishing safety awareness and promoting safety reporting are key elements of an effective SMS. This Annex provides information on suggested means to promote safety awareness and participation in JAX confidential reporting. Training and education are the major sources for developing awareness of potentially hazardous situations, as described in section 4.1 but it is necessary to maintain programs to keep the state of permanent awareness and continuous safety reporting at the airport. The basic methods to achieve these goals are:

- Developing safety incentive programs;
- Communication and Marketing;
- Developing special events;
- Encouraging reporting.

### **Incentive programs**

Safety culture is very much based on the concept that good behavior should be encouraged as much as bad behavior should be punished. Incentive programs are one way to encourage safety awareness and safety reporting when these are the focus of such incentive programs. Incentive programs can take several forms, including for example praise, recognition, or even monetary rewards.

*Safety employee of the month.* Under this type of program, an employee (or employees) is selected every month (or other frequency) for his/her ideas, suggestion or contribution to safety within the organization, for frequently reporting relevant safety issues or helping promote safety awareness among co-workers. The reward can range from having the name published on the intranet or public billboard system, to having the person's photo prominently displayed in the airport or in the airport's newsletter, magazine or other suitable medium, to monetary reward or gift certificate. This program can be further enhanced by having 1) employees nominate candidates with justification and 2) a selection committee composed of a reasonable cross-section (which may change from time to time) of employees from all airport's sections and departments.

*Safety team of the month.* This initiative is similar to the preceding one but focuses on teams rather than individuals, reinforcing the concept of teamwork. It has several advantages over the individual incentive program in that it does not single out individuals and it promotes the idea that teams that work together win.

*Competition.* Competitions can be organized around a safety theme. As with the cases above, this can be individual or team competitions. For example:

- Safety awareness logo design competition;

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- Safety reporting poster(s) design competition;
- Problem solving competitions;
- Best article on safety awareness or safety reporting, to be published in a prominent magazine or newspaper;
- Other.

Care should be exercised in developing incentive programs that focus on lowering accident or incident statistics, as this can lead to underreporting.

### **Communication and Marketing**

Communication is an element of an SMS. Some communication and marketing initiatives can be aimed specifically at promoting safety awareness and reporting across the entire organization. As with the other initiatives previously mentioned, the examples provided below need to be adjusted to fit the size and characteristics of each airport.

**Safety Squawk.** Safety newsletters published monthly (for example) are a great way of promoting safety issues across the organization. They also provide a means of informing external stakeholders, which further enhances the integration of safety cultures.

**Safety page.** Many airports have a magazine published monthly or quarterly, or have access to another type of trade publication through which they can publish articles, information, etc. One idea is to establish a “safety column”, where safety information is discussed, new safety initiatives are presented, and winners of incentive programs are reported (for example).

**Newspaper and media.** When significant safety programs or projects are initiated, media information focusing on the airport’s effort is an effective way of developing employee pride in the project.

**Safety posters.** Posters are a passive training method used to remind employees of a hazard, precaution, or idea. Posters must be current and have a message applicable to the audience. Change them frequently so they don’t become part of the décor. A brief safety message at JAA intranet homepage may be more effective than posters for staff with access to computers.

### **Special Events**

Special events focused on safety, when they are attended by people across different departments and levels, can greatly enhance mutual cooperation and safety awareness. Note that airport service providers (airlines, fuel providers, FBOs, catering, commissionaires, etc.) should also be considered as key potential participants.

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There are many types of such events that can be organized or attended by the airport staff. They include, for example:

- Safety conferences and workshops (promotion and integration will be greatly enhanced if JAX hosts the event);
- Safety campaigns, such as an “Annual FOD Walk”, recruiting airport employees to volunteer to participate walking the full length of the runway removing FOD. Such events can be followed by a staff BBQ, breakfast, etc.;
- Safety-sponsored family days;
- Etc.

### **Encouraging reporting**

The confidential reporting system is a key element of JAX SMS and its effectiveness will have a major role on achieving a positive outcome of the system. There are many processes to encourage JAX workers participating in the reporting process and most have been described in this section, when the focus is the reporting system. Whichever method is used, it is essential that JAX provides feedback for each report, clearly demonstrates how safety improvement is being achieved, and how the improvement was originated from the safety reports.