

JACKSONVILLE AVIATION AUTHORITY
Safety Management System (SMS) Gap Analysis

Version 1.0
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presented to

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1. INTRODUCTION

The Jacksonville Aviation Authority (JAA) selected Applied Research Associates (ARA) and International Safety Research (ISR) to conduct a Safety Management System (SMS) Gap Analysis and develop an implementation plan as part of the FAA SMS Pilot Project. The Gap Analysis team was on-site at JAX from 06 to 08 November 2007. This report presents the observations collected during this assessment

1.1 Scope

The scope of this Gap Analysis includes identification of existing safety programs and processes in operations and organizational documentation from the following areas:

- Operations
- Emergency Response (ARFF)
- Security (JAAPD)
- Infrastructure and Technology
- Marketing and Business Development
- Human Resources
- External interfaces (FAA, FBOs, Tenants, Etc)

The GA does not target:

- Assessment of facilities or processes within the airport that are not directly related to the safety of aircraft operations (i.e.: Parking, Groundside operations, etc);
- Assessment of safety practices of companies or organizations other than JAA operating at Jacksonville International Airport; and
- Assessment of any other applicable Health and Safety requirements, such as those that might be required by state, or federal regulations.

1.2 Gap Analysis process

During the Gap Analysis, information on existing safety processes and practices was collected through document review, site visits, observations and interviews with a cross-section of JAX and JAA employees and external organizations. A list of documents reviewed, persons interviewed and other activities pertinent to this exercise are presented in Annex A. As the FAA SMS regulations are not yet in place for Airport Operators, this information was assessed against the evaluation criteria published by international standards organizations, FAA AC150/5200-37¹, and aviation SMS best practice.

1.3 SMS implementation planning

The team will use the information collected during the Gap Analysis to develop an SMS Manual outline that will meet JAX-specific needs. Based on this outline, the specific SMS processes will be developed in close coordination with JAX staff. These processes will serve as the basis for an implementation plan that will support realization of SMS at JAX.

¹ Introduction to Safety Management Systems (SMS) for Airport Operators, Federal Aviation Authority, 28

2. SUMMARY OF GAPS

The Gap Analysis revealed that JAA /JAX management is committed to SMS implementation. There is a positive attitude and belief that safety is important across the organization. In addition, the Aviation Authority has demonstrated a commitment to safety by taking initiative and starting the SMS development process in advance of the SMS regulation through participation in the FAA SMS Pilot Project. The assessment team also found that the building blocks for many of the required SMS elements already exist in some form; however, in general, many existing processes are not formalized.

The main gaps are as follows:

- Safety policies do not specifically address airside safety and some key elements are absent; including a statement reassuring employees that they can report safety concerns and errors without fear of punishment.
- There is no process for establishing and measuring comprehensive safety goals and objectives.
- Safety roles and responsibilities for employees at all levels and across all departments are not thoroughly defined, including a designated Accountable Executive.
- Processes for communication, including feedback and sharing of lessons learned between groups, are not formalized (defined and documented) or used consistently throughout the organization and with external service providers.
- Procedures to develop, approve, distribute, periodically review and update all safety and operational documentation and records, including version control and disposal, are scarce and where they do exist, are not formalized.
- Except for isolated examples, there is no defined process for the proactive identification of safety hazards or analysis of associated risk (associated with either conventional airside safety hazards or organizational change). The event investigation process does not systematically include the identification of potential contributing factors. Affected personnel and groups are not systematically informed of the results of investigations or corrective actions.
- The process to determine training needs is not comprehensive; and there is no formal process to evaluate the effectiveness of training received.
- There is no internal mechanism to assure that the programs, processes and procedures used by JAX/JAA are effective and meet the needs of the organization (i.e. quality assurance).
- There is no mechanism used to support the integration of JAX safety processes with those of tenants and operators on the airside.

The observations against each SMS requirement are detailed in Annex B JAX Gap Analysis tables.

ANNEX A. GAP ANALYSIS DATA SOURCES

A.1 DOCUMENTS REVIEWED

- ACM -Airport Certification Manual Section 1-22
- ACM -Airport Certification Manual Section 23
- ACM -Airport Certification Manual Appendix A; B and C
- ACM -Airport Certification Manual Section 24 Exhibits A-G
- Approved Safety Equipment
- Asbestos and Lead
- Confined Spaces
- Employee Safety Manual
- Environmental Compliance review Program
- Facility Safety Audit Program
- GASP Form –Final July 2007 General Aeronautical Services Permit
- Analysis Procedures for Injuries, illness and near-miss incidents.
- Hazard Comm. Program
- HAZCOMM Program as required in above document
- Hazardous waste contingency
- Hearing Conservation
- Industrial Waste
- AOCC Handbook
- Movement Area Training Program and Records
- Ground side and movement area incident reports
- Strategic Agenda 2005/2010
- Daily Airfield Inspection Form
- NOTAM Forms
- Airport Rules and Regulations – including SOP manual (draft)
- Tenant inspection checklist (Leasehold Compliance Inspection)
- Minutes of Operations and Safety Meetings
- Job Description for Duty Managers
- Job Description for Supervisor of Operations
- JQR – list of min. requirements of what a person needs to know to do their job. (must be completed within 30 days of issuance)
- Daily Construction Inspection checklist

A.2 INTERVIEWS PERFORMED

During the site visit the team met with a cross-section of JAX employees representing key departments involved in daily airport operation. The team also met with tenants, FBOs and airline operators. More than 30 interviews were conducted with representatives from the following departments:

- Risk Management
- Airport Operations Control Centre
- TSA Operations representative
- FAA/ACTC
- Director of Aviation Management
- Facilities & Maintenance
- JAAPD
- Employee Relations / Customer Service
- Planning & Engineering
- ARFF
- Signature
- Sheltair
- Delta Airways
- U.S. Airways

A.3 OTHER ACTIVITIES

A site tour including the JAX apron, FAA ACTC, Fuel farms, FBOs, FireHall, Cargo Facilities, Mail Processing Facility, was conducted on the first day of the gap Analysis as part of the team's familiarization with JAX operations.

ANNEX B. JAX GAP ANALYSIS TABLES

1. SAFETY POLICY AND OBJECTIVES		
Expectations (Specific expectation and best practice)	Organization reference	REMARKS
1.1 Management commitment and responsibility		
1.1.1 Policy	Strategic Agenda 2005/2006, JAA	Corporate objective to be at the leading edge of airport developments – this includes pursuing safety management and a risk management plan
1.1.1.1 A safety policy is in place (documented).	Employee Safety Handbook	There is a policy in place which could be expanded to address SMS
1.1.1.2 The safety policy is approved by top management.	“	No signature and outdated (printed version)
1.1.1.3 The safety policy is promoted by top management.		Verbal commitment to safety as part of business improvement program
1.1.1.4 The safety policy is reviewed periodically.		No evidence of review process or procedures
1.1.1.5 There is a policy in place that ensures that employees are free to report safety deficiencies, hazards or occurrences without being subject to unjust discipline.		No evidence
1.1.1.6 The policy includes a commitment to continual improvement.	Strategic Agenda 2005/2006, JAA	Verbal commitment to business improvement
1.1.1.7 The policy includes a commitment to comply with applicable legislation and other requirements to which the organization subscribes.		No evidence
1.1.1.8 The safety policy is effectively communicated within the organization. Employees are aware of the policy, and their SMS obligations.	Employee Safety Handbook	No evidence, other than OSH
1.1.1.9 The safety policy is effectively communicated to external parties, including contractors and visitors.	Employee Safety Handbook	No evidence, other than OSH
1.1.1.10 The policy is generally reflected in the safety practices.	Employee Safety Handbook	No evidence, other than OSH

1. SAFETY POLICY AND OBJECTIVES		
Expectations (Specific expectation and best practice)	Organization reference	REMARKS
1.1.2 Objectives	Strategic Agenda 2005/2006 Employee Safety Manual AOCC Objectives and mission	Set of strategic business objectives, published and occupational safety objectives, AOCC mission and vision posted outside door but no safety-specific targets
1.1.2.1 Safety objectives are established and documented for each relevant function within the organization		No evidence
1.1.2.2 Safety objectives are publicized and distributed.	Strategic Agenda 2005/2006	Safety appears in strategic objectives but there are no safety focused objectives
1.1.2.3 A coherent set of safety goals are developed based on objectives.		No evidence
1.1.2.4 The results of hazard identification and risk assessments are considered while setting SMS objectives (see 2.1).		No evidence
1.1.2.5 Objectives are established consistent with the commitment to continual improvement.		No evidence with respect to aviation safety
1.2 Safety accountabilities of managers		
1.2.1 A top manager is assigned, with responsibility and <u>accountability</u> for ensuring that the SMS is properly implemented and performing to requirements in all areas of the organization.		JAX is in the early stages of SMS development. The Director of Aviation Management is assuming this role at this time
1.2.2 The top manager accountable for SMS has control of the financial and human resources required for the proper execution of their SMS responsibilities.		Based on the information collected the Director of Aviation Management seems to fulfill the requirement
1.3 Appointment of key safety personnel		
1.3.1 A qualified person has been appointed to oversee the implementation and operation of the SMS.	Job descriptions currently under review	The Risk Management Administrator has been appointed to oversee SMS

1. SAFETY POLICY AND OBJECTIVES		
Expectations (Specific expectation and best practice)	Organization reference	REMARKS
1.3.2 The safety authorities, responsibilities and accountabilities of personnel at all levels of the organization are defined and documented.		Not directly in line with SMS, however the OSH program considers these requirements.
1.3.3 The organizational structure facilitates communication between the SMS manager, the top accountable manager and line managers.		Yes
1.3.4 All those with management responsibility demonstrate their commitment to continual improvement of SMS performance.		There is a positive attitude and belief that safety is important amongst those individuals with management responsibilities interviewed.
1.3.5 All personnel understand their authorities, responsibilities and accountabilities in regards to all safety management processes, decisions and actions.		Not clearly communicated as there is no airside safety program at this time.
1.4 SMS implementation and management		
1.4.1 There is a strategic SMS implementation (or management) plan including assignment of roles and responsibilities, means and timelines for completion.		A strategic approach for SMS implementation will be the output of the SMS Pilot Project – The implementation plan will be developed in the final phase of this project.
1.4.2 The planning process is conducted at regular, planned intervals, by an SMS planning group, including the SMS coordinator/facilitator.		See 1.4.1

1. SAFETY POLICY AND OBJECTIVES		
Expectations (Specific expectation and best practice)	Organization reference	REMARKS
1.5 Documentation		
1.5.1 Legal and other requirements		
1.5.1.1 Relevant information on legal and other requirements is communicated to employees and other interested parties.		Passive process relies on notification from FAA inspectors for AOCC requirements. Facilities maintenance has an informal process for annual updates to electrical requirements and building codes.
1.5.1.2 License and permit requirements are in place, and legal requirements implemented.		Yes. Passed FAA inspection in 2007.
1.5.2 SMS Documentation		
1.5.2.1 There is consolidated documentation that describes the SMS and the interrelationships between all its components.		See 1.4.1. Refer to the objectives of this project.
1.5.3 Documentation and data control		
1.5.3.1 Procedures for document control are established.		Classification, retention and disposal processes are in place at JAA. Process needs further development

1. SAFETY POLICY AND OBJECTIVES		
Expectations (Specific expectation and best practice)	Organization reference	REMARKS
1.5.3.2 Documents are periodically reviewed, revised as necessary, and approved by authorized personnel.	ACM AEP ARR	There is a process for revision of the ACM by AOCC staff on an annual basis. However other documents, including “Rules & Regulations” have been drafted but not approved. It is not clear who is authorized to issue documentation related to JAX operations, including the ones posted in the JAA Intranet. JAX system is not linked to the JAA system for documentation development and approval.
1.5.3.3 Obsolete documents are protected against unintended use and retained documents are identified.		No evidence
1.5.3.4 Current versions are available at all relevant locations.		Up to date documentation is available on the intranet but not widely used. Documentation control is not evident.

1. SAFETY POLICY AND OBJECTIVES		
Expectations (Specific expectation and best practice)	Organization reference	REMARKS
1.5.4 Record and records management		
1.5.4.1 The organization has a records system that ensures the generation and retention of all records necessary to document and support operational requirements, in accordance with applicable regulatory requirements and industry best practices.	AOCC Handbook Movement Area Training Program and Records	Processes are informal. However, AOCC has a records system that is working well for mandatory reportable incidents and training records for the Movement Area training program. There is a work order system and PM system for facilities maintenance. (CMMS) Training records are also kept and evident in the AOCC Jet Bridge training records not kept by JAX
1.5.4.2 The system provides the control processes necessary to ensure appropriate identification, legibility, storage, protection, archiving, retrieval, retention time, and disposition of records.		Records appear to be in good order and are retained in accordance with legal requirements. No formal or standardized processes.

2. SAFETY RISK MANAGEMENT		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
2.1 Hazard identification		
2.1.1 Hazard identification process		
2.1.1.1 A procedure for the identification of hazards and assessment of risks is established and the methodology is defined.	Daily Construction Inspection checklist	Mostly checklist approach Daily runway and airside checks, multiple reporting systems and surveillance which serves as reactive reporting. Construction daily inspection. No formalized proactive hazard id.
2.1.2 Reporting systems		
2.1.2.1 There is a reporting process, which is simple and accessible.	Ground side and movement area incident reports	No formal process for hazard reporting, but 2020/2040 exists for incident reporting. Informal reporting but no supported by documentation (e.g. facilities maintenance keeping track of contractors dropping FOD on the runway or inappropriate storage, weekly meetings with foremen). There is a widely used and accessible maintenance reporting and tracking system (DataStream).
2.1.2.2 Reports are reviewed at the appropriate level of management.		See 2.1.2.1 no hazard reports generated. Mandatory incidents are reviewed for liability. There is an OSH process in the safety handbook – but no evidence that it is used.
2.1.2.3 There is a feed back process to notify contributors that their reports have been received and to share the results of the analysis.		No – this is only done through initiatives of individuals (e.g. maintenance) Closest thing to a feedback process is the customer improvement program and survey feedback.
2.1.2.4 All identified hazard data are systematically recorded, stored and analyzed.		No evidence

2. SAFETY RISK MANAGEMENT		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
2.1.2.5 There is a system to share significant safety event information with other similar organizations, subject to reasonable restriction on proprietary and confidential information.		No evidence
2.2 Risk assessment and mitigation processes		
2.2.1 Risk assessment		
2.2.1.1 There is a structured process for the assessment of risk associated with identified hazards, expressed in terms of severity and probability of occurrence. (see also 1.5)		No evidence.
2.2.1.2 Risk assessment procedures cover all facilities, routine-non routine activities, and personnel having access to the workplace (including visitors, subcontractors, etc).		No evidence other than security risk and access control working group, and OSH
2.2.1.3 Criteria are established for evaluating risk and the level of risk the organization is willing to accept.		This concept is being applied to financial liability and associated risk.
2.2.1.4 The results of the risk assessment are taken into account in the development of facilities, equipments, procedures, training, etc. (see 4.1) (see 2.2.1)		No evidence
2.2.1.5 Results of hazard identification and risk assessments are considered while setting SMS objectives. (see 1.1.2)		See 1.4.1

2. SAFETY RISK MANAGEMENT		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
2.2.2 Operating procedures		
2.2.2.1 Operations and activities associated with identified risks, where control measures need to be applied, are identified. (see 2.1. and 2.2)	Airport Certification Manual, AEP, ESM	There is specific evidence that SOPs are implemented and used, sometimes going beyond regulatory requirements. (AOCC)
2.2.2.2 Operating procedures requirements cover all activities and facilities, especially in activities where their absence could lead to deviations from the policy, safety objectives and / or regulatory requirements.	ARR	Informal procedures for operations, not centrally stored other than ACM – which does not seem to be used outside the AOCC. The Rules and Regulations manual contain most of the procedures that will satisfy these requirements, however it has not been approved.
2.2.2.3 The SMS specifically addresses the coordination of SMS interfaces with external organizations, including service providers, suppliers, sub-contractors, etc.		See 1.4.1
2.2.2.4 Operating criteria are stipulated in the procedures.		Refer to 2.2.2.2
2.2.3 Corrective action plans		
2.2.3.1 Corrective and preventive actions are generated in response to risk assessment or event analysis.		No evidence
2.2.3.2 The organization evaluates the effectiveness of the corrective / preventive measures that have been developed.		No evidence
2.3 Internal safety investigations		

2. SAFETY RISK MANAGEMENT		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
2.3.1 There is a process to ensure that all reported occurrences and deficiencies are investigated.		Mostly liability related and for OSH have a process— Not applied with the objective of identifying safety hazards and root causes. There are limited informal processes looking for root causes
2.3.2 Investigations are targeted towards identification of the root-cause, and consider human and organizational factors in the analysis.		No evidence
2.3.3 There is a process to identify lessons learned from safety-significant events from other organizations.		No evidence

3. SAFETY ASSURANCE		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
3.1 Safety performance monitoring and measurement		
3.1.1 Performance monitoring and measurement		
3.1.1.1 There are safety performance indicators and safety performance targets directly related to safety objectives (see 1.1.2).		No evidence
3.1.1.2 There is a process for reviewing the adequacy / appropriateness of safety performance indicators.		No evidence
3.1.1.3 Procedures to monitor and measure SMS performance on regular basis are established.		See 1.4.1 - Trend analysis is done with respect to OSH
3.1.1.4 There is a process and / or procedures to ensure calibration and maintenance of monitoring equipment.		Applies to third parties operating within the airport. No evidence of JAX process in place to monitor results.
3.1.2 Audit		
3.1.2.1 The organization conducts reviews and audits of its processes, its procedures, analyses, inspections and training.	Strategic Plan 2005/2010	Evidence that there are processes for OSH and the Environment. But not related to aviation safety other than Part 139 – SEE PG10 OF THE STRATEGIC PLAN AOCC does training review.
3.1.2.2 There is an operationally independent audit function with the authority required to carry out an effective internal evaluation program.		No evidence
3.1.2.3 Audits address all functions, activities and groups within the organization.		No evidence

3. SAFETY ASSURANCE		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
3.1.2.4 There are defined audit scope, criteria, frequency and methods.		No evidence - annual inspection of tenants to ensure that lease agreements are complied with
3.1.2.5 Audits take into account identified risks and previous audit results.		No evidence
3.1.2.6 Audits are carried out based on an approved and recognized SMS set of requirements.		See 1.4.1
3.1.2.7 SMS evaluators / auditors are trained and qualified.		No evidence
3.1.2.8 Audit results are acted upon.		No evidence
3.2 The management of change		
3.2.1 There is a process in place for analyzing changes to operations or key personnel for risks.		No evidence (example elimination of Airport Manager). There evidence that some informal processes take place but they do not follow a systematic approach.
3.2.2 Proposed corrective and preventive actions are reviewed through risk assessment.		See above.
3.2.3 There is a procedure to record verification of action(s) taken and the reporting of verification results.		No evidence
3.3 Continuous improvement of the safety system		
3.3.1 Continuous improvement is an inherent part of the safety objectives at all levels of the organization.		Evident in business improvement objectives and strategic plan as well as actions taken by managers – for example the pursuance of this Pilot Project
3.3.2 Regular and periodic, planned reviews are conducted regarding organization safety processes and performance, with the objective of identifying opportunities for improvement.		No evidence

3. SAFETY ASSURANCE		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
3.3.3 Major decisions and actions aimed at improving safety are monitored for their effectiveness and further action is taken when the expected risk benefit is not met.		No evidence
3.3.4 Managers are kept informed of the internal safety reviews, planned and implemented corrective actions.		No evidence
3.3.5 There is an annual management review of the entire SMS.		See 1.4.1
3.3.6 The results of the management review are documented.		See 1.4.1

4. SAFETY PROMOTION		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
4.1 Training and education		
4.1.1 Training requirements are defined so that personnel are competent to perform their duties.		JQR exists; not clear who writes them.
4.1.2 Appropriate training is provided. (see 2.2.1) This includes specialized training to personnel involved in safety-critical tasks, general SMS training to all personnel, and SMS training for new employees as part of the indoctrination training.		No centralized training records or responsibility to ensure that training s taking place. There is indoctrination & recurrent training for AOCC and informal for other areas. Safety training is seen to be the responsibility of Risk Management. No SMS training in place. However monthly safety trainings are run and made available for all staff.
4.1.3 Training effectiveness is measured. (see 3.1.2)		Formalized procedures for specific activities are in place. Informal processes in other areas. HR is moving in the direction of evaluating the impact/effectiveness of professional development.
4.1.4 There is emergency preparedness and response training for affected personnel (see 1.5).		Yes. Evidence based on regular exercises conducted by Police, Ops, Police and ARF do maintain training records.
4.1.5 Training records are maintained. (see also 1.6.4)		Yes. Corporate training maintained at HR. Other records are kept, but decentralized. Managers can pull records from HR on request.

4. SAFETY PROMOTION		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
4.2 Safety communication		
4.2.1 The free exchange of safety information, across all areas and through all levels, both vertically and horizontally, is actively promoted by management and facilitated by mechanism and processes.	<ul style="list-style-type: none"> ○ Monthly safety meeting / training ○ Monthly operations meetings (run by Izzy, with Airlines, tenants, etc) ○ Quarterly Runway Safety Meetings (Run by FAA) ○ FAA ATCT Quarterly Customer Forum (Sept 18, 2007) ○ AOCC Weekly Managers ○ Semi-annual Wildlife workgroup meeting. ○ Weekly Operations Staff Meeting (Izzy staff meeting) Meeting Agenda (October 11, 2007) ○ Terminal Expansion meetings ○ Tenant advisories (bulleting) ○ Monthly JAA Managers meeting ○ Weekly foreman meeting 	Existing processes: Monthly Operations meetings, quarterly safety meetings with tenants and FAA. Some meetings have no minutes either issued or distributed. No formalized corrective action or feedback process
4.2.2 Employees are involved / consulted in the development and review of policies and procedures to manage risks. (linked to 1.6.4)		No evidence for safety risk management procedures

4. SAFETY PROMOTION		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
4.2.3 There are multi-disciplinary, multi-level safety committees, or operational committees for which safety is a standing agenda item, and where SMS-related issues are critically assessed and objectively discussed.		No evidence, however verbally confirmed that in some meetings safety is a standing item on the agenda
4.2.4 The results of safety coordination meetings are communicated to all employees.		No evidence. No minutes are issued/transmitted
4.2.5 Safety information is disseminated throughout the organization and the effectiveness of this process is monitored.		Intranet is one tool used to disseminate 'safety-grams' and monthly safety meetings/training. No evidence of evaluation for effectiveness

5. EMERGENCY PLAN		
Expectations (Specific Expectation and best practice)	Organization reference	REMARKS
5.1 Coordination of the emergency response plan		
5.1.1 Potential emergency situations and incidents are identified.	AEP	Yes
5.1.2 The organization has emergency response procedures appropriate to the size and scope of their operations and identified potential emergency situations and incidents (see 5.1.1).	AEP	Yes.
5.1.3 The emergency response procedures are documented, implemented and assigned to a responsible manager.	AEP	Yes
5.1.4 The organization has a process to coordinate emergency planning, distribute the emergency response plan and procedures and communicate the content to all relevant personnel.	AEP	Yes, including NIMS training
5.1.5 Emergency response teams are properly trained (see 4.1).		Yes
5.1.6 The organization conducts drills and exercises (where practicable) with all key personnel, at specified intervals.		Yes
5.1.7 The emergency response procedures are periodically reviewed as part of the management review of the SMS, and after key changes, including organizational and personnel changes.		Yes it is reviewed.

