Gap Analysis

Kona International Airport at Keahole (KOA)

Safety Management System

Submitted to:

State of Hawaii
Department of Transportation
Airports Division

Submitted by:

Jacobs Consultancy

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EXECUTIVE SUMMARY

In February 2007 the FAA issued Advisory Circular, AC 150/5200-37, *Introduction to Safety Management Systems (SMS) for Airport Operators*, to introduce the concepts of SMS. The FAA also initiated a pilot program to assist airports in the development of an SMS specific to their situation and operations, and to share their acquired experience on SMS development and implementation with other airports and the FAA.

The Hawaii Department of Transportation, Airports Division (HDOT-A) has decided to take a leadership role in the development and implementation of SMS at the Kona International Airport at Keahole (KOA) by participating in the FAA pilot program.

The purpose of this document is to provide a Gap Analysis to identify procedures, policies, documentation, and actions that HDOT-A and KOA need to implement as part of its SMS that go beyond the current FARs Part 139 **requirements**. The Gap Analysis outlines SMS requirements and compares them with Part 139 requirements.

As detailed in this report, the gaps between existing requirements and the FAA's anticipated SMS regulations and guidance material are as follows:

Safety Policies and Objectives

- Specific aviation safety policies and objectives need to be developed for inclusion in the SMS. The Gap Analysis outlines key factors that should be considered in Safety Objectives and that will be further elaborated in the SMS Manual.

Safety Organization

- HDOT-A and KOA do not have an organizational structure defined specifically for addressing the requirements of an SMS including the role of top management. The Gap Analysis details the potential safety organization for consideration for the SMS Manual, including the role of the District Engineer in conducting safety risk management assessments (operational risk assessments) for projects.

Safety Risk Management

- KOA currently does not have a formal Safety Risk Management (SRM) process for aviation safety. The SRM process will be developed and documented during Phase 2.

Safety Assurance

- Phase 2 will develop:
  - Non-punitive reporting.
  - Systematic reviews and audits.
  - Safety oversight.

Safety Training and Communication

- Gaps include:
  - SMS training.
  - Aviation safety programs.

Phase 2 will develop the SMS based on the gaps identified.

During the Gap Analysis, Jacobs Consultancy also made a number of observations on existing practices and policies currently required under FARs Part 139. Not necessarily part of an SMS, these observations for consideration by KOA and HDOT-A are as follows:

- The HDOT-A should consider making the wearing of safety vests mandatory for all personnel working on the AOA.
- HDOT-A should consider a more structured Enforcement Program for specified airside safety violations.
- HDOT-A should strengthen the training function at KOA and HDOT-A to ensure sufficient resources are available.
- Existing training at KOA should be augmented with material from the FAA and other sources such as the American Association of Airport Executives.
- ARFF personnel should be trained to conduct inspections of all fueling operations on the airport.
- HDOT-A should develop and provide a training module in inspection techniques.

During Jacobs Consultancy's visits to KOA, a number of issues were identified that have the potential to impact the safety of passengers, airport employees or damage equipment. These issues should be reviewed by KOA, the Airport Safety Committee and Safety Risk Management as part of the SMS process. The SMS Manual will describe these processes. These issues will also be used for SMS training purposes. The issues, outlined in Appendix B of this report, are as follows:

- Ramp congestion, particularly with increasing traffic volumes;
- Operations at the commuter terminal;
- Fueling operations and the lack of fuel storage capacity; and
- Very rough terrain due to lava fields outside of the graded runway safety areas.

I. INTRODUCTION

Background

In February 2007 the FAA issued Advisory Circular, AC 150/5200-37, *Introduction to Safety Management Systems (SMS) for Airport Operators*, to introduce the concepts of SMS. The FAA has also opened a rulemaking project to consider formal requirements for SMS at certified airports. In support of this rulemaking effort, the FAA has initiated a pilot program to assist airports in the development of an SMS specific to their situation and operations, and to share their acquired experience on SMS development and implementation with other airports and the FAA.

The Hawaii Department of Transportation, Airports Division (HDOT-A) has decided to take a leadership role in the development and implementation of SMS at the Kona International Airport at Keahole (KOA) by participating in the FAA pilot program.

As part of the pilot program, HDOT-A has retained the services of Jacobs Consultancy to provide consulting services to develop a Safety Management System (SMS) Program for KOA.

Objectives

The specific objectives and deliverables of the SMS development project include:

1. A Gap Analysis: The gap analysis will identify procedures, policies, documentation, and actions that HDOT-A and KOA need to implement as part of its SMS that go beyond the current Part 139 requirements.

2. A Draft Plan: A draft of the complete SMS Manual and Program Plan.

3. The Final Plan: The final copy of SMS Manual and Program Plan ready for implementation by KOA and HDOT-A. The FAA's requirements for the Gap Analysis, SMS Manual and Program Plan are included in Appendix A.

4. Training of KOA and HDOT-A Divisional employees in SMS.

This report addresses the Gap Analysis. Phase 2 of the SMS project will develop the SMS for KOA and document it in an SMS Manual and Program Plan.

The Gap Analysis addresses what needs to be developed and implemented beyond the requirements of current Part 139. Our analysis was not an audit of existing KOA policies and procedures as to their adequacy, completeness or compliance with Part 139 requirements. This is the subject of detailed FAA certification audits which is well beyond the scope of this project. However, based on our review of documentation and discussions with KOA and HDOT-A managers, we have added in the report, where appropriate, a number of observations on existing practices and policies for consideration by HDOT-A. During Jacobs Consultancy's visits to KOA, a number of issues were also identified that have the potential to impact the safety of passengers, airport employees or damage equipment. These issues should be reviewed by KOA, the Airport Safety Committee and Safety Risk Management as part of the SMS process. The SMS Manual will describe these processes. These issues will also be used for SMS training purposes. The issues are outlined in Appendix B.

Methodology

Jacobs Consultancy prepared the Gap Analysis based on:

- Relevant FAA documentation including:
  - Advisory Circular, AC 150/5200-37, February 2007
  - The Draft Statement of Work (SOW) for the SMS Airport Pilot Study
- Relevant HDOT-A and KOA documentation;
- Selected interviews with HDOT-A Division managers and KOA managers and supervisors;
- Guidelines regarding SMS from the International Civil Aviation Organization (ICAO); and
- The consulting team's experience with the preparation of SMS for other airports.

Operations at KOA

Kona International Airport at Keahole (KOA) is located on the luxurious Kona Gold Coast of West Hawaii. KOA is operated by the State of Hawaii's Department of Transportation Airports Division and occupies 4,204 acres of land 9 miles northwest of the central business district of Kailua/Kona. The single story open-air set of terminal structures is located on the eastern edge of the airport and accommodates domestic overseas, international, inter-island, commuter/air taxi, and general aviation activities. Kona International's daily operations include a wide range of aircraft such as CRJ-200, B-767, B-737, B-757, B-717, B-777 and B-747 aircraft from many domestic and international air carriers as well as general aviation and U.S. military aircraft. In 2006 there were 143,411 operations, 3,033,000 passengers, 23.900 tons of cargo and 8,512 tons of mail.

The Airport has an 11,000-foot runway and a complex of facilities at the southern edge of the airfield for air cargo and mail, airport support, and general aviation operations. An additional complex of facilities, used primarily by rental car agencies for returns, general maintenance, and storage is located along the airport access roadway, midway between the passenger terminals and the main highway. General aviation, cargo, and related facilities are located to the south of the passenger terminals and the access roadway.

Structure of the Gap Analysis

The Gap Analysis is structured to address the four elements of an SMS as outlined in the FAA's Advisory Circular. As well, we have added a separate element for Safety Organization which the Advisory Circular described under Safety Policy and Objectives. In previous FAA pilot projects that we conducted, the FAA SMS Program Office agreed to this structure.

1. Safety Policies and Objectives
2. Safety Organization
3. Safety Risk Management
4. Safety Assurance
5. Safety Promotion

Under each of these five elements, the Gap Analysis addresses the FAA's detailed SMS Program content outlined in the FAA Advisory Circular, AC 150/5200-37, and the FAA Draft Statement of Work (Appendix A).

More specifically for each element, the Gap Analysis:

1. Summarizes the FAA's SMS guidance documentation, international guidance material where appropriate and Jacob's Consultancy Team's SMS experience;

2. Describes what systems, policies and practices exist at KOA; and then

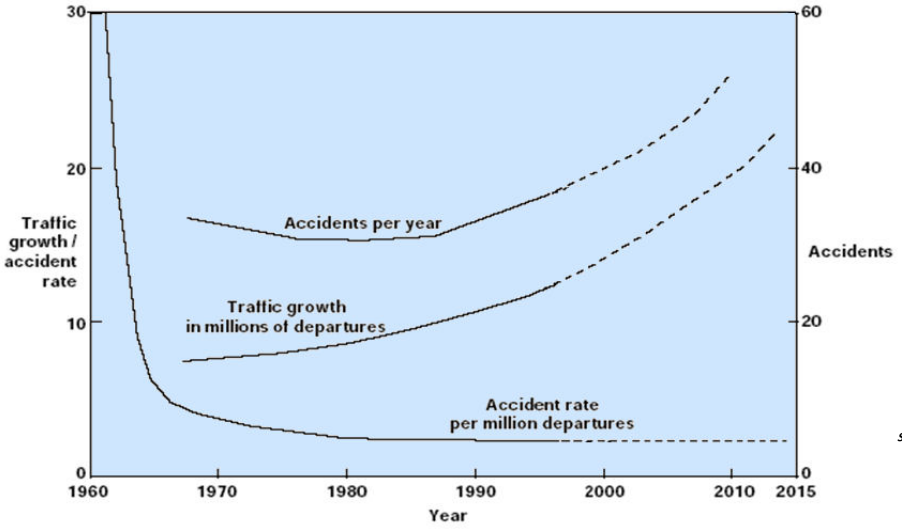
3. Identifies procedures, policies, objectives, organizational issues and documentation (i.e., Gaps) that need to be developed for SMS and how they will be addressed in the subsequent tasks to develop the SMS Manual and Safety Program Plan.

Intent of SMS

The intent of SMS is to improve aviation safety. The elimination of aviation accidents is a desirable goal. However, no human activity or human-made system can be guaranteed to be absolutely safe. Failures and errors will occur, in spite of best efforts to avoid them. Although major air disasters are rare events, less catastrophic accidents and a whole range of incidents occur more frequently. Ignoring these underlying safety hazards could potentially pave the way for an increase in the number of more serious accidents.

The air transportation industry's future viability may well be predicated on its ability to sustain the public's perceived safety while traveling. The management of safety is therefore a prerequisite for a sustainable aviation business.

The accident rate in the air transport industry has decreased dramatically between the early 60's and the mid 80's from 30 to near 2 per million departures. It could be easily argued that this rate was achieved from continuing efforts by the industry to make air travel a safe mode of transportation. But as the following diagram illustrates, between the mid eighties and now, we find an 80% increase in air traffic and a 73% increase in the number of accidents. Although the accident rate per million departures remains steady at 2, air travel safety as perceived by the public is likely to decline if traffic growth and accident rate per million departures remain the same. Air travel related accidents make instant worldwide news and there will be more and more reports even while maintaining a relatively low accident rate. Safety management when well in place within the industry will be a key factor in further reducing the accident rate and achieving actual and perceived improvement in aviation safety.



Source: Internal Jacobs Consultancy for illustrative purposes

II. SAFETY POLICIES AND OBJECTIVES

Key Features

The FAA SOW for SMS states that Safety Policies and Objectives should include:

- Written safety policy statement(s) and a description of how it is communicated to airport employees; and
- Identification and description of the airport safety goals.

The FAA Advisory Circular under Safety Policy indicates that management's commitment to safety should be formally expressed in a statement of safety policy that reflects the airport's safety philosophy and that is signed by Top Management.

Key attributes of the policy could also include the following:

- The commitment of senior management to implement SMS;
- States the airport's intentions, management principles and commitment to continuous improvement to safety at the airport;
- Is communicated to all employees;
- Is implemented at all levels of the airport;
- Confirms that safety is everyone's responsibility; and
- Recognizes that there will always be threats to safety and that the airport will provide the highest reasonable standard of safety. The Advisory Circular refers to a commitment to make safety the highest priority which may have a different meaning.

The Advisory Circular under Safety Objectives (Section 2.2.2) does not address objectives but deals with the organization for safety. The Advisory Circular does refer to safety performance indicators and targets under Safety Assurance (Section 2.4).

SMS guidelines, including the FAA Advisory Circular, give very little practical advice on safety goals or objectives. The terms "goals" and "objectives", as well as "targets" are frequently used interchangeably. The intent in the guidelines; nonetheless, is to have measurable indicators of safety.

Existing Policies and Objectives

HDOT-A has an Employee Safety and Health Program which is based primarily on the requirements of the Hawaii Occupational Safety and Health (HIOSH) standards for the benefit and general welfare of HDOT-A employees. HDOT-A's occupational safety and health stated policy is to provide a safe, accident-free, and healthy work environment for its employees in areas such as:

- Personal Protective Equipment (PPE);
- Respiratory Protection;
- Hazardous Waste Operations;
- Noise Exposure;
- Hazard Communication;
- Biological Agents/ SARS/Blood borne Pathogens;
- Confined Space; and
- Violence in the Workplace.

The Employee Health and Safety Program is not directly related to airside aviation safety which is the intent of SMS.

HDOT-A does not currently have a written safety policy endorsed by Senior Executive (Top Management) to indicate their commitment to aviation safety which is a key element of an SMS.

Gaps and Development Required

Safety Policies

Phase 2 of the SMS project will need to develop and document aviation safety policies that should be endorsed by HDOT-A.

Note: In the development of SMS, some airports have considered combining SMS and employee safety in one document. Initial comments from HDOT-A management have also suggested that this integration be considered. However, one document will likely not be feasible or practicable. Jacobs Consultancy discussions with the FAA have indicated that SMS will eventually be part of the Airport Certification Manual (ACM) in the future and that they are not interested or concerned with Occupational Safety and Health issues or requirements. Requirements by the Hawaii Occupational and Health and by the FAA are not the same (for example, reporting and risk analyses differ). Although one safety document is not practicable, we do believe that within the KOA and HDOT-A organization, those currently involved in safety could potentially also be involved in SMS; for example, a safety office or officer that addresses both SMS and HIOSH requirements. This organization arrangement will be considered further in the subsequent Phase 2 of this project to develop the SMS.

Safety Objectives

Safety objectives are also required to allow for assessment of safety performance and developments at the airport. Safety objectives should be linked to factors such as:

- Safety hazards identified during inspections; e.g., type and quantity of FOD (Note: the airport's self-inspection program captures this information but does not systematically monitor trends in this information);

- Airside safety violations;
- Aircraft bird strikes;
- Incursions of vehicles, aircraft, or pedestrians on movement areas;
- Accidents and incidents on the AOA and/or the controlled movement area involving air carrier aircraft and/or ground vehicles;
- Operable time of lighting systems;
- Number of airside based employees who have received safety and SMS related training;
- Non-punitive safety reports; and
- Airport Tower operating times.

The safety objectives will need to be included in the Airport District Manager's statement of policy and objectives and then communicated to all of the organization. They should be no different from other organizational objectives in that they should be:

- Specific and measurable;
- Achievable and challenging; and
- Realized within a specific time frame.

More specific safety objectives applicable to KOA will be developed during Phase 2 of the SMS pilot project.

III. SAFETY ORGANIZATION

Key Features

The FAA SOW for SMS describes the following requirement related to the safety organization.

- An organizational chart identifying the names and safety responsibilities of all key personnel, such as the following:
  - Top Management
    - Safety Manager
    - Department Heads/Managers
    - Established Safety Committees and Chairpersons

The Advisory Circular provides considerable guidance on how an airport should be organized for safety. The key features described in the Advisory Circular are as follows:

- SMS requires that Top Management in the organization (also referred to in the Advisory Circular as Senior Management), one with the authority to adequately control resources, be assigned SMS responsibilities.
- Defined safety authorities and responsibilities for all key personnel that are assigned to the airport.
- Identification within the system of someone responsible for administration of the overall SMS. Often, that one responsible person will be the Safety Manager. This person reports to the highest level of management to assure appropriate consideration of all reports, recommendations, and issues.
- At many airports, operations may support the Safety Manager being a full-time permanent employee and in some cases having a support staff.
- The responsibilities of the Safety Manager are clearly defined along with identified lines of communication within the organization.
- Depending on the size and complexity of the airport's operation, it may be useful to establish an Airport Safety Committee (ASC). The safety committee acts as a source of expertise for the Safety Manager and is chaired by the Safety Manager.

The SMS should also address how, and to what extent, tenants at the airport such as the airlines, fueling companies, and ground handlers are integrated into the airport SMS. ICAO has made very strong reference to the inclusion of tenants at an airport. ICAO's Safety Management Manual, Doc 9859 A/460, First Edition – 2006, chapter 18, – AERODROME OPERATIONS, states that:

Subsection 18.3.1

(...) Within the framework of an aerodrome SMS, the aerodrome management must oversee the activities of all the service providers, tenants, contractors and others to ensure the safest and most efficient performance of the aerodrome.

Subsection 18.3.8

Given the complexity of the factors creating risk potential at aerodromes, the aerodrome management must coordinate the activities of the diverse stakeholders at an aerodrome – often with conflicting expectations and priorities. The sharing of a common focus among these stakeholders, most of whom are employees of agencies other than the aerodrome authority, needs to be fostered. In addition, resource commitments from the airlines and other service providers must be obtained.

The FAA Circular does not address this organizational requirement to any extent. Tenants are major contributors to accidents at an airport and if they are not integrated into the airport's SMS, then the SMS may not be very effective. Yet at the same time, an airport does not have direct accountability for tenant operations. There are number of means that tenants could be included or participate in the airport SMS including:

- The vehicle operator permit system;
- The airport's self inspection program;
- Participation in Safety Committees;
- Safety audits; and
- New and revised airport tenant use and lease agreements.

Existing Policies, Practices and Systems

The organizational structure for KOA is depicted in Exhibit III-1. The key positions that have a direct impact on aviation safety at KOA include:

- The Airports Division Senior Management;
- The Airport District Manager;
- The Assistant Airport Superintendent;
- The District Engineer;
- The General Construction and Maintenance Supervisor;
- The Airport Operations Control Supervisor;

- The Airport Safety, Security and Certification Specialist;
- The Chief, ARFF; and
- The Contract Control Tower.

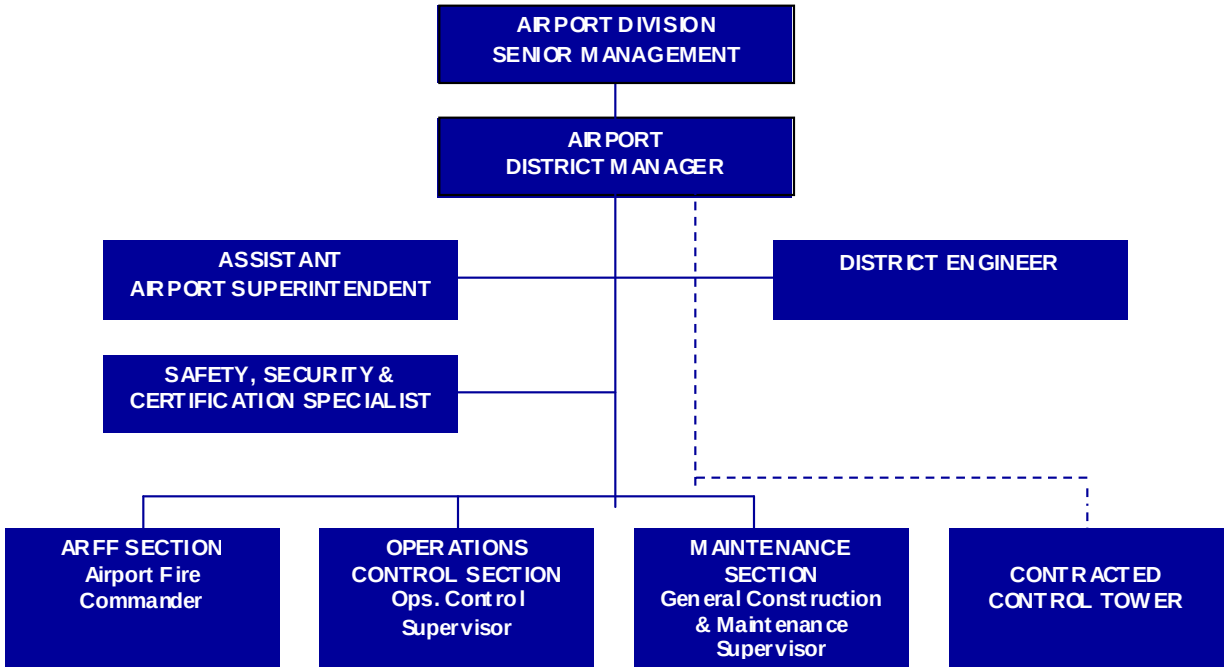


Exhibit III-1. KOA Organization Structure

The **Airport District Manager** (ADM) reports to the Airports Administrator at the Airports Division. As well, the ADM receives functional direction, advice and assistance from the Airports Division Senior Management as detailed subsequently. The ADM manages, operates and maintains KOA in conformity with State and Federal laws and regulations, as well as HDOT-A policies and procedures.

The Airport District Manager is responsible for ensuring that the Airport Certification Manual (ACM) is kept current and for directing its implementation. As such, the Airport District Manager is accountable for the safe operation of aviation activities, maintenance and construction of all facilities at KOA.

The Airport District Manager also has overall responsibility for dealing with emergencies that occur within the boundaries of the Kona International Airport at Keahole. It is his responsibility to prepare and promulgate an emergency plan. During an emergency, he is responsible for directing actions of the airport emergency staff, providing liaison with supporting County, State and Federal agencies and providing liaison with the press. The ADM is also responsible for managing General Lyman Field, Waimea-Kohala Airport and Upolu Airport.

The **Assistant Airport Superintendent** at KOA provides administrative assistance to the Airport District Manager, particularly in the area of property management. He also provides management relief for the District Manager. He does not play a direct role in the daily activities of aviation safety.

The **District Engineer** is responsible for identifying, planning, coordinating and monitoring airport maintenance projects. He is responsible for monitoring and inspecting the work of contractors and vendors and ensuring that they follow construction practices that ensure safe airside operations. The District Engineer also coordinates the planning and implementation of capital projects controlled by Divisional Engineering. As such, he is responsible for safe construction practices at KOA including the AOA.

The **General Construction and Maintenance Supervisor** and his staff have important responsibilities that impact aviation directly. These responsibilities include:

- Maintaining the concrete and asphalt integrity of all runways, taxiways and ramp to provide a high level of physical safety;
- Daily, weekly, monthly and random inspections of runways and taxiways, beacon and wind sock, airfield lighting, fencing and vegetation growth;
- Implementing wildlife control on the AOA if and when required;
- Maintaining runway and taxiway paint markings to help in the prevention of runway incursions;
- Runway rubber removal maintenance to comply with FAA Standards;
- Monitoring and removal of any FOD on all runways, taxiways, and ramps for prevention of accidents;
- Maintaining service roadway system to provide easy access around the airfield without interfering with air traffic;
- Installation, cleaning and replacement of signs on all AOA and access roads for safety to prevent vehicle and aircraft accidents;
- Maintaining the perimeter fence line to prevent wildlife and unauthorized persons from entering the AOA to provide for safe aircraft operations;
- Maintaining all airfield lighting for runways, taxiways, and ramps for safe aviation operations; and
- Maintaining emergency generator for airfield lighting.

The **Airport Operations Control Supervisor** supervises the work of the Airport Operations Control Section which consists of 5 employees (including the supervisor) and airport policing services provided by contracted security services. The Operations Control Section is responsible for:

- Enforcing Title IXX provisions, quarterly T-Hanger inspections, ensuring proper invoicing of scheduled and itinerant aircraft;
- Staffing and operating the Airport Operations Control Center;

- Assigning aircraft to gates when required (e.g., when a preferential gate is occupied as a result of delays in departures of another aircraft or early arrivals);
- Conducting daily inspections of the runways, taxiways, ramps and aprons to check for FOD, wildlife, obstructions and other hazardous conditions;
- Patrols of airport operational areas to monitor and control, as required, the movement of aircraft, vehicles and support personnel;
- Distributing Notice to Airmen (NOTAMs). These may be prepared by the District Airport Manager, the Airport Operations Supervisor or the General Construction and Maintenance Supervisor;
- Monitoring tenant activity in T-hangars;
- Supervising contract security services which includes:
  - Implementing the airport badging and vehicle identification program, and related driver training and testing described subsequently;
  - Perimeter patrols; and
  - Terminal, landside and airside policing.

Three of the contract security services' officers have police powers as law enforcement officers.

The **Safety, Security and Certification Specialist** is responsible for participating in FAA certification inspections and ensuring correction of deficiencies. He is also responsible for implementing the Employee Health and Safety Program at KOA. The Safety, Security and Certification Specialist is a hands-on supervisor that will report and correct airside safety and security issues when he identifies them to ensure the enforcement of airport rules and regulations.

The **Airport Fire Commander** directs KOA's Airport Rescue and Fire Fighting (ARFF) personnel and equipment. He is responsible for ensuring ARFF training and operations at the airport are in accordance with FAA regulations. Based on the largest type of aircraft used at the Airport, the Airport has been designated as Category D for Aircraft Rescue and Firefighting (ARFF). The Fire Department has three (3) ARFF vehicles with one operator for each vehicle available at all times during operating hours of the airport. KOA ARFF is a 24/7 operation.

According to the ACM, ARFF is responsible for conducting inspections of fuel farm/storage and mobile fuelers. KOA management expressed concerns that they did not have capability or expertise to do these inspections. ARFF personnel should be trained to conduct inspections of all fueling operations on the airport. The training could be provided under an agreement with HCC.

The **Control Tower** is contracted out to Air Services Pacific which is required to provide services in accordance with FAA regulations governing air traffic control (ATC).

Airport Committees

There are a number of committees at KOA that deal with a wide range of tenant, operations and related safety issues. The committees include:

- An Airport Operators Committee (AOC) that is chaired by an airline station manager meets monthly. Airport management attends this meeting. Safety is discussed if it is raised as an issue by anyone on the committee.

- HDOT-A Employee Safety Committee that deals with occupational health and safety. This committee generally meets monthly. One of the Airport's supervisor or superintendents chairs the meeting.

- A General Aviation (GA) Committee that usually meets quarterly to address GA concerns such as leases.

HDOT-A Divisional Organization Structure

The Airport District Manager reports to the Airports Administrator who heads the Airports Division which is part of the Department of Transportation in the State of Hawaii. The Airports Divisional organization structure is shown in Exhibit III-2. The key organizational units that have an impact on aviation safety are as follows:[1]

- The Airport Operations Office which includes:
  - ARFF Staff
  - Certification, Security and Safety Staff
  - General Aviation Staff
- The Engineering Branch

[1] The organization charts provided by HDOT-A have been simplified to focus on safety related organizational units.

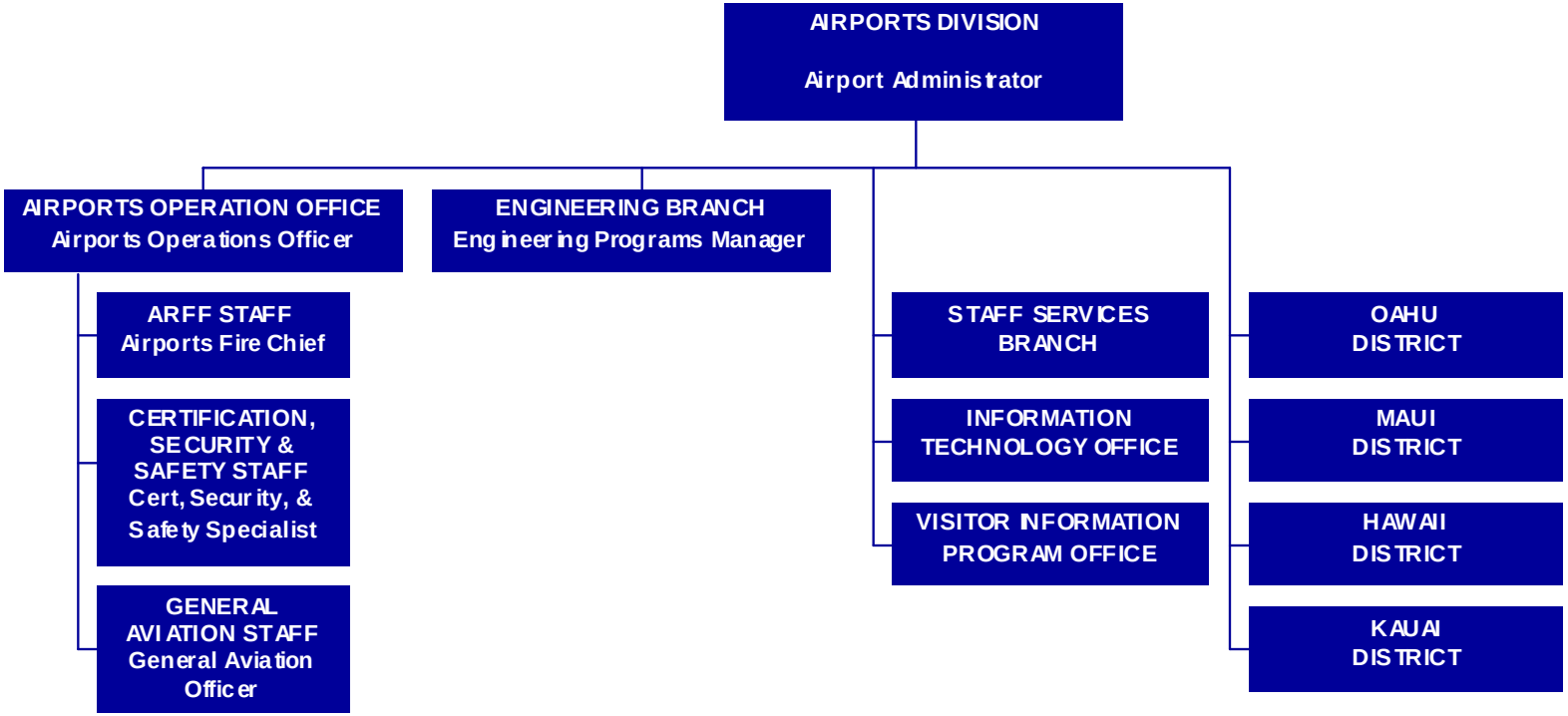


Exhibit III-2. Divisional Organizational Structure

The **Airport Operations Office** provides functional direction, advice and assistance to the Airport Districts and airports in Hawaii.

More specifically under the direction of the Airports Operational Officer, the **ARFF** Staff for all the airports, including KOA, provides functional direction to the ARFF units, exercises functional supervision of the Fire Commanders, plans and conduct statewide ARFF training, and inspects ARFF activities to ensure compliance with policies and regulations.

The **Certification, Security and Safety Section** provides functional guidance in airport certification, security and safety including standardized procedures and manuals, compliance inspection of related policies and procedures, and administration of the division's insurance risk management program including accident reporting. The Section to-date has primarily dealt with employee safety (e.g., the Employee Health and Safety Program Manual). The section officer also participates in the state wide contracting of airport security services and monitors the badging programs in the Districts.

The **General Aviation Section** provides functional guidance related to GA facilities, coordinates the aircraft registration process, and supports GA educational programs and flying safety programs in consultation with the FAA.

The **Engineering Branch** is responsible for:

- Preparing master plans that need to take into account aviation safety issues and regulations;
- Managing special maintenance projects at all airports; and
- Managing capital improvement projects including construction management. They are responsible for ensuring that there is a construction safety program in place to ensure continued aviation safety during construction activities. For large projects, a construction management plan is developed by the contractor and reviewed and approved by the Divisional Project Manager in consultation with the District Engineer. The Divisional Project Manager or the District Engineer is responsible for inspections to ensure the contractor is following the construction safety management plan.

Gaps and Development Required

HDOT-A and KOA do not have an organizational structure defined specifically for addressing the requirements of an SMS such as an SMS Safety Manager and Senior (Top) Management responsibilities for SMS. As detailed above, HDOT-A and KOA do, of course, have managers, superintendents, supervisors and officers that have responsibilities that have a direct impact on the safety of aviation operations.

Considering the size of KOA, particularly in terms of staff members, the Airport District Manager should be the senior manager responsible for SMS. He has the authority to control resources within the mandates set out by the Airports Division. As outlined in the ACM, the Airport District Manager manages, operates and maintains KOA in conformity with State and Federal laws and regulations, as well as HDOT-A policies and procedures.

At this stage of developing the SMS, we recommend that the responsibilities of the Airport District Manager for SMS would include:

- Approval of the SMS for KOA;

- Approval of safety policy and goals;
- Chairing the Airport Safety Committee;
- Periodic reviews and updates of the SMS, safety policy and goals for KOA; and
- Deploying financial and human resources, within his control, for proper execution of the SMS.

Phase 2 SMS development will need to:

1. Confirm that the Airport District Manager will be responsible for the SMS at KOA.
2. Determine who at KOA will be responsible for administering the SMS and associated responsibilities. These responsibilities include:
    - Participating in the Airport Safety Committee, as the Secretariat;
    - Leading safety risk management assessments of hazards, incidents and accidents to determine action required;
    - Conducting trend analysis of safety concerns, hazards, incidents and accidents and determining action required, in consultation with other airport staff;
    - Ensuring appropriate action is taken in response to safety concerns, hazards, incidents and accidents;
    - Keeping records of all safety related reports, incidents and accidents, and conducting trend analysis;
    - Providing and coordinating safety promotion;
    - Ensuring the provision of safety training for airport employees and tenants located or working in the AOA;
    - Implementing a non-punitive reporting system;
    - Ensuring that safety audits are conducted when required;
    - Measuring safety performance in relation to safety objectives; and
    - Annual review of the safety policy and safety objectives.
3. Describe the composition and role of the Airport Safety Committee in addressing aviation safety issues. The current Airport Operators Committee could form the basis of the Airport Safety Committee. It may not need to meet as frequently as the Airport Operators Committee and it should be chaired by the Airport District Manager.
4. Define how tenants would be integrated into the SMS. For example, participation in the Airport Safety Committee, audits of tenant safety plans or programs.

5. Determine and describe the role of the Division in SMS. Our initial views are as follows;

   - The Airports Administrator would be responsible for:
     - Approval of SMS safety policies and SMS plans for each State airport;
     - Periodic reviews and updates of HDOT-A SMS safety policies and goals;
     - Ensuring that financial and human resources required for proper execution of SMS are available at airports in Hawaii; and
     - Appointment of a SMS safety advisor at the Division.
   - The SMS Safety Advisor would be responsible for:
     - Providing advice to airport safety officers and the Divisional Engineering Branch on SMS practices particularly the hazard identification and safety risk assessment process;
     - Providing advice in the data bases that should be established for State airports for conducting trend analysis of safety concerns, hazards, incidents and accidents;
     - Providing advice to airport safety officers on establishing and updating airport SMS;
     - Developing SMS and related safety training material and programs that can be used by State airports;
     - Monitoring implementation of the SMS at each airport;
     - Conducting periodic audits of the safety plans and programs of tenants at HDOT-A airports; and
     - Collecting relevant safety information from each airport and preparing a corporate safety report annually.

6. The District Engineer should be responsible for conducting formal hazards identification and safety risk management assessments (sometimes referred to as "operational risk assessment") whenever new equipment is being planned or installed, or when new facilities are being constructed that may have an impact on safety at the airport.

7. Determine the skills and knowledge required by those administering the SMS at KOA and the Divisional SMS Advisor to ensure that personnel are capable of implementing SMS. (This will likely be included in the Management Plan for implementing SMS).

In consultation with HDOT-A and KOA managers, Phase 2 of this project will develop the organization structure for safety and will define safety responsibilities for key organizational units at KOA and the Division.

IV. SAFETY RISK MANAGEMENT

Key Features

The FAA SOW for SMS describes the following requirements related to Safety Risk Management (SRM).

- Description of the safety risk management process, including application of "The Five Phases of SRM (safety risk management)," as discussed in AC 150/5200-37;
- Guidance on the use of SRM and trend analysis;
- Defined process for documenting the results of SRM, including a description of how documents will be stored, i.e., electronic or paper; and
- Descriptions of how top management will follow up on SRM to ensure safety mitigation strategies are appropriate.

The FAA's Advisory Circular indicates that safety risk management is a fundamental component of SMS. The principal steps in the safety risk management (SRM) process include: identification of a potential hazard, analysis of the risk, evaluation of the risk and development of an action plan to mitigate the risk if necessary.

The Advisory Circular goes on to say that SRM should identify hazards to failures of the system (i.e., operations, equipment, people, and procedures). Possible sources of system failure could include:

- Equipment (example: construction equipment on a movement surface);
- Operating environment (example: cold, night, low visibility);
- Human element (example: shift work);
- Operational procedures (example: staffing levels);
- Maintenance procedures (example: nightly movement area inspections by airport electricians); and
- External services (example: ramp traffic by Fixed-Base Operator (FBO) or law enforcement vehicles).

Existing Practices and Systems

KOA currently does not have a formal Safety Risk Management process for aviation safety.

Gaps and Development Required

The Safety Risk Management (SRM) process will need to be developed and documented during Phase 2 of the project.

We will develop a practical approach to SRM appropriate to the size of KOA that will be qualitative in nature and understandable by KOA management. For example, we will develop simple paper-based forms for conducting a safety risk assessment and a simplified risk evaluation matrix for summarizing the results of an

assessment. The Jacobs Team will provide training in SRM to KCA managers, superintendent and supervisors at the end of the SMS development project.

V. SAFETY ASSURANCE

Key Features

The FAA SOW for SMS describes the following requirements related to safety assurance:

- A plan and description of employee non-punitive reporting systems, existing and planned.
- A description of the airport quality management and/or risk management program (if applicable) and its integration into the airport SMS.
- Description of a plan to integrate apron safety management into the airport SMS. (The FAA's review of the plan will be limited to measures for preventing accidents or incidents involving aircraft.) The plan could include the following:

    a. Description of current apron safety management practices, such as reporting requirements to the National Transportation Safety Board (NTSB), Flight Standards, or the Occupational Safety Health Administration (OSHA).

    b. An explanation of how current apron safety management practices meet the intent of SMS. This could include the safety plans and practices of tenants and operators at the airport, which should complement the airport SMS.

- A detailed method to document self-auditing processes and their findings. Self-auditing may be part of the airport self-inspection process. If it is, explain how the self-inspection process addresses systems safety, i.e. if the self-inspection program identifies a hazard on the airport it should determine the risk and document the process for follow-up.
- A detailed method to document self-inspection reviews, analysis, and findings.
- Process to document and review lessons learned from within the organization.

The Advisory Circular states that safety assurance includes self-auditing, external auditing and safety oversight. According to the Advisory Circular safety oversight can be achieved through auditing and surveillance practices.

The Advisory Circular also says that in addition to the airport operator's existing responsibilities for self-inspection and correction of discrepancies under 14 CFR Part 139, an effective airport SMS **audit program** should:

- Develop identified safety performance indicators and targets (Note: Jacobs Consultancy believes indicators and targets should be addressed as part of Safety Objectives).
- Monitor adherence to safety policy through self-auditing;
- Allocate adequate resources for safety oversight;
- Solicit input through a non-punitive safety reporting system;

- Systematically review all available feedback from daily self-inspections, assessments, reports, safety risk analysis, and safety audits;
- Communicate findings to staff and implement agreed-upon mitigation strategies (14 CFR Part 139 already requires this for actions covered by that regulation); and
- Promote integration of a systems approach to safety into the overall operation of the airport.

The Advisory Circular also provides further guidance on non-punitive safety reporting, self-auditing and safety performance monitoring. This guidance material is provided below and generally follows international SMS guidance material.

- "The SMS should include a visible non-punitive safety reporting system supported by management. The safety reporting system should permit feedback from personnel regarding hazards and safety-related concerns. The SMS should use this information to identify and address safety deficiencies. The safety reporting system may also identify and correct non-conformance to safety policy."
- "Safety auditing is a core safety management activity. Similar to financial audits, safety audits provide a means for systematically assessing how well the organization is meeting its safety objectives. Senior Management may choose to have an external agency audit the system (e.g., by a consultant or another airport operator). The safety audit, together with other safety oversight activities, provides feedback to managers concerning the overall safety performance of the organization."
- "Safety performance monitoring validates the SMS, confirming the organization's safety objectives. Through regular review and evaluation, management can pursue continuous improvements in safety management and may revise safety objectives to ensure that the SMS remains effective and relevant to the organization's operation."

Existing Practices and Systems

Airport Self-Inspection Program

As described in the ACM Section 14, KOA has a self-inspection program in place to meet the standards detailed in AC 150/5200-18 and FAR 139.327, Airport Safety Self-Inspection. Inspections by KOA and contracted security personnel are conducted as follows:

- Daily and periodically;
- During and after construction or maintenance activity;
- After storms, high winds and other major meteorological events;
- After earth quakes of significant magnitude; and
- Immediately after an incident or accident.

According to the ACM as part of the self-inspection program, the ARFF Section is responsible for conducting inspections of fuel farm/storage and mobile fuelers using a Fuel Farm Fire Safety Inspection Report Form (see Appendix C). It was not clear whether ARFF also inspects handling, refueling and storing of fuel. FAA Advisory

Circular 150/5200-18C, page 9, "Airport Self-Inspection" refers to daily inspection of fueling operations. During the Gap Analysis, there was concern expressed that the Airport did not have the capacity to conduct fueling inspections. ARFF personnel should be trained to conduct inspections of all fueling operations on the airport.

According to the ACM, the KOA Maintenance Section conducts daily and periodic inspections of paved areas, safety areas, marking and lighting, security fencing, traffic and wind direction indicators, and wildlife activity using the form included in Appendix C of this report. In addition, the Operations Control Section, including contract security services personnel, conduct daily inspections of the runways, taxiways, ramps and aprons to check for FOD, wildlife, obstructions and other hazardous conditions.

Inspection reports conducted by the Maintenance and Operations Control Sections are stored by the Maintenance Section. ARFF maintains records of fueling inspections.

Conditions that could affect air carrier operations are disseminated to the air carriers via NOTAMS. Maintenance staff initiates and records repairs as required. Both the Airport Inspection Checklists and associated work orders are kept on file for 12 months. The Inspection Checklists are included as Appendix C.

Apron Safety

KOA does not have a distinct Apron Safety Program – aircraft movement on the apron is not controlled.

KOA does have "Procedures and Regulations Pertaining to the Operation of Vehicles on the Airport Operations Area" to govern operation of vehicles. These procedures and regulations address:

- Operations on ramp and apron areas;
- Vehicle operations in proximity to public aircraft;
- Vehicles in proximity to parked aircraft;
- Vehicles in proximity to moving aircraft;
- Accident reporting;
- Speed limits;
- Access to restricted operational areas;
- Fire protection;
- Operational safety area; and
- Fire protection.

These procedures and regulations are in accordance with Hawaii Administrative Rules, Title 19, Chapter 15.1, "Operation of Motor Vehicles at Public Airports".

A review of these Procedures and Regulations indicates that the wearing of safety vests on the AOA is not specified. We observed that at least some of the airlines' personnel were wearing safety vests but that KOA and contract security services personnel were not wearing safety vests. The wearing of safety vests is a standard safety practice at airports domestically and internationally. We recommend that the HDOT-A consider making this requirement mandatory for all personnel working on the AOA.

The ACM, Section 15, refers to a range of enforcement actions available at the discretion of the Airport District Manager including: an oral reprimand, a written reprimand, recurrent training, loss of authorization to operate on the AOA, a fine, and recommended termination of employment for State employees. Those that we interviewed believed that these enforcement actions were too arbitrary in a union environment and that a more rigorous and well defined enforcement program with demerit points for infractions/violations and specific penalties was required. Reference was made to the LAX Security and Airfield Enforcement Program (SAFE). A copy is attached as Appendix D. Although not necessarily part of an SMS, HDOT-A should consider such an Enforcement Program.

Gaps and Development Required

KOA has a self-inspection program in place. Self-inspection deals primarily with ensuring compliance with detailed FAA standards but can form a key component of safety assurance; for example, trend analysis of reported deficiencies.

Gaps that will require development in Phase 2 to meet the FAA's detailed guidance material referred to previously include:

- Non-punitive safety reporting;
- Systematic reviews of feedback from self-inspection, assessments, reports, safety risk analysis and audits which will allow the monitoring of adherence to safety policy and the monitoring of safety performance indicators related to safety objectives;
- Auditing; and
- Safety oversight which we would define as regular Senior Management reviews and evaluations of the implementation of safety policies, progress to meeting safety objectives and lessons learned as means to continuous improvements in safety management.

The FAA Advisory Circular says that non-punitive reporting systems should permit feedback from personnel regarding hazards and safety-related concerns. However, if it is to apply only to *hazards and safety-related concerns*, then we question why does it need to be *non-punitive?* Our understanding is that a non-punitive system is a way to safeguard employees from disciplinary action when reporting incidents and accidents in which they are directly or indirectly involved. Deliberate or unlawful actions are excluded of course. This is consistent with a *systematic, explicit, and comprehensive approach for managing safety risk (AC, Paragraph 3).* We have discussed this issue with FAA and have concluded that incidents and accidents should be included.

The development of the non-punitive reporting system should also consider whether tenant employees should be part of this system, or whether the system should be limited to KOA employees. We have discussed this issue with the FAA and they have indicated that each airport is unique and should set up practices particular to their airport.

VI. SAFETY PROMOTION - TRAINING

Key Features

The FAA SOW for SMS describes the following requirements related to safety promotion, and training specifically.

- A plan for employee SMS indoctrination and training. SMS indoctrination training should provide an outline of proposed curriculum and resources.
- Documented process to identify training requirements for systems safety.
- A plan to validate training effectiveness and the process to gain training feedback, including useable metrics.

The Advisory Circular in addition to the above states that training and education should include:

- Initial (general safety) job-specific training;
- Recurrent safety training;
- Training that includes human factors and organizational factors; and
- A training file for each employee to identify and track employee training requirements and verify that the personnel have received the planned training.

Existing Policies, Practices and Systems

The ACM refers to training for three major areas:

- Pedestrians and vehicles on the AOA;
- Inspection Techniques; and
- ARFF.

Pedestrians and Vehicles on the AOA

KOA's training material consists of a document entitled, "Procedures and Regulations Pertaining to the Operation of Vehicles on the Airport Operations Area", which was described previously under Section V. This document is augmented by "An FAA Guide, Airport Ground Vehicle Operations" which deals with airport markings and signage, and communications with the tower. Although these training documents meet the intent of Part 139, it could be augmented and improved by training material, especially audio-visual, available from the American Association of Airport Executives (AAAE). The training material could also be improved by using pictures of actual signage and markings at KOA. We also note that the FAA Guide on Airport Ground Vehicle Operations appears to be more current than the copy available at the airport. The latest guide is available electronically from the FAA at www.faa.gov/runwaysfety/asw/downloads/AGVO-guide.doc.

Two levels of training are provided at KOA: the first level is for those who must work on aprons and ramps but not on the movement areas. The second level is for those who must work on the movement areas – primarily KOA maintenance workers. After the trainee reads the applicable documentation, the trainee must write and pass a written test with 80%. Trainees are allowed to repeat the test until they get the correct answer and to ensure that they understand the basic requirements.

New employees are required to pass the test before being issued a security badge. This badge is valid for five years concurrent with the employee's State driver license. KOA employees are then provided two to three weeks OJT training. If the supervisor determines that the new employee has obtained the necessary skills, the employee is permitted to drive on the AOA alone. Tenants are also required to pass the basic driver training test, and if necessary the more advanced test for driving on the movement areas. Tenants are required to conduct their own OJT.

The ACM refers to both initial and refresher training. However, only training for new employees is provided. Refresher training is reportedly provided only if signage and markings at KOA are changed which is likely not very often.

Inspection Techniques

The ACM, Section 3 "Personnel" refers to a training program in addition to OJT for Inspection Techniques and Record Keeping, and AC 150/5200-18B,"Airport Safety Self-Inspection". The training material that we were provided did not include this material. Although KOA employees involved in this activity do not change frequently, apparently contract security services personnel do. HDOT-A should consider developing a training module in inspection techniques.

ARFF Training

ARFF personnel, according to the ACM receive instruction in accordance with AC 150/5210-17, Programs for Training Aircraft and Fire Fighting Personnel.

According to the ACM, each fueling agent at the airport is required to have a supervisor complete an aviation fuel-training safety course acceptable to the FAA. The fueling agent's supervisor is required to have recurrent training at least once every 24 months. Other employees of the fueling agent involved in fueling operations are required to have OJT and recurrent training every 24 months provided by the agent's trained supervisor. Written certification to Airport Management is required every 12 months. Records are to be maintained by ARFF.

Gaps and Development Required

We have provided a number of observations where existing Part 139 training could be improved for consideration by HDOT-A. The HDOT-A should also consider strengthening the training function at KOA and HDOT-A to ensure sufficient resources are available.

With regard to SMS, given that there is no SMS in place, there is a Gap in SMS requirements for SMS indoctrination and training. SMS training will be developed and provided during Phase 2 of this project.

VII. SAFETY PROMOTION - COMMUNICATIONS

Key Features

The FAA SOW for SMS describes the following requirements related to safety promotion, and specifically for communications:

- A defined process to communicate safety policies and objectives throughout the organization including examples of how information will be communicated and any processes for follow-up.
- Procedures to promote safety awareness and participation in non-punitive reporting systems. Documented plan for training and education, safety communication, competency, and continuous improvement processes.

The Advisory Circular essentially reiterates the requirements above but also provides some examples including:

- Safety seminars;
- Safety letters, notices and bulletins;
- Safety lessons-learned;
- Bulletin boards, safety reporting drop boxes, and electronic reporting through web sites or email;
- A method to exchange safety-related information with other airport operators through regional offices or professional organizations; and
- In the future, voluntary posting of safety-related information on an existing FAA web-based safety reporting system currently being used by air operators.

Existing Policies, Practices and Systems

Although HDOT-A has a program for employee occupational health and safety, it does not have a formal promotional airside safety program as envisioned under SMS. HDOT-A also does not have a non-punitive reporting system for aviation safety.

Gaps and Development Required

Phase 2 of the SMS will develop an aviation safety promotion program.

Appendix A
Draft Statement of Work
FAA SMS Airport Pilot Study
Requirements for the Final Plan

DRAFT STATEMENT OF WORK
FAA SMS AIRPORT PILOT STUDY

1. OBJECTIVE

The FAA is conducting a pilot program to evaluate the implementation of Safety Management Systems (SMS) at airports of varying size and complexity. The pilot program will allow airports and the FAA to gain experience establishing airport specific SMS that are tailored for the individual airport. This information will provide FAA information on SMS best practices and lessons learned that will be helpful as FAA considers development of a Notice of Proposed Rulemaking to incorporate SMS into 14 C.F.R. Part 139, *Certification of Airports*.

2. BENEFITS ANTICIPATED

For airport operators, the application of a systematic, proactive, and well-defined safety program as is inherent in SMS allows an airport to continue to improve safety in the face of significant forecasted growth in air traffic activity. The use of SMS at airports can contribute to this effort by increasing the likelihood that Airport Operators will detect and correct safety problems before they result in an aircraft accident or incident.

The FAA benefits from the opportunity to assimilate the experience of airport operators in developing an SMS for airports of widely varying activity levels and operational complexity. The FAA anticipates moving to a more formal requirement for the use of SMS at U.S. airports, consistent with the recent ICAO amendment to Annex 14 to make SMS a mandatory standard at international airports. Experience gained through review of the SMS plans developed under this pilot program will be extremely useful in development of a general U.S. standard.

3. APPROACH

Because SMS is not a regulatory requirement in the U.S. at this time, the SMS Manual and program developed under the pilot program should remain separate from the Airport Certification Manual (ACM) required in 14 CFR Part 139. (FAA would need to approve any changes to the ACM itself). FAA Airport Certification Safety Inspectors may ask to review the airport's SMS documents, but will not consider the SMS (or lack of an SMS) a factor in compliance with Part 139.

The SMS Manual and program plan should not simply apply existing guidance that has been developed in other countries with their own safety oversight rules, or duplicate SMS plans of airports subject to those rules. Rather, the SMS Manual and plan should complement existing U.S. safety requirements in 14 C.F.R. Part 139, and be consistent with Part 139, FAA Advisory Circulars, and the Airport Certification Manual specific to the airport's current operation. Therefore, the SMS Manual and program plan should address which elements of the airport operator's existing practices and guidance materials currently meet SMS requirements, which elements do not, and how these practices and documents will be revised in the future for consistency with the SMS plan.

4. DELIVERABLES

The development of the SMS Manual and program should be completed 6 months after award of the AIP grant. To help FAA evaluate the SMS airport specific development process, copies of the following documents must be provided to the FAA as they are completed. The FAA encourages sponsors and their consultants to refer other interim draft documents, questions, and comments to the FAA at any time in the process for consultation and information exchange.

a. Gap Analysis

The gap analysis should identify procedures, policies, documentation, and actions that the airport needs to implement as part of its SMS that go beyond the current Part 139 requirements addressed by the airport's ACM.

Estimated completion date: 2 months from project start

b. Draft Plan

A draft of the complete SMS Manual and program. The draft should address the gap analysis and describe safety risk management, risk mitigation strategies, and documentation processes.

Estimated completion date: 5 months from project start

c. Final Plan

A copy of the final SMS Manual and program to be implemented by the sponsor.

Estimated completion date: 6 months from project start

The contents and scope of the SMS Manual and Program plan should address the following:

1) Written safety policy statement and description of how it is communicated to airport employees.
2) Identification and description of the airport safety goals.
3) A plan for employee SMS indoctrination and training. SMS indoctrination training should provide an outline of proposed curriculum and resources.
4) Documented process to identify training requirements for systems safety.
5) A plan to validate training effectiveness and the process to gain training feedback, including useable metrics.
6) A defined process to communicate safety policies and objectives throughout the organization. Include examples of how information will be communicated and any processes for follow-up.
7) A plan and description of employee non-punitive reporting systems, existing and new.
8) An organizational chart identifying the names and safety responsibilities of all key personnel, such as the following:
    - Top Management
    - Safety Manager
    - Department Heads/Managers
    - Established Safety Committees and Chairpersons
9) Description of the safety risk management process, including application of "The Five Phases of SRM," as discussed in the FAA Advisory Circular 150/5200-37, Introduction to Safety Management Systems for Airport Operators.
10) Guidance on the use of SRM and trend analysis.
11) Defined process for documenting the results of SRM to include a description of how documents will be stored, i.e., electronic or paper.
12) Description of how top management will follow-up on SRM to ensure safety mitigation strategies are appropriate.

13) A description of the airport quality management and/or risk management program (if applicable) and its integration into the Airport SMS.

14) Description of a plan to integrate apron safety management into the Airport SMS. (FAA review of the plan will be limited to measures to prevent accidents or incidents involving aircraft.) The plan could include:
    a. A description of current apron safety management practices already in place such as reporting requirements to the NTSB, Flight Standards, or the Occupational Safety Health Administration (OSHA).
    b. An explanation of how current apron safety management practices meet the intent of SMS. This could include the safety plans and practices of tenants and operators at the airport, which should complement the airport SMS.

15) A detailed method to document self-auditing processes and their findings. Self-auditing may be part of the airport self-inspection process. If it is, explain how the self-inspection process addresses systems safety, i.e. if the self-inspection program identifies a hazard on the airport it should determine the risk and document the process for follow-up.

16) A detailed method to document self-inspection reviews, analysis, and findings.

17) A description or plan to integrate the tailored SMS program plan into the overall operation of the airport.

18) Documented plan for training and education, safety communication, competency, and continuous improvement processes.

19) Procedures to promote safety awareness and participation in non-punitive reporting systems.

20) Process to document and review lessons learned from within the organization.

21) Schedule for implementation and anticipated associated costs.

5. INFORMATION FURNISHED TO THE GOVERNMENT

All documents submitted by a sponsor or its agent to the FAA for review under this grant remain the property of the sponsor.

Final SMS documents and plans will be considered public information. Gap analyses, draft SMS manuals and plans, and other interim documents may be submitted with a request for confidentiality. The Freedom of Information Act requirements of 5 U.S.C. §552, as amended, will apply to any such request.

Appendix B

Safety Issues

Safety Concerns and Issues Raised during Interviews May 1 – 4, 2008 and Correspondence Between Jacobs Consultancy, KOA and other Stakeholders

During Jacobs Consultancy's visits to Kona International Airport and correspondence with Jacobs, several issues were identified that could have the potential to impact the safety of passengers, airport employees or damage equipment. These include:

- Rough Terrain Outside of the Runway Safety Areas;
- Ramp Congestion;
- Commuter Terminal Operations; and
- Fueling Operations.

Rough Terrain Outside of the Runway Safety Areas

Runway Safety Areas (RSAs) are an important part of the runway environment at an airport and help to reduce the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. Part 139.309 requires a runway safety area (RSA) of 250 feet each side of the center line of the runway and 1000 feet at the end of the runway at KOA. This RSA is to be clear of all obstacles. KOA meets FAA criteria for dimensions and surface conditions.

However, there is a concern regarding the rough terrain due to the lava field on which KOA is built. The majority of airports have graded areas beyond the RSA dimensions because the land is not cost prohibitive to develop. This reduces the risks and enhances the ability for emergency response should an aircraft go beyond the RSA. KOA is unique in that it is located in the middle of a lava field. The initial construction of the airport included escalating costs due to the geology of the land to be developed. Only those areas that had grading requirements were addressed.

KOA has a higher risk, compared with most other airports, in providing emergency response to an incident should an aircraft exit or crash beyond the RSA. Emergency vehicles and personnel cannot operate on most of the lava field outside of the RSA at KOA and therefore could not easily assist in an aircraft crash outside of the RSA.

From a safety risk management perspective, the probability of an aircraft crashing on the runway or the RSA is very remote. The probability of an aircraft exiting or crashing beyond the RSA is even more remote. Yet the consequences could be catastrophic. KOA and HDOT-A should conduct a comprehensive cost and risk assessment to determine if some of the areas outside of the RSA should be graded to remove obstacles. Due to the expected high capital costs, this study should include a numerical estimate of the actual risk in quantitative terms in order to do a rigorous cost-benefit analysis. The actual risk should be based on historical accident and incident records of aircraft crashing on, or ending up outside, the RSA. The study should also consider the number times that aircraft at KOA use the 17-35 runway during cross wind conditions due to the lack of a cross-wind runway. Accident and incident reports are available from the FAA and world wide sources. The study should also address the areas and associated dimensions that should be graded to remove lava flow obstacles and what the costs would be. The results of the analysis should be used to set priorities for any corrective action in comparison with other capital works at KOA.

Ramp Congestion

KOA was constructed to serve aviation inter-island passenger traffic when passenger numbers were less and the aircraft being used on these routes were smaller. Due to the growing local economy and tourist activities, KOA passenger volumes has grown and has attracted air carriers from the mainland and Japan. The size of aircraft has also increased with U.S. flag carriers using aircraft as large as B-767's and B-757's and Japan Airlines flying a B-777. The configuration of the airport terminal buildings and ramp has lead to congestion as KOA has accommodated the air carriers.

Activity on the ramp can be intense with large numbers of ground service vehicles, 10,000 gallon fueling trucks and airline vehicles and employees performing airline operations. Through these activities passengers must enplane and deplane by walking across the ramp to and from the aircraft. Passengers are marshaled by employees of a contract security agency and airlines between the terminal and aircraft. Passengers must use hard stands as jet bridges are currently not available.

Safety concerns identified include:

- **Push back:** The ramp is an uncontrolled movement area. Departing aircraft are pushed back away from the terminal by the airline where the aircraft powers up and departs to a taxiway. Aircraft power-in when arriving. Jet blast from these airplanes has the potential for damaging equipment and injuring persons on the ramp. It has been suggested that lines be painted to show where aircraft should be parked. This way the carrier could position their ground equipment to service the aircraft. Kona's problem is that in painting "the box", KOA would have to have "the box" for the largest aircraft that would likely be at that gate and this means that KOA would likely loose gate positions.
- Equipment operating near and around surrounding aircraft have the potential of striking other aircraft, equipment, employees and passengers in these tight spaces;
- Lack of marked vehicle lanes does not direct the movement of ground vehicles potentially causing damage or injury;
- Ground equipment owned and operated by the airlines or their sub-contractors has been leaking oil and hydraulic fluid on to the ramp. This has the potential of causing accidents and injuries. Some of equipment owners have not properly cleaned the spills or repaired the equipment causing on going spills. Bradley, who provides fuel for the air carriers, does not have building on airport to repair its vehicles and maintains them on the ramp which leads to spills.

Commuter Terminal Operations

Commuter Airlines have been moved to a temporary terminal. This terminal and ramp is located in an area that includes cargo operations, helicopter tour and flight school operations and fueling operations. The temporary terminal is planned to be replaced in the near future to better handle passengers and airline tenants.

Safety issues identified in this area include:

- Inadequate ramp lighting in the commuter terminal area that may lead to damage to aircraft or vehicles, or injury to passengers and employees. There was a recent accident in this area where a commuter aircraft struck a light pole while attempting to maneuver in this constrained area;
- The fueling operations are located near the commuter operations. The movement of aircraft, fuel trucks and passengers in this confined area and the lack of lighting is a potential hazard;

- Tour helicopter operations and flight school operations are located adjacent to the commuter ramp. Several individuals expressed concern with the flight school and student pilots learning how to fly helicopters operating in this area. Concerns included the flight path used and skill level of the new pilots using the adjacent ramp; and
- During the holiday season general aviation increases and all available parking is used to handle the number of aircraft including Taxiway B. This adds congestion to the activities already being conducted in this part of the airport. DOTA has identified an area for GA expansion to assist in reducing this risk.

Fueling Operations

KOA has a lack of fuel storage capacity both on and near the airport. There is a small fuel farm located on the airport that includes a self serve Av Gas tank. This has lead to tanker trucks driving from Hilo to KOA to meet the Jet A fuel requirements at KOA. Fixed Based Operators (FBO's) use 10,000 gallon fueling trucks to help off set the capacity shortage. The FBO's do not have facilities to house their vehicles and maintain them on the ramp as mentioned previously.

Safety issues identified include:

- The large vehicles add to the congestion on the ramp. They must maneuver around aircraft, other ground vehicles, airline personnel and passengers;
- With the constant transfer of fuel there is concern that the fuel does not have the opportunity to settle long enough causing a potential for catastrophic events; and
- As mentioned above, the aircraft refueling vehicles must be maintained on the ramp. This has lead to oil leaks causing the potential for safety related issues.

Appendix C
Inspection Checklists

DOT 2-171
AIR-LF (5-92)

AIRCRAFT REFUELING SPOT CHECK
(AIRCRAFT FUELER INSPECTION)

QUARTERLY

1	2	3	4

ıel Vendor: _____ Operators Name: _____

ydrant # _____ Tanker # _____

ehicle License: _____ Aircraft No: _____

ate: _____ Time: _____ Location: (Gate #) _____

irport Inspection Decal # _____ Date: _____ PUC # _____

		PROPER PROCEDURE USED YES	NO	COMMENTS
is Chocked				
onding Procedures	NFPA #407,3-4 & #77, 4-6.1.6			
eadman Control	NFPA #407, 2-17 & 3-15			
nergency Shut-Off	NFPA #407 2-3.15			
tinguishers (B,C Only)	NFPA #407, 2-3.9 & 3-13			
ehicle Placement	NFPA #407, 2-3.15			
(Condition)	NFPA #407, 3-16			
lacards & Signs	NFPA #407, 2-3.18			
lectrical Equipment Use	NFPA #407, 3.7			
ngine Exhaust	NFPA #407, 2-3.6			
atches, Lighters, Smoking	NFPA #407, 2-3.11 & 3-8.5			
ightning Precautions	NFPA #407, 3-9			
isconnection Procedures	NFPA #407, 3-4.5			
ircraft Fuel Servicing Vehicle Parking	NFPA #407, 3-18 & 3-19			

FAA APPROVED
AUG 8 2005

Operators Signature: _____

Officer in Charge: _____

Station/Shift: _____

DER TO COMPLY: Failure to comply with the foregoing order before the date of such reinspection may render you liable to the penalties of Chapter 19-37 of Title 19, Hawaii Administrative Rules entitled "Fuel Handling Procedures ublic Airports" reads as follows: 19-37-19 Penalty. Penalties for violation of this chapter shall be as set forth in section 261-12 Hawaii Revised Statutes. As such conditions are contrary to law, you are hereby required to correct said ditions immediately upon receipt of this notice. An inspection to determine whether you have complied will be conducted on or before: _____.

Re ient: _____ Inspector: _____

Attachment 1-2

FUEL FARM FIRE SAFETY INSPECTION REPORT

QUARTERLY

1st	2nd	3rd	4th

FAA APPROVED
AUG 8 2005
MHK

IRPORT _____

ENANT NAME _____

ANAGER _____

HONE _____

ATE _____

FOLLOW-UP DATE _____

___ Yes	____ No	1. Fencing/Locks /Signage	RE: AC 150/5230-4
___ Yes	____ No	2. Fuel Dispensers Placarded	RE: AC 150/5230-4
___ Yes	____ No	3. "No Smoking" warning properly posted in fuel farm area	RE: NFPA 407.3-8
___ Yes	____ No	4. Evidence of Smoking	RE: AC 150/5230-4
___ Yes	____ No	5. Ignition Sources	RE: AC 150/5230-4
___ Yes	____ No	6. Fire Extinguishers: Proper size and type (Inspected)	RE: NFPA 10
___ Yes	____ No	7. Fuel Farm Fueling Standard Operating Procedures	RE: NFPA 407 3-13
___ Yes	____ No	8. Fueling Procedures Observed	RE: 150/5230-4
___ Yes	____ No	9. Personnel Safety Training Requirements	RE: 150/5230-4
___ Yes	____ No	10. Piping and critical areas free from leaks	RE: NFPA 407:2-4.6
___ Yes	____ No	11. Grounding Connections & Rods in Good Condition	RE: 150/5230-4
___ Yes	____ No	12. Bonding Cable - Loading Station	RE: AC 150/5230-4
___ Yes	____ No	13. Fuel System Bonding & Grounding	RE: AC 150/5230-4
___ Yes	____ No	14. Fuel Hose Line Pressure Test Hose line Condition O.K.	RE: NFPA 407:2-2 NFPA 407:3-16
___ Yes	____ No	15. Emergency Shut-Off System Working Properly Placarding of Shut-Off Station Proper	RE: NFPA 407:2-4.5 NFPA 407:4-12.1
___ Yes	____ No	16. Deadman Control - Loading Station	RE: AC 150/5230-4
___ Yes	____ No	17. Housekeeping	RE: FAR AC 150/5230-4
___ Yes	____ No	18. Farm area free of weeks, debris and other combustibles.	

Comments: _____

DER TO COMPLY: Failure to comply with the foregoing order before the date of such reinspection may render you liable to the penalties of chapter 19-37 of Title 19, Hawaii Administrative Rules entitled "Fuel Handling Procedures ic Airports" reads as follows: 19-37-19 Penalty. Penalties for violation of this chapter shall be as set forth in section 261-12 Hawaii Revised Statutes. As such conditions are contrary to law, you are hereby required to correct said ditions immediately upon receipt of the notice. An inspection to determine whether you have complied will be conducted on or before: _____

Recipient: _____ Inspector: _____

Attachment 1-1

STATE OF HAWAII
Department of Transportation
Airports Division
KONA INTERNATIONAL AIRPORT

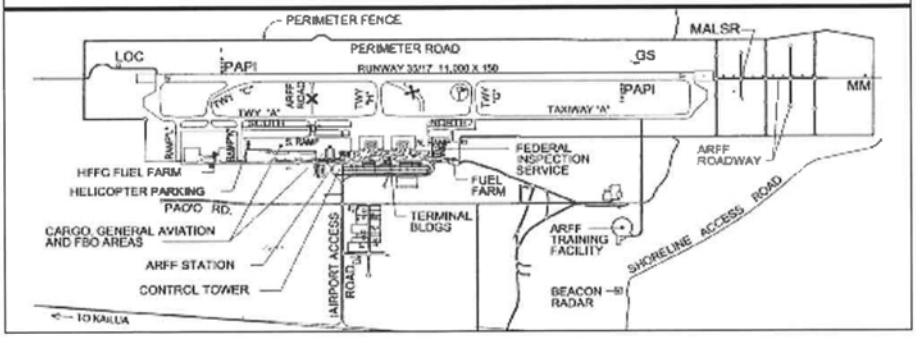
AIRPORT SAFETY SELF-INSPECTION CHECKLIST

DATE: _____ DAY: _____ √(p) Satisfactory
×(o) Unsatisfactory

Day Inspector/Time: _____ Night Inspector/Time: _____

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials
Pavement Areas	Pavement lips over 3"				
	Hole – 5" diam. 3 deep				
	Cracks/spalling/heaves				
	FOD: gravel/debris/sand				
	Rubber deposits				
	Ponding/edge dams				
Safety Areas	Ruts/humps/erosion				
	Drainage/construction				
	Support equipment/aircraft				
	Frangible bases				
	Unauthorized objects				
Markings	Clearly visible/standard				
	Runway markings				
	Taxiway markings				
	Holding position markings				
	Glass beads				
Signs	Standard/meet Sign Plan				
	Obscured/operable				
	Damaged/retroreflective				
Lighting	Obscured/dirty/operable				
	Damaged/missing				
	Faulty aim/adjustment				
	Runway lighting				

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials
Lighting (cont'd)	Taxiway lighting				
	Pilot control lighting				
	Apron/Ramp Pole Lights				
Navigational Aids	Rotating beacon operable				
	Wind Indicators				
	RENLs/VGSI systems				
Obstructions	Obstruction lights operable				
	Cranes/trees				
Construction	Barricades/lights				
	Equipment parking				
	Material stockpiles				
	Confusing signs/markings				
Public Protection	Fencing/gates/signs				
	Jet blast problems				
Wildlife Hazards	Wildlife present/location				
	Complying with WHMP				
	Dead birds				
Comments/Remarks:					



Appendix D

Examples of Safety and Security Enforcement Programs

LAX Security and Airfield Enforcement Program (SAFE)

LAX

Los Angeles World Airports

SAFE

Security and Airfield Enforcement Program

June 2004

LAX Security and Airfield Enforcement Program (SAFE)

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June 2004

LAX Security and Airfield Enforcement Program (SAFE)

Introduction To The SAFE Program

Los Angeles World Airports is committed to providing the airport community with a safe and secure workplace. This document describes the purpose and structure of the LAX Security and Airfield Enforcement Program (SAFE).

What is SAFE?

The SAFE Program is an awareness and enforcement security program. Corrective actions and penalties for violations and infractions will be determined by the SAFE program's point system. This document describes the violation point system, penalties, and hearing process.

Where Are Safety And Security Rules and Regulations Defined?

The rules and regulations are defined in the Transportation Security Administration Regulations; State, Federal and local laws and regulations; Airport Security Manual; Airport Certification Manual; and the LAX Rules and Regulations. **This program does not limit, supercede, or replace any other laws, rules or regulations.**

Who Will Be Held Accountable To The Standards Of SAFE?

All individuals with access to any restricted area of LAX are accountable to the rules and regulations outlined in the SAFE program.

When Will The SAFE Program Begin?

This program goes into effect on **July 1, 2004**.

Where To Direct Your Questions?

The SAFE Program is administered in cooperation between LAX Police and Airfield Operations Sections.

Inquiries regarding	Contact
Infractions and Citations	LAX Police **(310) 646-0200**
Corrective Action and Badge Revocation	SAFE Program Coordinator **(310) 410-SAFE (7233)**

June 2004 1

LAX GENERAL SECURITY REQUIREMENTS

- Always wear and present your access media (security identification badge) when entering into and/or within the restricted areas of LAX, at checkpoints and in office buildings.
- Always swipe or present your own badge when gaining access to restricted areas.
- Do not shortcut security systems that are in place to protect you.
- Do not "piggyback". Defined as allowing an individual, access through a security door or access point, utilizing your badge swipe rather than their own. This does not apply to an individual whom you have received authorization from Airfield Operations or Terminal Operations to escort.
- Challenge unauthorized and/or unbadged persons within the restricted area and/or in buildings or offices - Report them to the Airport Police.
- Report suspicious or unusual activity or object to the Airport Police.
- Report a security breach immediately to the Airport Police.
- Do not touch or move an unattended article - Report them to the Airport Police.
- Report open or malfunctioning doors and gates leading to restricted areas to the Airport Police.
- Always keep unattended equipment secured.
- Always search vehicles and equipment left unattended when they have been parked in an unsecured location.

EMERGENCY AND INFORMATION NUMBERS

IN CASE OF EMERGENCY at LAX	**(310) 646-7911**
LOS ANGELES FIRE DEPARTMENT	**(310) 646-5000**
SAFE PROGRAM COORDINATOR	**(310) 410-SAFE (7233)**
AIRPORT POLICE NON-EMERGENCY	**(310) 646-0200**
AIRPORT SECURITY BADGE OFFICE	**(310) 646-0508**
LAWA WEB SITE	www.lawa.org

LAX Security and Airfield Enforcement Program (SAFE)

1. Authority

The authority to enforce violations of airport security and airfield safety rules is contained in Section 632 B and 633 A and B of the Los Angeles City Charter. These sections empower Los Angeles World Airports (LAWA) to establish regulations governing the use and control of the City Airports.

2. Purpose

Los Angeles World Airports is committed to providing the airport community with a safe and secure workplace. This enforcement program is, therefore, created to educate, train, and hold accountable companies and employees who violate the Airport safety and security rules.

3. Compliance

The program is designed to ensure compliance with the specific rules and regulations for control of access to, and movement upon, restricted areas of the Airport. The rules and regulations are defined in the Transportation Security Administration Regulations; State, Federal, local laws and regulations; Airport Security Manual; Airport Certification Manual; and the LAX Rules and Regulations.

This program does not limit, supercede, or replace any other laws, rules or regulations.

4. Infraction and Violation Notice

a. Notice of Violation

The Notice of Violation will be issued by Airport Police for security, safety, and driving violations as defined in the Airport Rules and Regulations and Airport Security Manual.

b. Notice of Safety Infractions

Notice of Safety Infractions will be issued by Airfield Operations for violations involving ground movement and safety of aircraft, vehicle, aircraft fueling, fuel storage and handling occurring within the Airfield Operations Area.

5. Notification and Notice Return Requirements

Within 72 hours of issuance of a "Notice", the supervisor of the notice recipient must return the signed notice to the Airport Police Division identifying the corrective action taken. Failure to do so will result in deactivation of the notice recipient's security identification badge.

6. Violation Points

Point will be assessed for each infraction or violation listed in a notice. These points will be cumulative and will become part of the **notice recipient's record**, without regard to the employing organization.

The points associated with each type of notice are categorized into the following three (3) groups.

- Safety and Security Violations
- Airfield Driving Violations
- Airfield Operations Area Safety Infractions

Points Accumulation and Penalties

Violation/ Infraction	Within 12 months	Within 24 months	Within 36 months	Consequence
Driving Violation or Safety Infraction	4 points	6 points	8 points	**Loss of Restricted Area Driver Permit for up to 12 months**
Safety and Security Violation	4 points	6 points	8 points	**Loss of Unescorted Access privileges for up to 12 months**
Any Infraction or Violation	2 Points	—	—	**Corrective Training**

7. Procedures for Corrective Training

A notice recipient with a cumulative total of two (2) points is required to attend an Airfield Operations approved Corrective Training program (*see list below*). All training must be completed within thirty (30) days from the date of last citation. **Proof of attendance must be forwarded to the Airfield Operations Division.**

Corrective Training Programs

Violation/ Infraction	Airfield Approved Training Program
Driving Violation	Driver Training class offered by notice recipient's employing company
Pushback/ Towing or Safety Infraction	Aircraft Surface Movement Training class offered by the Airfield Operations Division
Security Violation	Airport Security Training class offered by notice recipient's employing company or the Airport Police Security Badge Office

8. Failure to attend Mandated Training - Additional Penalties

Failure to attend and complete the Corrective Training within the prescribed thirty (30) day period will result in immediate revocation of the privilege for which the notice was issued.

9. Notice

A recipient of a notice to suspend or terminate a badge privilege must contact the Hearing Office within 15 days of the date the notice was issued. Failure to respond will result in suspension of the privilege for one year.

10. Hearing

A recipient of a notice to suspend or terminate a badge privilege may request a hearing to contest the suspension or termination of the privilege. This request must be made within 15 days of the date the notice was issued.

Infractions and Violations Guideline

Safety and Security Violations	Points
• Lost/invalid airport issued ID badge • Mutilated airport issued ID badge (*Assessed points will be removed when violation is corrected*) • Not displaying airport issued ID badge (ID in possession) • In possession of one's own airport-issued ID badge reported as lost or stolen • Smoking on the AOA	1
• Forcing or propping open doors or gates and leaving unattended • Failure to report, respond, and/or secure restricted area access doors/alarms and gates • Using ID badge in a way it was not intended • Failure to challenge or report persons without airport issued ID • Failure to control escorted persons • ID not in possession • Allowing unauthorized access to AOA through tenant controlled gate	2
• Piggybacking - allowing *unauthorized, unbadged* person(s) through access point • Tailgating - allowing unauthorized access to a person or vehicle through a gate or post having access to the AOA • Loaning an airport issued ID badge to another person • In possession of, and using an airport-issued ID other than your own badge that has been reported as lost or stolen • Defacing or vandalizing security systems, devices or airport issued ID badges • Conviction or commission of any crime on airport property regardless of classification	4
Airfield Driving Violations	**Points**
• No drivers license in possession (valid) • Exceeding tow limits or unsafe towing/load • Operating any vehicle not in a sound mechanical and safe condition* • Illegal parking • Creating a FOD hazard/littering	1
• Speeding on the AOA • Failure to obey signs/direction/signals/markings on AOA • Impeding the right-of-way of emergency vehicles and airfield buses that have activated emergency lights and/or beacons • Unauthorized/improper entry into an aircraft movement or safety area • Impeding the path of a taxiing Aircraft i.e. Aircraft Cut-off • At-fault accident • Failure to report accident/incident without delay	2
• Suspended or revoked drivers license • Unlicensed driver • Driving w/o a restricted area driver permit • Operating any vehicle in a manner which could cause harm or injury to persons or property (reckless driver) • At-fault accident with Major Injuries (Major Injuries is defined as those injuries requiring immediate medical assistance and transportation to a hospital) • Runway Incursion	4
Airfield Operations Area Safety Infractions	**Points**
• Towing of aircraft without proper Aircraft Surface Movement authorization • Failure to obtain a required escort for non-pilot crossings of runways • Conducting aircraft fueling without fuel endorsement card in possession	1
• Failure to chock vehicle while fueling aircraft	2
• Runway Incursion	4

*Assessed points will be removed when violation is corrected

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Generic Safety Enforcement Program

Safety is the first responsibility of all airside drivers at . At no time do operational consideration such as time pressures, allow drivers to disobey this Airside SOP.

The Airport Authority reserves the right to suspend Airside Vehicle Operators Permit (AVOP) privileges, or have the AVOP holder complete additional training and/or testing resulting from a violation (or violations) of this Airside SOP.

There are four main objectives of the Demerit Point System:

1. To reinforce the importance of safe airside driving;
2. To have a fair, predictable and transparent method for reinforcement;
3. To create a system for progressive discipline for repeat offenders; and
4. To have the right to revoke an AVOP from unsafe driver.

Demerit Point System

Any action which compromises safety will result in a Notice of Infraction Ticket and will be treated as an offense under the Demerit Point System.

The Airport Safety Section, Airport Security Section and other designated Airport Authority personnel have the authority to enforce these procedures and issue tickets.

All airside drivers will commence with zero (0) points. Points will accumulate based on the infraction a driver commits. Previous records/points will remain on file – as stated in the violation chart. Multiple violations at the same time will result in multiple points.

AVOP Suspension/revocation:

- 6 point accumulation = 5 working day suspension.
- 10 point accumulation = 10 working day suspension.
- 14 point accumulation = 20 working day suspension.
- 18 point accumulation = AVOP revocation

Chart of Violations

Violation	Offence (section & brief description)		Penalty
Class A	• Failing to give right of-way to pedestrians • Dangerous driving • Driving under the influence of alcohol/drugs	• Refusing to submit a breathalyzer • Driving greater than 25 km/hr above speed limit	12 point Record/6 years
Class B	• Failing to give right-of-way to aircraft or responding emergency vehicle • Careless driving • Driving between aircraft and marshaller • Failing to comply with AVOP enforcement personnel • Smoking airside • Runway incursion	• Failing to operate a vehicle safely at all times. • Driving without a valid airport license • Driving without a valid Government Drivers License • Driving 15 to 25 km/hr above speed limit	6 point Record/ 4 years
Class C	• Failing to use vehicle corridor • Failing to enter approximating a 90 degree angle • Failing to obey a stop sign • Failing to yield to traffic within main vehicle corridor • Towing more than 4 carts/dollies • Failing to report an accident	• Parking in unauthorized parking location • Using a personal radio while driving airside • Driving 1-14 km/hr above speed limit	2 points Record/2 years
Class D	• Violation of directives not covered in the above classes.		To be determined

Speed Limits

No person shall operate a vehicle on a road at the airport at the rate of speed that exceeds the speed limit posted for that road or, where no speed limit is posted, 50 km/h (30 mph).

The maximum speed limits are:

- 10 km/h (6 mph) within 6 m. (20 ft.) of aircraft or in congested areas and on the Head of Stand Road.
- 25 km/h (15 mph) on all apron areas, vehicle corridors (not including Head of Stand Road) and airside roads.
- 50 km/h (31 mph) on the taxiways and runways (with the exception of emergency vehicles and Airport Authority vehicles in the course of their duties or other vehicles as requested by Air Traffic Control).

Operators shall reduce speed and maintain a careful lookout when near aircraft and corners of buildings or other installations.

No person shall operate a vehicle in an airside area in a manner that is dangerous to persons, aircraft, vehicles or equipment, having regard to all the circumstances including the amount of traffic thereon or reasonably expected to be thereon.

Appeal Process

1st Level Appeal

A letter detailing the infraction, the points allotted and the total points accumulated to date will be forwarded to the AVOP hold and his/her employer. Within seven (7) days of the issuance of this letter, an appeal may be made in the form of a letter including a description of the circumstances and justification of appeal. The appeal letter must be forwarded to Safety Office, where the Airport Safety Officer will investigate the incident and conduct interviews as required. Arguments citing operational necessity will not be considered as an appeal. A decision regarding the appeal will be sent to the AVOP holder within 7 days of the date of the appeal notification.

2nd Level Appeal

If the AVOP holder disagrees with the results of the 1st appeal, an appeal may be made by letter to the Airport Director within 15 days of the decision. The Director may arrange a meeting with the AVOP holder to assist in considering the appeal and the AVOP holder may bring an agent to assist in the presentation of the appeal. The decision of the Director is final and conclusive.

Point Accumulation Interviews

The Airport Safety Officer may conduct interviews with airside drivers who have accumulated 6 or more points for the following purposes:

- To act upon a potentially dangerous situation;
- To reinforce the element of safe airside driving at the airport;
- To impress upon the individual the seriousness of bad driving habits;
- To educate the employee on acceptable driving habits.

The Airport Safety Officer may deem it necessary to have an AVOP holder re-tested.

13.0 Vehicle Operating Procedure

Vehicle operators shall use service and perimeter roads to reach field locations when these roads are available and time permits.

A vehicle operator approaching an aircraft (with anti-collision lights on) on pushback or power out shall give way and come to a complete stop. Do not drive between a marshaller, their equipment and the aircraft or proceed behind the aircraft unless cleared by the marshaller. Once the aircraft and marshalling crew are clear of vehicle corridor, operators may proceed.

No person shall operate a vehicle within 15 m (50 ft.) of an aircraft being fuelled or defuelled except for the purpose of servicing that aircraft or as required when operating within a designated vehicle corridor.

A vehicle operator shall ensure the vehicle he/she is driving is in sound mechanical condition. A malfunction shall be reported to your supervisor, however the vehicle operator is responsible for the vehicle/equipment he/she is operating on airside.