

CONCORD REGIONAL AIRPORT



3/21/2008

GAP Analysis

The Gap Analysis is a tool or application of a systematic, proactive, program which allows an airport to continue to improve safety in the face of significant forecasted growth in air traffic activity. It provides the opportunity to assimilate the experience of the airport management, employees, and tenants in developing a Safety Management System to comply with widely varying activity levels and operational complexity. This analysis provides information for the development and implementation of the Safety Management System. However, the Safety Management System is not regulatory in the United States as of this date but will become regulatory in the future.

Concord Regional Airport

GAP ANALYSIS

Purpose of this Analysis

Is to provide a qualified overview of the Airport Safety Program to senior management and ensure the safety of the airport's operations through the effective application of its safety program. In addition, verifying assurances and compliance with Title 14 Code of Federal Regulations (14 CFR), FAA policies, State, Municipal Regulations, and Policies.

Objectives of this Analysis

To determine if the Concord Regional Airport's Safety Program and Part 139 certification meets all applicable requirements of Title 14 of the Federal Regulations and FAA policies. To identify any shortfalls in the Airport's Programs through a Safety Attribute Inspection. This inspection is to check procedures, instructions, information and documented methods for accomplishing a process. The airport's policies should establish their compliance posture. Policies maybe stand-alone statements or they may be imbedded within procedures, instructions, or information regarding a particular regulatory requirement. The questions in this analysis are designed to assist in determining if the certificate holder (airport) has documented or prescribed methods of accomplishing the process requirements that provide answers to the associated questions regarding who, what, when, where, and how. These are policy questions, procedural questions, and instructional or informational questions pertaining to various types of Safety Management System or Part 139 requirements such as actions, prohibitions, or resources (i.e., personnel, facilities, equipment, technical data, etc.).

Questions

The following questions were asked of Management, Supervisory Personnel, Line personnel, and Tenants.

Component 1, Safety Management Plan – Element 1.1, Safety Policy

Question. Is a Safety Management System with defined components established, maintained and adhered to? AC 150-5200-37, chapter 2, paragraph 2.1

Finding. No, the program is in the process of being developed, written, and implemented.

Question. Is the Safety Management System appropriate to the size and complexity of the airport? AC 150-5200-37

Finding. No, not at this time

Question. Is there a safety policy in place? AC 150-5200-37, chapter 2, paragraph 2.2.1.

Finding. Yes, it is incomplete, scattered and comingled with the city policy at the present time.

Question. Has the airport based its Safety Management System on the safety policy? AC 150-5200-37, chapter 2, paragraph 2.2.1.

Finding. No, the airport has no Safety Management System at this time.

Question. Is the safety policy approved by the accountable/responsible executive? AC 150-5200-37, chapter 2, paragraph 2.2.1.

Finding. No, the airport has no formal safety program or policy at the present time. However, the city's program is approved and used.

Question. Is the safety policy promoted by the accountable/responsible executive? AC 150-5200-37, chapter 2, paragraphs 2.4, 2.5. CFR Part 139.303

Finding. Yes, only to the requirements of the city program.

Question. Is the safety policy reviewed periodically? AC 150-5200-37, chapter 2, paragraph 2.4, CFR Part 139.327.

Finding. No, there is no review or self inspection/audit of any system or program at this time.

Question. Is the safety policy communicated to all employees with the intent that they are made aware of their individual obligations? AC 150-5200-37, chapter 1, paragraph 1.3, CFR Part 139.301, 139.303.

Finding. No, the communication is after a near miss, incident, or accident. (After the fact)

Component 1, Safety Management Plan – Element 1.2, Non-Punitive Safety Reporting

Question. Is there a policy in place that provides immunity from disciplinary action for employees that **report** safety deficiencies, hazards or occurrences? AC 150-5200-37, chapter 2, paragraph 2.2.1, CFR 139.301 (7).

Finding. No, there is nothing written in the airport or city published safety policy and procedures.

Component 1, Safety Management Plan – Element 1.3, Roles & Responsibilities

Question. Has an accountable/responsible executive been appointed with responsibility for ensuring that the Safety Management System is properly implemented and performing to

requirements in all areas of the airport? AC 150-5200-37, chapter 2, paragraph 2.2.2., CFR Part 139.203,

Finding. No, there is no formal document appointing the Aviation Director as the responsible person within the records. However, the director is appointed by the City Council to operate all airport functions. The Safety Management System requires that top management in the organization, one with the authority to adequately control resources, be assigned Safety Management System responsibilities. This has not been done. There are defined lines of succession of airport operational responsibility as required by Part 139.

Question. Does the accountable/responsible executive have control of the financial and human resources required for proper execution of his/her Safety Management System responsibilities? AC 150-5200-37, chapter 2, paragraph 2.2.2., CFR 139.203.

Finding. No, any increase in personnel or funding must be presented to the city council and be approved as a budget issue. However, once approved the aviation director does have control of fund allocations. This question has both a yes or no answer.

Question. Has a qualified person been appointed to manage the operation of the Safety Management System? AC 150-5200-37, chapter 2, paragraph 2.2.2.

Finding. No, at the present time this function is divided between two department supervisors and the Assistant Aviation Director. Future needs will require an individual assigned specific Safety Management System duties and possibly training.

Question. Does the person managing the operation of the Safety Management System fulfill the required job functions & responsibilities? AC 150-5200-37, chapter 2, paragraph 2.2.2.

Finding. No, there is no one fulfilling this requirement at this time with assigned duties and responsibilities.

Question. Are the safety authorities, responsibilities and accountabilities of personnel at all levels of the airport defined and documented? AC 150-5200-37, chapter 1, paragraph 1.3, 2.2.2.

Finding. No, there is no documentation that defines accountabilities and responsibilities at all levels of airport personnel for safety.

Question. Do all personnel understand their authorities, responsibilities and accountabilities in regards to safety management processes decisions and actions? AC 150-5200-3, chapter 1, paragraph 1.3, 2.2.1, 2.5, CFE Part 139.303 (a) (b) (c), 139.327 (a) (2) (3).

Finding. No, the audit and interviews of personnel at all levels revealed they had no understanding of these requirements.

Component 1, Safety Management Plan – Element 1.4, Communication

Question. Are there communication processes in place within the airport infrastructure that permit the Safety Management System to function effectively? AC 150-5200-3, chapter 2, paragraph 2.1, 2.2.2, CFR Part 139.303.

Finding. No, there is no Safety Management System in place at this time and communication practices are very limited or non-existent.

Question. Are communication processes (written, meetings, electronic, etc.) commensurate with the size and scope of the airport? AC 150-5200-37, chapter 2, paragraph 2.1, 2.2.2, 2.4, CFR Part 19.03.

Finding. No, there are limited meetings at the city level reference to safety but the information is not disseminated or posted.

Question. Is information established and maintained in a suitable medium that provides direction in related documents? AC 150-5200-37, chapter 2, paragraph 2.2.2, CFR 139.301, 139.303.

Finding. No, information is fragmented and maintained in three or more locations within the airport and city safety office.

Question. Is there a process for the dissemination of safety information throughout the airport and a means of monitoring the effectiveness of this process? AC 150-5200-37, chapter 2, paragraph 2.4, 2.5, CFR Part 139.327.

Finding. No, the audit revealed no process for dissemination of safety information and no means for monitoring the lack of information.

Component 1, Safety Management Plan – Safety Planning, Objectives & Goals

Question. Have safety objectives been established? AC 150-5200-37, chapter 2, 2.2, 2.2.2.

Finding. No, airport objectives or goals have not been established until it became necessary to complete this analysis and implement a Safety Management System.

Question. Is there a formal process to develop a coherent set of safety goals necessary to achieve overall safety objectives? AC 150-5200-37, chapter 2, 2.2.2.

Finding. Yes, they are in the development stages of implementing a safety management system.

Question. Are safety objectives and goals publicized and distributed? AC 150-5200-37, chapter 2, paragraph 2.1.

Finding. No, the airports objectives and goals are not publicized or distributed at this time.

Component 1, Safety Management Plan – Element 1.6, Performance Measurement

Question. Is there a formal process to develop and maintain a set of performance parameters to be measured? AC 150-5200-37, chapter 2, paragraph 2.4, 2.5, chapter 3.

Finding. No, at this time none exist within the airport system/process.

Component 1, Safety Management Plan – Element 1.7, Management Review

Question. Are regular and periodic, planned reviews of airport safety performance and achievement including an examination of the airport's Safety Management System conducted to ensure its continuing suitability, adequacy and effectiveness? AC 150-5200-37, chapter 2, paragraph 2.5, chapter 3, paragraph 3.3 Phase 5.

Finding. No, there is no review process at this time.

Question. Is there a process to evaluate the effectiveness of the corrective actions? AC 150-5200-37, chapter 3, paragraph 3.1, 3.3.

Finding. No, there is no evaluation of the effectiveness of corrective actions at this time.

Component 2, Documentation – Element 2.1, Identification & Maintenance of Applicable Regulations

Question. Has a documented procedure been established and maintained for identifying applicable regulatory requirements? AC 150-5200-37, chapter 2, 2.2.2.

Finding. Yes, there is a documented procedure to meet the requirements of CFR Part 139.

Question. Are Regulations, Standards and Exemptions periodically reviewed to ensure that the most current information is available? CFR Part 139.201 (b) (1) (3).

Finding. Yes, there is a formal review process as a result of preparation for the annual Part 139 inspection.

Component 2, Documentation – Element 2.2, SAFETY MANAGEMENT SYSTEM Documentation

Question. Is there consolidated documentation that describes the Safety Management System and the interrelationship between all of its elements? AC 150-5200-37, chapter 2, paragraph 2.2.2.

Finding. No, there is no consolidated documentation within the airport infrastructure of safety management.

Question. Does this information reside or is it incorporated by reference into approved documentation, such as Airport Operations Manual, Maintenance Policy Manual, as applicable, and where these approved documents are not required by regulation, the airport includes the information in a separate, controlled document? No regulatory requirement.

Finding. No, this does not exist at this time.

Component 2, Documentation – Element 2.3, Records Management

Question. Does the airport have a records system that ensures the generation and retention of all records necessary to document and support operational requirements, and is in accordance with applicable regulatory requirements? AC 150-5200-37, chapter 2, paragraph 2.2.2, 2.5, CFR Part 139.301.

Finding. Yes, it is scattered throughout the airport and city system and not in a Safety Management System records/document system.

Question. Does the system provide the control processes necessary to ensure appropriate identification, legibility, storage, protection, archiving, retrieval, retention time, and disposition of records? AC 150-5200-37, chapter 2, CFR Part 139.301

Finding. Yes, but has no written policy or procedure and only a very few personnel know about the system.

Component 3, Safety Oversight – Element 3.1, Reactive Processes

Question. Does the airport have a reactive process or system that provides for the capture of internal information including incidents, accidents and other data relevant to Safety Management System? AC 150-5200-37, CFR Part 139.301.

Finding. Yes, they have a system but it only relates to the city requirements and not to a Safety Management System.

Question. Is the reactive reporting process simple, accessible and commensurate with the size of the airport? AC 150-5200-37, CFR Part 139.301.

Finding. Yes, again it is the city system, no written policy or procedure with dissemination of required information.

Question. Are reactive reports reviewed at the appropriate level of management? AC 150-5200-37, chapter 2, paragraph 2.4.

Finding. Yes, however, the airport has no written policy or procedure to ensure this is accomplished.

Question. Is there a feedback process to notify contributors that their reports have been received and to share the results of the analysis? AC 150-5200-37, chapter 2, paragraph 2.4.

Finding. No, only the individual involved in the incident/accident is involved with management in the report and they receive no analysis results/feedback.

Question. Is there a process in place to monitor and analyze trends? AC 150-5200-37, chapter 2, paragraph 2.4.

Finding. No, there is no process for the airport or city due to no Safety Management System in place.

Question. Are corrective and preventive actions generated in response to event analysis? AC 150-5200-37, chapter 3, paragraph 3.3.

Finding. Yes, as a reactive measure after a serious incident/accident has occurred.

Component 3, Safety Oversight- Element, 3.2, Proactive Processes

Question. Does the airport have a process or system that provides for the capture of internal information including hazard identification, occurrences and other data relevant to Safety Management System? AC150-5200-37, chapter 2, paragraph 2.4, chapter 3.

Finding. No, the airport has no risk management procedures in place at this time.

Question. Is the proactive reporting process simple, accessible and commensurate with the size of the airport? AC 150-5200-37

Finding. No, there is no reporting process in place at this time.

Question. Are proactive reports reviewed at the appropriate level of management? AC 150-5200-37.

Finding. No, there is no reporting process in place at this time.

Question. Is there a feedback process to notify contributors that their reports have been received and to share the results of the analysis? AC 150-5200-37.

Finding. No, this does not exist at the airport at this time.

Question. Is there a process in place to monitor and analyze trends? AC 150-5200-37, chapter 2, paragraph 2.4.

Finding. No, there is no process for the airport or city due to no Safety Management System in place.

Question. Has the airport planned self evaluation processes, such as regularly scheduled reviews, evaluations, surveys, operational audits, assessments, etc.? AC150-5200-37.

Finding. Yes, the overall response was yes, but there is considerable doubt among the persons interviewed if this actually happens.

Question. Are corrective and preventative actions generated in response to hazard analysis? AC150-5200-37.

Finding. Yes, the overall response was yes as in the question above, but considerable doubt among the persons interviewed if this actually happens.

Question. Is a process in place for analyzing changes to operations or key personnel for hazards? AC 150-5200-37.

Finding. All persons answered no with one exception, he answered yes. He stated the process is covered in the Operations Manual.

Component 3, Safety Oversight – Element 3.3, Investigation & Analysis

Question. Are there procedures in place for the conduct of investigations? AC 150-5200-37, chapter 3.

Finding. Yes, they are not airport procedures but procedures defined by the city safety department and not related to airport aviation safety.

Question. Do measures exist that ensure all reported occurrences and deficiencies are investigated? AC 150-5200-37, chapter 3.

Finding. Yes, they are not airport procedures but procedures defined by the city safety department and not related to airport aviation safety.

Question. Is there a process to ensure that occurrences and deficiencies reported are analyzed to identify contributing and root causes? AC 150-5200-37, chapter 3.

Finding. Yes, but it is not an airport process but a city process within the city system.

Question. Are corrective and preventative actions generated in response to event investigation and analysis? AC 150-5200-37, chapter 3.

Finding. Yes, responses were yes but there is doubt if it actually takes place within the airport system.

Component 3, Safety Oversight – Element, 3.4 Risk Management

Question. Is there a structured process for the assessment of risk associated with identified hazards, expressed in terms of severity, level of exposure and probability of occurrence? AC 150-5200-37, chapter 3.

Finding. No, there is no Safety Management System risk management applied to any safety function at the airport.

Question. Are there criteria for evaluating risk and the tolerable/accepted level of risk the airport is willing to accept? AC 150-5200-37, chapter 3.

Finding. No, there is no Safety Management System risk management applied to any safety function at the airport.

Question. Does the airport have risk control strategies that include corrective/preventive action plans to prevent recurrence of reported occurrences and deficiencies? AC 150-5200-37, chapter 3.

Finding. No, the airport has no Safety Management System or risk management procedure/plan.

Question. Does the airport have a process for evaluating the effectiveness of the corrective/preventive measures that have been developed? AC 150-5200-37, chapter 3.

Finding. No, the airport has no Safety Management System or risk management plan.

Question. Are corrective/preventive actions, including timelines, documented? AC 150-5200-37, chapter 3.

Finding. No, one person answered yes with the understanding that documentation was maintained by the city safety office. However, the airport has no documentation or Safety Management System risk management program in place.

Component 4, Training – Element 4.1, Training, Awareness & Competence

Question. Is there a documented process to identify training requirements so that personnel are competent to perform their duties? AC 150-5200-37, chapter 2, paragraph 2.5, CFR Part 139.301, 139.303.

Finding. Yes, however, there is no central location to check the required training or recurrent training. Some elements are maintained by the supervisor of operations, some by the supervisor of maintenance, and some by the city human resources department. This scattered process does not meet the requirements of a Safety Management System program.

Question. Is there a validation process that measures the effectiveness of training? AC 150-5200-37, chapter 2, paragraph 2.5, CFR Part 139.301, 139.303.

Finding. No, none could be found in the airport system or the city human resource system.

Question. Does the training include initial, recurrent and update training, as applicable? AC 150-5200-37, chapter 2, paragraph 2.5, CFR Part 139.301, 139.303.

Finding. Yes, personnel interviewed had doubts about the accuracy of the records. Supervisors stated the records were maintained by the Airport, Fire Department, and City Human Resources Department.

Question. Is the airport's safety management training incorporated into indoctrination training upon employment? AC 150-5200-37, chapter 2, paragraph 2.5, CFR Part 139.301, 139.303.

Finding. Yes, were the answers given. However, when questioned the safety training was OSHA and vehicle safety training not airport or aviation training combined with OSHA training.

Question. Does the training include human and organizational factors? AC 150-5200-37, chapter 2, paragraph 2.5, CFR Part 139.301, 139.303.

Finding. No, no one in the survey knew about human factors training or had received any.

Question. Is there emergency preparedness and response training for affected personnel? CFR Part 139.301, 139.303.

Finding. No, documentation could not be found. When individuals were questioned their response was "it is a fire department responsibility". The city fire department has a fire station on the airport and the airport leaves that responsibility to the city fire department.

Component 5, Quality Assurance – Element 5.1, Operational Quality Assurance

Question. Is a quality assurance system established, maintained, and under the management of an appropriate person? AC 150-5200-37, chapter 2, paragraph 2.4, CFR Part 139.203, 139.301, 139.303, 139.319, 139.327.

Finding. Yes, however the duties and responsibilities are comingled and there is no central location to determine quality assurance.

Question. Does the airport conduct reviews and audits of its processes, its procedures, analysis, inspections and training? AC 150-5200-37, chapter 2, paragraph 2.5, CFR Part 139.301, 139.303.

Finding. No, only training records were identified.

Question. Does the airport have a system to monitor for completeness, the internal reporting process and the corrective action completion? AC 150-5200-37, CFR Part 139.327.

Finding. No, there is no monitoring of the reporting system.

Question. Is there an operationally independent audit function with the authority required to carry out an effective internal evaluation program? CFR Part 139.327.

Finding. No, there are no audit functions in place.

Question. Does the quality assurance system cover all functions defined within the certificates? AC 150-500-37, chapter 2, paragraph 2.4, CFR Part 139.327.

Finding. No, there is no quality assurance system.

Question. Are there defined audit scope, criteria, frequency and methods? AC 150-5200-37, chapter 2, paragraph 2.4, CFR Part 139.327.

Finding. No, there are no written policies or procedures for the airport at this time.

Question. Are there selection/training processes to ensure the objectivity and competence of auditors as well as the impartiality of the audit process? AC 150-5200-37, chapter 2, paragraph 2.5.

Finding. No, there are no processes in place at this time.

Question. Is there a procedure for reporting audit results and maintaining records? AC 150-5200-37, chapter 2, paragraph 2.2.2, 2.4, CFR Part 139.301.

Finding. No, there is no documented procedure at this time.

Question. Is there a procedure outlining requirements for timely corrective and preventative action in response to audit results? AC 150-5200-37, chapter 2, paragraph 2.2.2, 2.4, CFR Part 139.301.

Finding. No, there is no documented procedure at this time.

Question. Is there a procedure to record verification of action(s) taken and the reporting of verification results? AC 150-5200-37, chapter 2, paragraph 2.2.2, CFR Part 139.301.

Finding. No, there is no procedure at this time.

Question. Does the airport perform periodic Management reviews of safety critical functions and relevant safety or quality issues that arise from the internal evaluation program? AC 150-5200-37, chapter 2, paragraph 2.4.

Finding. No, there is no internal evaluation program.

Component 6, Emergency Preparedness – Element 6.1, Emergency Preparedness & Response

Question. Does the airport have an emergency preparedness procedure, appropriate to the size, nature and complexity of the airport? CFR Part 139.325.

Finding. Yes, The City Emergency Management Division's Fire Department has a procedure and they respond to a call from the tower or from airport employees.

Question. Have the Emergency preparedness procedures been documented, implemented and assigned to a responsible manager? CFR Part 139.325.

Finding. Yes.

Question. Have the emergency preparedness procedures been periodically reviewed as a part of the management review and after key personnel or organizational change? CFR Part 139.301, 139.303, 139.325.

Finding. Yes, there is a review by the airport management.

Question. Does the airport have a process to distribute the Emergency Response Plan procedures and to communicate the content to all personnel? CFR Part 139.301, 139.303, 139.325.

Finding. No, there is no documented emergency response plan in place for use by airport employees.

Question. Has the airport conducted drills and exercises with all key personnel at intervals defined in the approved control manual? CFR Part 139.301, 139.303, 139.325.

Finding. No, drills for airport personnel have not been conducted within the preceding 12 months.

Summation

This analysis/survey team interviewed ten airport employees and two airport tenants to complete this analysis. Considering there is no regulatory requirement for a Safety Management System program this team recommends one be developed and implemented. This is based on the number of negative answers to the above questions that are suggested or regulatory as part of CFR Part 139. The airport is in possession of a Part 139 Certificate.

A Safety Management System put into place would correct a number of deficiencies uncovered during this audit. Should the Safety Management System requirement become regulatory in the future, it would require no action to be taken by the airport at that time. A safety systems approach to safety management addresses significant hazards and the possible risks these hazards may present to employees and the public. Individuals responsible for developing the Safety Management System program should work with the persons that have direct responsibility for analyzing hazards, identifying control measures derived from the analysis, and ensuring those measures are effective. Similarly, individuals responsible for operations should have direct responsibility for the safety of those operations and should be given the resources to implement the necessary controls.

Feedback is necessary to assess how well the Safety Management System is working. This is achieved through safety oversight, performance monitoring, and continuous improvement processes.

The Safety Management System should include a visible non-punitive reporting system supported by management. The safety reporting should permit feedback from personnel regarding hazards and safety related concerns. The Safety Management System should use this information to identify and address safety deficiencies. The safety reporting system may also identify and correct non-conformance to safety policy and regulations.

Safety auditing is a core safety management activity. Similar to financial audits, safety audits provide a means for systematically assessing how well the airport 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 oversight activities, provides feedback to executives and managers concerning the overall safety performance of the airport.

Safety performance monitoring validates the Safety Management System, confirming the airport'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 Safety Management System remains effective and relevant to the airport's operation.

Training requirements and activities in addition to safety requirements and activities must be accomplished and documented. These requirements should be accomplished for individual employees in each airport area activity. We believe our analysis clearly identifies the airport's need for a position as safety/training manager reporting directly to the Aviation Director. Current staffing levels make it almost impossible for the required tasks to be shared and accomplished.

Copies of surveyed GAP Analysis forms are attached.

This analysis was prepared by Aviation Safety Consulting, L.L.C. of Charlotte, North Carolina.

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