

GAP ANALYSIS

MODEL FORM

1. Background

This gap analysis model form is intended to assist a service provider with the implementation of an Safety Management System (SMS) in accordance with the Standards and Recommended Practices (SARPs) contained in ICAO Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, and Part III — International Operations — Helicopters*, ICAO Annex 11 — *Air Traffic Services*, and ICAO Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*. A gap analysis is conducted against generally accepted SMS concepts and component/elements. In this case, the gap analysis is conducted against the ICAO frame work for the implementation and maintenance of an SMS. The model form provides, in checklist format, information to assist the evaluation of the components of a safety system presently in place, and the identification of those components/elements of an SMS that need to be developed.

2. ICAO Safety Management Systems Framework

The ICAO SMS framework for the implementation and maintenance of an SMS consists of four components and fourteen elements, outlined below.

1. Safety policy and objectives
 - 1.1 – Management commitment and responsibility
 - 1.2 – Safety accountabilities of managers
 - 1.3 – Appointment of key safety personnel
 - 1.4 – SMS implementation plan
 - 1.5 – Coordination of the emergency response plan
 - 1.6 – Documentation
2. Safety risk management
 - 2.1 – Hazard identification processes
 - 2.2 – Risk assessment and mitigation processes
 - 2.3 – Internal safety investigations
3. Safety assurance
 - 3.1 – Safety performance monitoring and measurement
 - 3.2 – The management of change
 - 3.3 – Continuous improvement of the safety system
4. Safety promotion
 - 4.1 – Training and education
 - 4.2 – Safety communication

Note. – Within the context of this model form the term “service provider” designates any organization providing aviation related services. The term includes aircraft operators, maintenance organizations, air traffic service providers and aerodrome operators, as applicable.

The implementation of an SMS requires a service provider to conduct an analysis of its system to determine which components/elements of a safety management system are currently in place and which

components/elements must be added or modified to meet the SMS implementation requirements. The analysis involves comparing the SMS components/elements included in the SMS implementation requirements against those existing in the service provider system.

The model gap analysis presented in this section can be used for a service provider as a template to conduct a gap analysis. Each analysis question is designed for a “yes” or “no” response. A “yes” answer indicates that the organization already complies with the requirement for that particular SMS component/element. A “no” answer indicates that a gap exists between the stated criteria and the organization's policies, procedures or processes. If the response is “yes”, the next column of the analysis form can be used to indicate where (in company documentation) the requirement is addressed. If the response is “no”, the same column can be used to indicate how and/or where the policy, procedure or process will be further developed to bring the organization into compliance with the requirement.

Once the gap analysis is complete and documented, the requirements identified as missing or deficient will form one basis of the SMS implementation plan. Each requirement will be assessed to determine how the organization will create or modify policies, procedures or processes to incorporate the required SMS components/elements. Components/elements can be grouped into larger projects and assigned to project manager(s) who will oversee the development and implementation of that project. Each project should be assigned milestones including a termination date to ensure that completion does not fall outside acceptable time limits.

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Gap Analysis Model Form

ICAO SMS Framework	Response (Yes/No)	If <i>yes</i> , state where the requirement is addressed. If <i>no</i> , record how compliance with the requirement will be achieved
Safety Policy and Objectives		
Is a safety management system (SMS) with defined components/elements established, maintained and adhered to?		
Is the SMS appropriate to the size, nature and complexity of the organization?		
Is there a safety policy in place?		
Is the safety policy approved by the accountable executive?		
Is the safety policy promoted by the accountable executive?		
Is the safety policy reviewed periodically?		
Does the safety policy clearly indicate which types of operational behaviours are acceptable or unacceptable?		
Is there a safety reporting policy that clearly includes the conditions under which reporter immunity from disciplinary action would be considered?		
Have safety objectives been established?		
Is there a formal process to develop safety objectives?		
Are safety objectives publicized and distributed?		
Is there a formal process to develop and maintain a set of safety performance indicators and safety performance markers?		
Has an accountable executive been identified?		
Does the accountable executive have responsibility for ensuring that the SMS is properly implemented and performing to requirements in all relevant areas of the organization?		
Does the accountable executive have control of the financial and human resources required to ensure the proper performance of the SMS?		

Have the safety accountabilities of all members of senior management been identified, documented and communicated throughout the organization?		
Has a qualified person been appointed to be the focal point for the daily operation of the SMS?		
Does the person appointed as focal point for the daily operation of the SMS fulfill the required job functions and responsibilities?		
Are the safety responsibilities and accountabilities of personnel at all levels of the organization defined and documented?		
Is there consolidated documentation that describes the SMS and the interrelationships between all its components?		
Has a documented procedure been established and maintained for identifying applicable regulatory requirements?		
Are regulations, standards and exemptions periodically reviewed to ensure that the most current information is available?		
Does the organization have an emergency response/contingency procedure appropriate to the size, nature and complexity of the organization?		
Have the emergency response/contingency procedures been documented, implemented and assigned to a responsible manager?		
Are the emergency response/contingency procedures being periodically reviewed?		
Does the organization have a process to distribute the emergency response/contingency procedures and to communicate the content to all personnel?		
Does the organization conduct drills and exercises with all key personnel at specified intervals, as applicable?		

Does this information reside or is it incorporated into approved documentation, such as the Operations Manual, Maintenance Control Manual, or Airport Operations Manual, as applicable, and where these approved documents are not required by regulation, the organization includes the information in a separate, controlled document?		
Does the organization 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 and industry best practices?		
Does the system provide the control processes necessary to ensure appropriate identification, legibility, storage, protection, archiving, retrieval, retention time, and disposition of records?		
Safety Risk Management		
Does the organization have a reactive method that provides for the capture of internal safety information including hazard identification, occurrences and other data relevant to safety risk management?		
Is the reactive reporting process simple, accessible and commensurate with the size of the organization?		
Are reactive reports reviewed at the appropriate level of management?		
Does the organization have a proactive method that provides for the capture of internal information including hazard identification, occurrences and other data relevant to safety risk management?		
Is the proactive reporting process simple, accessible and commensurate with the size of the organization?		
Are proactive reports reviewed at the appropriate level of management?		
Does the organization have a predictive method that provides for the capture of internal information including hazard identification, occurrences and other data relevant to safety risk management?		

Is predictive safety information reviewed at the appropriate level of management?		
Is there a feed back process to notify contributors that their reports have been received and to share the results of the analysis?		
Are corrective and preventive actions generated in response to safety data analysis?		
Is there a structured process for the analysis of risk associated with identified hazards, expressed in terms of severity, and probability of occurrence?		
Are there criteria for assessing risk in terms of tolerability (i.e., the acceptable level of risk the organization is willing to accept)?		
Does the organization have risk management control strategies that include corrective/preventive mitigation action of risks to an acceptable level?		
Are there procedures in place for the conduct of internal safety investigations?		
Safety Assurance		
Is there a process in place to monitor and analyze safety trends?		
Do measures exist that ensure all reported occurrences and deficiencies are investigated?		
Is there a process to ensure that occurrences and deficiencies reported are analyzed to identify all associated hazards?		
Are corrective and preventative actions generated in response to event investigation and risk analysis?		
Does the organization have a process for evaluating the effectiveness of the corrective/ preventive measures that have been developed?		
Are corrective/ preventive actions, including timelines, documented?		
Is there a process to evaluate the effectiveness of corrective actions?		
Does the organization have a system to monitor the internal reporting process and the associated corrective actions?		

Are regular and periodic reviews conducted regarding the organization safety performance, internal audit results, hazard and occurrence investigations, hazard and occurrence analysis results, internal/external feedback analysis results, status of corrective actions, follow-up actions from management reviews, changes that could affect safety, recommendations for improvement and sharing of best practices across the organization?		
Has the organization implemented self-evaluation processes, such as regularly scheduled safety audits, safety surveys, safety reviews, and safety studies?		
Is there an operationally independent audit function with the authority required to carry out an effective internal evaluation program?		
Does the audit system cover all functions, activities and organizations within the company?		
Are there defined audit scope, criteria, frequency and methods?		
Are there selection/training process to ensure the objectivity and competence of auditors as well as the impartiality of the audit process?		
Is there a procedure for reporting audit results and maintaining records?		
Is there a procedure outlining requirements for timely corrective and preventive action in response to audit results?		
Is there a procedure to record verification of action(s) taken and the reporting of verification results?		
Is a process in place for analyzing changes to operations or key personnel for risks?		
Does the organization perform periodic management reviews of safety critical functions and relevant safety issues that arise from the internal evaluation program?		

Safety Promotion		
Is there a documented process to identify training requirements so that personnel are competent to perform their duties?		
Is there a process that measures the effectiveness of training?		
Is the organization's safety training incorporated into indoctrination training upon employment?		
Is there emergency response and response training for affected personnel?		
Does the safety training ensure that all personnel understand their responsibilities and accountabilities in regards to all safety management processes, decisions and actions?		
Are there communication processes in place within the organization that permit the safety management system to function effectively?		
Are communication processes (written, meetings, electronic, etc.) commensurate with the size and scope of the organization?		
Is information established and maintained in a suitable medium that provides direction in related documents?		
Is there a process for the dissemination of safety information throughout the organization and a means of monitoring the effectiveness of this process?		
