CHAPTER 6
PRACTICAL CONSIDERATIONS FOR OPERATING A SAFETY MANAGEMENT SYSTEM

6.1 INTRODUCTION

Beyond the theoretical and conceptual considerations for establishing a safety management system (SMS), a number of practical considerations need to be addressed. This chapter discusses some of them.

6.2 THE SAFETY OFFICE

6.2.1 The airport operator shall appoint a safety manager (SM) and provide a safety office. The safety office shall: serve as a focal point for safety-related activities, act as a repository for safety reports and information, and provide expertise on safety management to line managers.

6.2.2 The SM shall be provided with a suitably equipped office.

6.2.3 The SM shall be free to move around the organization — probing, questioning and observing. The SM shall be readily accessible to anyone wishing to contact him, and he shall not shut himself in an office and wait for information to come to him. The physical location of the SM shall not be remote from the day-to-day operations in order to avoid communication difficulties.

6.2.4 Since the main source of safety information within an organization is its operational personnel, the SM shall be located where these personnel can have ready access to him. This is particularly important in relation to human performance issues where the facility to discuss a problem, in confidence if necessary, immediately after a safety occurrence may be the deciding factor as to whether the information is reported at all.

Safety office functions

6.2.5 Regardless of its location within an organization, a safety office shall fulfill a variety of corporate safety functions that shall include:

   a) advising senior management on safety-related matters such as:

      1) setting safety policy;
2) defining responsibilities and accountabilities for safety;
3) establishing an effective corporate SMS;
4) recommending resource allocations in support of safety initiatives;
5) disseminating public communications on safety issues; and
6) organizing emergency response planning;

b) assisting line managers in:
   1) assessing identified risks; and
   2) selecting the most appropriate risk mitigation measures for those risks deemed unacceptable;

c) overseeing hazard identification systems, for example:
   1) occurrence investigations;
   2) incident reporting systems; and
   3) data analysis programs;

d) managing safety databases;

e) conducting safety analyses, for example:
   1) trend monitoring; and
   2) safety studies;

f) providing training on safety management methods;

g) coordinating safety committees;

h) promoting safety by:
   1) sustaining awareness and understanding of the organization’s safety management processes across all operational areas;
   2) disseminating safety lessons in-house; and
3) exchanging safety information with external agencies and similar operations;

i) monitoring safety performance measurement by:
   1) conducting safety surveys; and
   2) providing guidance on safety oversight;

j) participating in accident and incident investigations; and

k) reporting on safety to meet the requirements of:
   1) management (e.g. annual/quarterly review of safety trends and identification of unresolved safety issues); and
   2) the regulator (CAA).

6.3 SAFETY MANAGER (SM)

6.3.1 The SM shall be the focal point for the development and maintenance of an effective SMS. The SM shall also be the main point of contact with JCAA for safety issues. The SM shall report directly to the airport operator Chief Executive Officer (CEO).

6.3.2 The functions of the SM have been discussed briefly in Chapter 3. Broadly, the SM shall be responsible for ensuring that safety documentation accurately reflects the current situation, monitoring the effectiveness of corrective actions, providing periodic reports on safety performance, and providing independent advice to the CEO, senior managers and other personnel on safety-related matters.

6.3.3 The SM shall not hold line management responsibilities. The SM shall be accountable for rendering effective staff support to line managers to ensure the success of their safety management efforts.

6.3.4 The airport operator should have a small staff of dedicated safety specialists to assist the SM if necessary depending on the size of the organization. These specialists should undertake a variety of tasks, such as maintaining safety documentation, reviewing safety assessments and taking part in safety audits.

6.3.5 The airport operator shall have a formal statement of responsibilities and accountabilities. This statement clarifies the formal and informal reporting lines on the organizational chart and specifies accountabilities for particular activities.
SM selection criteria

6.3.6 The SM shall possess operational management experience and an adequate technical background to understand the systems that support operations. Operational skills alone will not be sufficient. The SM shall have a good understanding of safety management principles that has been acquired through formal training and practical experience.

6.3.7 SMs shall have:

a) a broad knowledge of aviation and the organization’s functions and activities;

b) people skills (such as tact, diplomacy, objectivity and fairness);

c) analytical and problem-solving skills;

d) project management skills; and

e) oral and written communication skills.

6.3.8 A sample job description for an SM is contained in Appendix 7 to this publication.

Leadership role

6.3.9 The SM shall have leadership skills. Further information on developing a leadership style can be found in ICAO Document 9859 “Safety Management Manual”.

SM in expanding or large organizations

6.3.10 As an airport operator organization expands, additional specialists shall be recruited to assist the SM. In the case of an airline, these specialists shall include:

a) fleet flight safety officers (pilots qualified on type);

b) engineering safety officers (licensed ground engineers with broad experience); and

c) cabin safety officers (senior cabin crew members experienced in cabin crew training, safety equipment and operating procedures).
6.3.11 These specialists shall assist with the monitoring of events peculiar to their own fleet or discipline and provide expert input during the investigation of occurrences.

SM’s relationships

6.3.12 The SM shall foster effective working relationships across the whole spectrum of those influencing safety and at all levels. These relationships shall be marked by:

a) competence and professionalism;
b) cordiality and courtesy;
c) fairness and integrity; and
d) openness.

6.3.13 The SM shall be visible and approachable in all areas of operations and maintenance, and with external suppliers.

6.4 SAFETY COMMITTEES

6.4.1 When safety issues require inputs from a variety of different fields, safety committees shall be established.

6.4.2 The focus of safety committees shall be on “action”, as opposed to “dialogue”. The role of the safety committee shall include to:

a) act as a source of expertise and advice on safety matters to senior management;
b) review the progress on identified hazards and actions taken following accidents and incidents;
c) make safety recommendations to address safety hazards;
d) review internal safety audit reports;
e) review and approve the audit response and the actions taken;
f) encourage lateral thinking about safety issues;
g) help identify hazards and defenses; and

h) prepare and review safety reports to be presented to the CEO.

6.4.4 Safety committees shall not have the authority to direct individual departments.

6.4.5 Safety committees shall make recommendations for action by the responsible managers.

Committee chairman

6.4.6 The safety committee shall be chaired by a senior executive, with the SM acting as the Secretary.

Membership

6.4.7 Safety committees shall comprise representatives from all key departments of the airport operator’s organization. Depending on the size of the organization, separate sub-committees may be required to address specific issues.

6.4.8 The SM and the safety office shall coordinate activities and provide assistance to the safety committee and any sub-committees.

Agenda

6.4.9 All committee members should have the opportunity to submit potential agenda items. The SM, as meeting Secretary, shall finalize the agenda with the Chairman.

6.4.10 Items requiring decisions and action take precedence over standing (information) items.

The minutes

6.4.11 The SM, as the Secretary of the meeting, shall prepare draft minutes immediately following the meeting. Once the Chairman has signed the minutes, they become an action document.

6.4.12 The minutes shall be distributed within five working days of the meeting.
6.4.13 Copies of the minutes shall be distributed widely throughout the organization — for both line personnel and management.

Follow-up

6.4.14 After the meeting, the SM shall discreetly monitor the actions being taken (or not being taken) and review the progress made with those who have a commitment for action.

6.5 SAFETY MANAGEMENT TRAINING

6.5.1 All personnel shall be made aware of the organization’s safety philosophy, policies, procedures and practices, and they shall be made aware of their roles and responsibilities within that safety management framework.

6.5.2 Safety training shall begin with the initial indoctrination of employees and continue throughout their employment.

6.5.3 Specific safety management training shall be provided for staff who occupy positions with particular safety responsibilities.

6.5.4 The training program shall ensure that the safety policy and principles of the organization are understood and adhered to by all staff, and that all staff are aware of the safety responsibilities of their positions.

Training needs

6.5.5 The SM shall, in conjunction with the personnel department, review the job descriptions of all staff and identify those positions that have safety responsibilities. The details of the safety responsibilities shall then be added to the job descriptions.

6.5.6 Once the job descriptions have been updated, the SM, in conjunction with the training manager, shall conduct a training needs analysis to identify the training that will be required for each position.

6.5.7 Depending on the nature of the task, the level of safety management training required shall vary from general safety familiarization to expert level for safety specialists, for example:

a) corporate safety training for all staff;

b) training aimed at management’s safety responsibilities;
c) training for operational personnel (such as pilots, ATCOs, AMEs and apron personnel); and

d) training for aviation safety specialists (such as the SM and Flight Data Analysts).

6.5.5 During the initial implementation of an SMS, specific training shall be provided for existing staff. Once the SMS is fully implemented, the safety training needs of those other than the safety specialists shall be met by incorporating the appropriate safety content into the general training program for their positions.

Initial safety training for all staff

6.5.6 All staff shall receive a basic introductory course covering:

a) basic principles of safety management;

b) corporate safety philosophy, safety policies and safety standards (including corporate approach to disciplinary action versus safety issues, integrated nature of safety management, risk management, decision-making, safety culture, etc.);

c) importance of complying with the safety policy and with the procedures that form part of the SMS;

d) organization, roles and responsibilities of staff in relation to safety;

e) corporate safety record, including areas of systemic weakness;

f) corporate safety goals and objectives;

g) corporate safety management programs (e.g. incident reporting systems, LOSA and NOSS);

h) requirement for ongoing internal assessment of organizational safety performance (e.g. employee surveys, safety audits and assessments);

i) reporting accidents, incidents and perceived hazards;

j) lines of communication for safety matters;

k) feedback and communication methods for the dissemination of safety information;
l) safety awards programs (if applicable);

m) safety audits; and

n) safety promotion and information dissemination.

Safety training for management

6.5.7 Training shall ensure that managers and supervisors are familiar with the principles of the SMS and their responsibilities and accountabilities for safety. Managers shall be provided with training that addresses the legal issues involved, including their legal liabilities.

Specialist safety training

6.5.8 A number of safety-related tasks require specially trained personnel. These tasks include:

a) investigating safety occurrences;

b) monitoring safety performance;

c) performing safety assessments;

d) managing safety databases; and

e) performing safety audits.

6.5.9 Staff performing these tasks shall receive adequate training in the special methods and techniques involved. Depending on the depth of training required and the level of existing expertise in safety management within the organization, it may be necessary to obtain assistance from external specialists in order to provide this training.

Safety training for operational personnel

6.5.10 In addition to the corporate indoctrination outlined above, personnel engaged directly in flight operations (flight crew, ATCOs, AMEs, etc.) shall require more specific safety training with respect to:

a) procedures for reporting accidents and incidents;
b) unique hazards facing operational personnel;

c) procedures for hazard reporting;

d) specific safety initiatives, such as:

   1) FDA program;

   2) LOSA program; and

   3) NOSS program;

e) safety committee(s);

f) seasonal safety hazards and procedures (winter operations, etc.); and

g) emergency procedures.

Training for safety managers

6.5.11 The person selected as the SM shall be made familiar with most aspects of the organization, its activities and personnel by providing in-house or external courses.

6.5.12 Areas where SMs shall require formal training include:

   a) familiarization with different fleets, types of operations, routes, etc.;

   b) understanding the role of human performance in accident causation and prevention;

   c) operation of SMS;

   d) accident and incident investigation;

   e) crisis management and emergency response planning;

   f) safety promotion;

   g) communication skills;

   h) computer skills such as word-processing, spreadsheets and database management; and
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6.6 CONDUCTING A SAFETY SURVEY

6.6.1 Safety surveys offer a flexible and cost-effective method for identifying hazards by sampling expert opinion. They may be used to review a particular area of safety concern where hazards appear or are suspected, or as a monitoring tool to confirm that an existing situation is satisfactory. In either case, the principles and procedures are the same, and they are equally applicable to large or small surveys.

Principles

6.6.2 The objectives of the survey shall be clearly enunciated for all intended respondents.

6.6.3 The sample size shall be sufficient to permit valid conclusions to be drawn from the information obtained. The level of formality, the breadth of participation, etc. will depend on the scope of the survey.

6.6.4 Surveys may be conducted through the use of checklists, questionnaires and interviews.

6.6.5 Those to be surveyed shall be randomly selected.

6.6.6 Open-ended questions requiring narrative responses shall be avoided in surveys. Questions shall elicit specific responses (which can be scored).

6.6.7 Prior coordination with the authorities governing the target respondents is required.

6.6.8 Whatever method is used for the survey, the respondent must receive an assurance of confidentiality regarding the information volunteered through the survey.

6.6.9 Some other factors to be considered when conducting a survey are listed below:

   a) The cooperation of the people involved in the survey should be obtained.
1. The principles behind safety surveys are discussed in Chapter 9 of the ICAO Document 9859 “Safety Management Manual”.

b) Any perception of a “witch-hunt” should be avoided. The objective is to gain knowledge. Any suggestions of blame or punishment will be counterproductive.

c) The experience of the target respondents should be respected. The target respondents are usually more experienced in their specialty than the surveyor.

d) Criticism (real or implied) can destroy the rapport with the person being interviewed.

e) Hearsay and rumor need to be substantiated before being accepted.

Survey frequency

6.6.10 Safety surveys shall be conducted at regular intervals as an integral component of the SMS, as well as:

a) during rapid organizational change due to growth and expansion;

b) when major changes in the nature of the organization’s operations are planned (such as the introduction of new equipment or corporate mergers);

c) during major labor-management differences (such as contract negotiations or strike action);

d) following the change of key personnel (such as the chief pilot or the unit supervisor); or

e) during the introduction of a major new safety initiative (such as TCAS, FDA, LOSA or NOSS).

Where to look

6.6.11 Typically, employees know where best to look for areas of risk. Line managers and front-line workers often have valid perceptions of where the greatest risks are in their areas of responsibility. Their input can be sought through focus groups, consultations with employee representatives, and interviews with subordinate managers and supervisors.

6.6.12 The information sources outlined in the ICAO Document 9859 “Safety Management Manual” / Chapter 9 contain further information on understanding the
potential risks facing an organization. Audit reports may provide a structured record of areas of concern. Since changing accountable managers has a tendency to shorten corporate memories, follow-up assessments of formal audit reports may reveal lingering safety hazards.

Concluding the survey

6.6.13 A brief review with those responsible as soon as the survey has been completed shall be conducted. If any conclusions are immediately obvious, they shall be discussed informally.

6.6.14 Recommendations shall be practical and within the scope and ability of the organization concerned. Sensitive issues shall not be avoided, but care shall be taken to ensure that they are presented in a fair, constructive and diplomatic manner.

6.7 DISSEMINATING SAFETY INFORMATION

The SM shall be the focal point for safety-related information — hazard reports, risk assessments, safety analyses, investigation reports, audit reports, meeting minutes, conference proceedings, etc. From all this information, the SM shall sift the most relevant safety messages for dissemination. Some messages are urgent (before the next flight), some are directive, some are for background understanding, some are seasonal, etc. The SM shall filter the most important points into easily understood safety messages. Several considerations shall guide the SM in disseminating safety information, for example:

a) criticality of the information;

b) the target audience;

c) best means for disseminating the information (e.g. briefings, directed letters, newsletters, organization's intranet, videos and posters);

d) timing strategy to maximize the impact of the message (e.g. winter briefings generate little interest during the summer);

e) content (e.g. how much background information should be given versus the core message); and

f) wording (e.g. most appropriate vocabulary, style and tone).

Safety critical information

6.7.1 Urgent safety information shall be disseminated using such means as:
a) direct messages (oral or written) to responsible managers;

b) direct briefings (e.g. for the flight crew of a particular fleet, or for controllers in a specific unit);

c) shift changeover briefings (e.g. for AMEs and ATCOs); and

d) direct mail (post, facsimile or e-mail) — particularly for personnel who are away from home base.

Useful information

6.7.2 Useful information shall be made available to staff and/or management through:

a) an internal circulation system;

b) a safety library (probably the SM’s office);

c) summaries (probably by the SM) notifying staff of the receipt of such information; and

d) directed distribution to selected managers.

Reporting to management

6.7.3 When reporting to management, the SM shall make sure that the following basic questions are covered:

a) What is the problem?

b) How could it affect the organization?

c) How likely is it to happen?

d) What is the cost if it does happen?

e) How can the hazard be eliminated?

f) How can the risk be reduced?

g) How much will it cost to fix?
h) What are the downsides of such action?

6.8 WRITTEN COMMUNICATIONS

6.8.1 Documenting the SMS, recording and following up on significant safety actions, formulating meaningful safety recommendations, promoting safety, etc. shall be documented through written communications.

6.8.2 Written communications shall meet the following criteria:

a) clarity of purpose;

b) simplicity of language;

c) attention to detail, yet concise;

d) relevance of words and ideas;

e) logic and accuracy of argument;

f) objective, balanced and fair consideration of facts and analysis;

g) neutral (non-blameworthy) tone; and

h) timeliness.

6.9 SAFETY PROMOTION

6.9.1 The airport operator shall promote safety by making available to all affected personnel the lessons learned from safety occurrence investigations and other safety-related activities.

6.9.2 The attitudes and actions of management constitute a significant factor in the promotion of safe work practices and the development of a positive safety culture. Management shall show evidence of its commitment to safety.

6.9.3 Safety issues shall be addressed through staff training programs.

6.9.4 The safety promotion activities and training programs shall address the rationale behind the introduction of new procedures.

6.9.5 When the lessons learned could also be significant to other countries, operators or service providers, consideration should be given to wider dissemination of the information.
Promotion methods

6.9.6 Safety topics shall be selected for promotional campaigns based on their potential to control and reduce losses. Selection shall be based on the experience of past accidents or near misses, matters identified by hazard analysis, and observations from routine safety audits.

6.9.7 Employees should be encouraged to submit suggestions for promotional campaigns.

6.9.8 Professional input shall be utilized when disseminating information to a critical audience.

6.9.9 Once a decision has been made to disseminate safety information, a number of important factors shall be considered, including:

   a) the audience. The message needs to be expressed in terms and vernacular that reflect the knowledge of the audience.

   b) the response. What is expected to be accomplished?

   c) the medium. While the printed word may be the easiest and cheapest, it is likely to be the least effective.

   d) the style of presentation. This may involve the use of humor, graphics, photography and other attention-getting techniques.

6.9.10 Communication methods for a safety promotion program include:

   a) Spoken word.

   b) Written word.

   c) Videos.

   d) Displays.

   e) Websites.

   f) Conferences, symposia, seminars, workshops, etc.

6.10 MANAGEMENT OF SAFETY INFORMATION

General

6.10.1 Airport operators shall establish and maintain a safety database.
Information system needs

6.10.2 Airport operators shall acquire an information system to manage their safety data to include:

   a) a system with the capability of transforming large amounts of safety data into useful information that supports decision-making;

   b) a system that will reduce workload for managers and safety personnel;

   c) an automated system that is customizable to their own culture; and

   d) a system that can operate at relatively low cost.

Database integrity

6.10.3 Airport operators shall take all necessary procedures in order to preserve the integrity of the data.

Database management

Protection of safety data

6.10.4 Given the potential for misuse of safety data that has been compiled strictly for the purpose of advancing aviation safety, database management shall undertake all means in order to protect that data.

6.10.5 Database managers shall balance the need for data protection with that of making data accessible to those who can advance aviation safety.

6.10.6 Protection considerations shall include:

   a) adequacy of “access to information” laws vis-à-vis safety management requirements;

   b) organization policies on the protection of safety data;

   c) de-identification, by removing all details that might lead a third party to infer the identity of individuals (for example, flight numbers, dates/times, locations and aircraft type);
d) security of information systems, data storage and communication networks;

e) limiting access to databases to those with a “need to know”; and

f) prohibitions on unauthorized use of data.

6.11 SAFETY MANAGEMENT MANUAL

6.11.1 A safety management manual, that provides management with a key instrument for communicating the organization’s approach to safety to the whole organization, shall be established.

6.11.2 The manual shall document all aspects of the SMS, and shall include the safety policy, safety procedures and individual safety accountabilities.

6.11.3 The safety management manual shall include, inter alia:

a) document control procedures;

b) scope of the SMS;

c) safety policy;

d) safety accountabilities;

e) hazard identification schemes;

f) safety performance monitoring;

g) safety assessment;

h) safety auditing;

i) safety promotion; and

j) safety organizational structure.

6.11.3 The safety management manual shall be a living document, reflecting the current status of the SMS.

6.11.4 The SM shall be responsible for the development of the safety management manual.
6.11.5 Any significant change to the SMS shall require an update of the safety management manual.

6.11.6 The safety management manual shall be kept as short and concise as possible. Any information that changes regularly shall be put into appendices. This includes, for example, names of personnel assigned specific safety responsibilities.