สำนักงานการบินพลเรือนแห่งประเทศไทย
The Civil Aviation Authority of Thailand

# Advisory Circular for SAR Quality Assurance Programs

**CAAT-GM-ANS-SARQA**

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**Approved by**

**Suttipong Kongpool**

**Director General of the Civil Aviation Authority of Thailand**

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# Abbreviations

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| *ACC* | Area Control Center |
| *ACO* | Aircraft Coordinator |
| *AFTN* | Aeronautical Fixed Telecommunications Network |
| *AIP* | Aeronautical Information Publication |
| *AMS* | Aeronautical Mobile Service |
| *AMVER* | Automated Mutual-Assistance Vessel Rescue System |
| *ARTCC* | Air Route Traffic Control Centers |
| *ASRS* | Aviation Safety Reporting System |
| *ATC* | Air Traffic Control |
| *ATS* | Air Traffic Services |
| *ATSU* | Air Traffic Services Unit |
| *CAAT* | The Civil Aviation Authority of Thailand |
| *COSPAS-SARSAT* | **C**osmicheskaya **S**istema **P**oiska **A**variynyh **S**udov-**S**earch and **R**escue **S**atellite-**A**ided **T**racking |
| *FIC* | Flight Information Center |
| *HF* | High Frequency |
| *IAMSAR* | International Aeronautical and Maritime Search and Rescue |
| *ICAO* | International Civil Aviation Organization |
| *IMO* | International Maritime Organization |
| *ISO* | International Organization for Standardization |
| *LOA* | Letter of Agreement |
| *MCC* | Mission Control Center |
| *MHz* | Megahertz |
| *OSC* | On-Scene Coordinator |
| *SPOC* | Search and rescue Point of Contact |
| *RA* | Resolution Advisory |
| *RCC* | Rescue Coordination Center |
| *RSC* | Rescue Sub-Center |
| *SAR* | Search and Rescue |
| *SAR QA* | The Quality Assurance specialist of the Search and Rescue unit |
| *SARPs* | Standards and Recommended Practices |
| *SMC* | Search and Rescue Mission Coordinator |
| *SRR* | Search and Rescue Region |
| *SRU* | Search and Rescue Unit |
| *TCAS* | Traffic Collision Avoidance System |
| *TRACON* | Terminal Radar Approach Control |
| *VHF* | Very High Frequency |

# 0. Introduction

## 0.1 Background

In accordance with the International Civil Aviation Organization (ICAO) Annex 12 Search and Rescue, the Civil Aviation Authority of Thailand (CAAT) has promulgated "CAAT Rules on Manual of Standards of Search and Rescue Services" which requires Search and Rescue (SAR) service provider to establish, maintain and operate SAR services within Bangkok Search and Rescue Region (SRR), and assure the capacities establishment of the SAR Units (SRUs).

This Advisory Circular for SAR Quality Assurance Programs has been developed to assist SAR service provider to comply with CAAT Rules on Manual of Standards of Search and Rescue Services and meet the SAR obligations under the Convention on International Civil Aviation.

It should be clearly understood that this document has no legal status. It is intended to provide recommendations and guidance to illustrate a mean but not necessarily the only mean of complying with the Regulations, or to explain certain regulatory requirements by providing interpretative and explanatory material.

## 0.2 Purpose

The purpose of the Advisory Circular for SAR Quality Assurance Programs is to assist the SAR service provider in establishing of the quality assurance programs, in order to:

0.2.1 provide specific guidelines for reporting, inspecting and resolving different types of events which affect the quality of SAR services; and

0.2.2 improve the quality of the services provided by RCCs, RSCs and SRUs.

## 0.3 Applicability (is subjected to)

The Advisory Circular for SAR Quality Assurance Programs provides recommendations and guidance for the Office of the SAR Commission staff who take charge in Quality function concerning both RCCs and SRUs.

Readers should forward advice of errors, inconsistencies or suggestions for improvement to this guidance material to the Manager of Air Navigation Services Standards Department of CAAT by email to ans@caat.or.th.

This document is published on the CAAT website and will be an uncontrolled document when printed out, or when opened as an electronic file from other sources than CAAT website.

## 0.4 Reference (Refer regulation)

0.4.1 Air Navigation Act B.E. 2497 as amended by the Air Navigation Act (No.14) B.E. 2562; and

0.4.2 CAAT Rules on Manual of Standards of Search and Rescue Services B.E. 2564.

## 0.5 Definitions

| Term | Definition |
|---|---|
| *Accident* | Any event related to the use of an aircraft which takes place in the period running from the moment a person comes on board for purposes of some flight, to the moment when all people have disembarked, during which:<br>a) any individual is mortally or seriously injured as a consequence of:<br>• being on board the aircraft, or<br>• in direct contact with any part of the aircraft, including parts which may have detached from the aircraft, or<br>• being directly exposed to the jet of a reactor, except when the injuries are due to natural causes, have been self-inflicted or caused by other individuals, or are injuries suffered by stowaways hiding in areas other than those destined for normal use by passengers and crew, or<br>b) the aircraft suffers structural damage or breakage which:<br>• adversely affect its structural strength, its performance or flight characteristics, and<br>• normally require major repair or replacement of the affected component, except for engine failure or damage, when damages are limited to the engine, its cowling or its accessories; or for limited damage to the propellers, wing tips, antennas, tires, brakes or fairings, small dents or holes in the skin of the aircraft; or<br>c) the aircraft disappears or is totally inaccessible.<br>*Note 1. – Solely for statistical uniformity purposes, any injury causing death within the 30 days following the date in which the accident occurred is classified by the International Civil Aviation Organization as mortal injury.*<br>*Note 2. – An aircraft is taken as disappeared when the official search is terminated and no wreckage has been found.* |
| *Aircraft coordinator (ACO)* | A person or team who coordinates the involvement of multiple aircraft in search and rescue operations in support of the search and rescue mission coordinator and on-scene coordinator. |
| *Air traffic services (ATS)* | A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service). |
| *Air traffic services unit (ATSU)* | A generic term meaning variously, air traffic control unit, flight information center or air traffic services reporting office. |
| *Alerting post* | Any means designated to serve as an intermediate post between an individual reporting an incident and a rescue coordination center or sub-center. |

| Term | Definition |
|---|---|
| *Area control center (ACC)* | A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction. |
| *Competence-building training* | Training designed to enhance a controller's competence in a skill or in some operational position which the controller is qualified to hold. |
| *Cospas-Sarsat System* | A satellite system designed to detect and locate activated distress beacons transmitting in the frequency band of 406.0 - 406.1 Megahertz. |
| *Desktop audit* | Follow-up evaluation performed off-site. It may be carried out through phone interviews of search and rescue unit personnel and/or through the revision of recordings/data and documentation. |
| *Emergency phase* | A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase. |
| *Flight information center (FIC)* | A unit established to provide flight information service and alerting service. |
| *Full evaluation of the search and rescue unit* | Full evaluation of the search and rescue unit conducted on-site using the national checklist to assess the performance of the search and rescue unit in all areas. |
| *Inmarsat* | A system of geostationary satellites for worldwide mobile communications services, and which support the Global Maritime Distress and Safety System and other emergency communications systems. |
| *Mission control center (MCC)* | A part of the Cospas-Sarsat system which accepts alerting messages from local user terminals and other mission control centers and distributes them among the appropriate rescue co-ordination centers or other search and rescue points of contact. |
| *On-scene coordinator (OSC)* | A person designated to coordinate search and rescue operations within a specified area. |
| *Rescue* | An operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety. |
| *Rescue coordination center (RCC)* | A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.<br>Note: In this manual means The Office of Search and Rescue Commission (OSARC). |
| *Rescue sub-center (RSC)* | A unit subordinate to a rescue coordination center, established to complement the latter according to particular provisions of the responsible authorities. |
| *Search* | Operation usually coordinated by an rescue coordination center or an rescue sub-center, in which available staff and means are used to locate individuals in distress. |
| *Search and rescue aircraft* | An aircraft provided with specialized equipment suitable for the efficient conduct of search and rescue missions. |

| Term | Definition |
|---|---|
| *Search area* | The area, determined by the search planner, that is to be searched. This area may be sub-divided into search sub-areas for the purpose of assigning specific responsibilities to the available search facilities. |
| *Search and rescue facility* | Any mobile resource, including designated search and rescue units, used to conduct search and rescue operations. |
| *Search and rescue follow-up evaluation* | Follow-up evaluation conducted on-site or through a desktop audit to make sure that the specific issues detected during the full evaluation of the search and rescue unit have been corrected. |
| *Search and rescue mission coordinator (SMC)* | an official on temporary assignment to co-ordinate the response to an actual or apparent danger. |
| *Search and rescue operational functions* | Functions concerning the provision of a search and rescue service or the monitoring of such functions. |
| *Search and rescue plan* | General term used to describe the documents existing at all levels of national and international search and rescue structures, which detail the objectives, measures and procedures that support the provision of search and rescue services. |
| *Search and rescue point of contact (SPOC)* | Rescue co-ordination centers or other established and recognized national contact points which can accept the responsibility for receiving Cospas-Sarsat alerting data for purposes of saving people in distress. |
| *Search and rescue region (SRR)* | An area of defined dimensions associated to an rescue coordination center within which search and rescue service is provided. |
| *Search and rescue service* | The performance of distress monitoring, communication, coordination and search and rescue functions, initial medical assistance or medical evacuation, through the use of public and private resources, including cooperating aircraft, vessels and other craft and installations. |
| *Search and rescue service provider* | The provider of search and rescue services within the Bangkok search and rescue region, in this manual means The Office of SAR Commission. |
| *Search and rescue unit (SRU)* | A unit composed of trained personnel and provided with equipment suitable for the expeditious conduct of search and rescue operations. |
| *Special evaluations* | Evaluations to assess specific areas or problems as directed by the search and rescue evaluator. These evaluations may be scheduled or unscheduled. |
| *Supplementary training* | Training implemented whenever there are changes in procedures, regulations or new or revised equipment. |

| Term | Definition |
|---|---|
| *Three-step closure process.* | The three-step closure process is the method whereby the unsatisfactory points of an evaluation must be corrected and closed. The required response must be available after 60 and 180 calendar days and must describe the following three steps:<br>a) **Corrective action.** The initial action taken by the search and rescue unit to correct the discrepancy;<br>b) **Follow-up action.** Action taken during some period of time to confirm that the initial action did correct the discrepancy. It includes the date(s) when it was taken and the results obtained; and<br>c) **Managerial control.** Action taken by the SAR service provider for purposes of making sure that the problem will not happen again. Such action must identify those positions within the search and rescue unit that are responsible for periodically checking on the corrected discrepancy and deciding when such review will take place. |
| *Update training* | Repeated training implemented to maintain and update previously acquired knowledge and skills. |
| *Vessel* | A maritime craft. |

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# 1. History

The mission of SAR services is to find, assist and transport people in distress to a safe place where they will be properly taken care of. The key to organizing and having successful SAR services lies in top management, whose mission is to perform managerial functions that will result in improved SAR operations, that is, having an organized, trained and available SAR system for the provision of effective assistance to people in distress.

The most common reasons why SAR top management fails in its mission are: deficient management of the SAR system under its responsibility, incorrect application of correct measures, attempting to do everything on its own using personal or sectoral criteria which are not always applicable, or lack of prior knowledge of the actual status of the SAR system being managed.

Initiatives aimed at enhancing the quality of SAR services will bring about substantially improved results and reduced costs, mainly by the elimination of the causes of unnecessary expenditures. These are important objectives of any administration, regardless of the amount of resources available. When top management assigns importance to quality, it tends to:

a) carry out more activities, and make less mistakes;

b) develop a good reputation; and

c) raise the necessary resources for the growth and better performance of the system.

On the other hand, SAR organizations that neglect quality is subject to errors which may result in:

a) a reduced number of lives saved;

b) the adoption of wrong or late operational decisions that contribute to:

   i. confusion, accidents and equipment failures;

   ii. incorrect or insufficient use of resources; and

   iii. unnecessary spending of financial resources.

Hence, it was deemed important to develop a SAR Services Quality Assurance program with guidelines on the implementation of such program, so that it could be a useful quality management tool to ensure compliance with the objective of the (National) SAR Plan of saving lives by improving SAR preparedness.

The program would also provide efficient SAR services within their respective SAR areas of responsibility, so that the needs arising in the event of accident of a large aircraft may be foreseen and met.

Prompt notification to an SRU of a danger threatening crews and passengers, as well as the planning of the operations required to assist them, are essential to ensure high safety standards in air and maritime activities, since they expedite the adoption of actions for their prompt resolution. It is also important for the results to be available to States, international organizations and ICAO, so as to have a better dissemination of lessons learned.

Quality assurance is a dynamic process used for continuous improvement of a SAR system. Although service quality will continue to be measured by some historical data method, such as the number of search and/or rescue missions conducted by air or maritime SRUs, delays in operations or communications established, or feedback from SAR personnel and customers, consideration should also be given to other factors that may not be so readily measured, such as the desire to work as a team, training, and action taken to support the SAR goal.

All these factors are also an important part of quality assurance. The success of the quality assurance effort depends on the recognition that all SAR providers (RCCs and SRUs), individually and collectively, should strive to provide the best possible service.

Thus, for its successful application, quality assurance in SAR services should include important functions such as: the selection, development and training of employees, communication, and the implementation of a participatory management.

Personnel selection is important because the new members of the SAR organization should have skills consistent with the quality assurance philosophy (team work, responsibility, participation and commitment). It is desirable that individuals entering the organization be highly capable of solving problems and that they have special skills (capable of working as a team, accountability, spirit of participation).

The area of training will also be essential in order to have personnel duly trained so that it can participate and introduce quality improvements. When hiring new personnel, an effort is made so that they may attain the foreseen objectives; the time and training devoted to the team and its development are an investment rather than a financial loss. There is a need to train both employees and managers, not only on quality improvement methods, but also on institutional processes and procedures, and to instill on them a quality culture.

Lack of training is an obstacle for participation programs, which are a basic element of quality assurance. If the context is to support a participatory attitude, employees need to receive proper training. It should also be considered that, without the basic knowledge, the staff will not be able to carry out their job. The knowledge that employees require is basically that related to inter-personal and group relations and job skills.

On the other hand, the primary method that is used to motivate employees to adopt and participate in a quality assurance program is a training program where all the members of the organization, at all levels, receive initial training on basic quality assurance concepts, in order to facilitate their understanding and encourage them to receive training and improve their communication skills, team work and participation at meetings.

Quality training and participation are closely linked. The improvement of SAR services is the responsibility of all its members. Therefore, training should be provided so that suggestions may come from every operational or managerial position. The idea is that they acquire a vision that is broad enough to allow them to improve the process as a whole and not just the one that corresponds to each individual post.

**Communication** should include the necessary methods to provide useful information for performing a good job and for better adaptation to the organizational culture. Personnel participation requires both training and information.

The communication of positive results obtained in the provision of services improve the morale and motivation of the personnel, while negative results should elicit efforts to overcome them. When relating participation to quality assurance, the importance of having good communication channels throughout the SAR organization is highlighted.

In order to improve quality, the staff needs information on their performance, results obtained, and the contribution they make. Based on this information, people improve their knowledge and propose improvements which can represent, through the appropriate channels and participation, important innovations to the SAR organization that has decided to take advantage of the motivation and commitment of all its members.

# 2. SAR Quality Assurance Programs

## 2.1 Introduction

Quality assurance programs should focus on the identification and correction of deficiencies ("disconformities" for the ISO (International Organization for Standardization) standard) before they give rise to disorderly, imprecise and, therefore, inefficient SAR operations of a high and unnecessary economic cost. They should be planned and implemented in such a way that they contribute to the efforts made by administrations to improve the quality of SAR services as a whole. This chapter contains some quality assurance strategies that should be developed to ensure the results of quality assurance programs.

## 2.2 Scope and Objective

The objectives established to support SAR goals are normally expressed in terms of a given response time, the percentage of people in distress or goods under threat of being destroyed that are saved. These objectives are logical and relatively easy to quantify. Other objectives may also be used, such as avoiding injuries and material damage, or alleviating anxiety, although they are more difficult to measure.

One of the purposes of the quality assurance program is to provide specific guidelines for reporting, investigating and resolving different types of events which affect the quality of SAR services. The program should be designed to work in conjunction with ICAO standards and recommended practices, as well as with State regulations.

However, the first objective of the program should be to avoid errors that might lead to a reduction in the number of lives saved, the adoption of wrong or late operational measures, confusion when following the instructions issued during operations, equipment failures, or incorrect or inadequate use of the resources available to the SAR system.

The second objective of a SAR quality assurance program should be to improve the quality of the services provided by SRUs.

## 2.3 Structure

The structure of the SAR quality assurance program depends on the size and composition of the SAR system. An acceptable and productive structure of this program generally requires that SAR management designate or select an expert with sufficient experience in the SAR field as to become the quality assurance specialist of the SRU. The SAR quality assurance specialist will assume quality assurance responsibilities for the unit and report directly to the head of the SRU or government agency in charge of SRU.

For larger SRUs, the head of the SRU will establish a SAR quality assurance department with various specialists and a sub-chief with sufficient SAR experience, who would take on quality assurance tasks and responsibilities for the unit and report directly to the head of the SRU or government agency in charge of SRU.

## 2.4 Implementation and Responsibilities

The SAR service provider and SRUs should implement a SAR quality assurance program, with documentation on the subject. The program should explain its purpose, objectives and responsibilities. The SAR service provider and each SRU should establish such program.

The heads of SAR service provider and SRUs should be aware of, and be involved in, the operations/programs of their services so as to ensure the highest level of quality and efficiency.

All SAR personnel in their organization are responsible for maintaining the highest level of quality in their performance.

## 2.5 Contents of the Program

The SAR quality assurance program should establish methods to identify/correct shortcomings, deficiencies, and to recognize progress made in the following areas:

a) **SAR system management**

i. SAR update training;

ii. Improvement of aeronautical and SAR phraseology;

iii. English proficiency;

iv. SAR communications;

v. Study of reviews/conclusions of SAR incidents or missions;

vi. Incentives/recognition;

vii. List of appropriate operational practices;

viii. Assessment of (oral and written) communications/instructions that have taken place in the course of SAR missions;

ix. Training through communication or coordination exercises, as well as; comprehensive or field exercises;

x. Lessons learned from personal anecdotes;

xi. Periodic quality assurance reports for RCCs/SRUs containing trends, customer feedback, evaluations, etc.;

xii. Resolution of identified problems;

xiii. Incorporation of actual SAR mission or operation scenarios into the new training programs; and

xiv. Internal, national and regional SAR assessment programs.

b) **Teamwork**

The following list may be used to promote teamwork within SAR organizations:

i. Training on teamwork with Air Traffic Services (ATS) and SAR personnel;

ii. Teamwork incentive/recognition programs;

iii. Roles of the different positions;

iv. Proposals for improving the respective operational manuals of each SRU;

v. Training course for SAR operational supervisors;

vi. Team meetings/reports;

vii. Clearly communicate the expectations of all SAR personnel;

viii. Troubleshooting, analyses and measures for problem resolution; and

ix. Proposals for improving the respective SAR operational plans.

c) **Communications**

The following list of ideas may be used to improve communications among all the SAR personnel, in order to create a climate conducive to the exchange of information:

i. Meetings of all the personnel (all levels) to address quality assurance matters of common interest;

ii. Electronic bulletin board system;

iii. Access to information via internet/intranet;

iv. National database containing domestic and local SAR quality assurance data;

v. Information bulletins;

vi. SAR quality assurance seminars, conferences and workshops; and

vii. Reports from international SAR organizations such as the International Civil Aviation Organization (ICAO); International Maritime Organization (IMO); COSPAS-SARSAT; INMARSAT, etc., and other safety reports of the industry.

d) **Customer service/feedback**

The following is a list of ideas to request feedback from SAR personnel and customers (internal/external) concerning the quality of the service provided by the RCC/SRU and its impact on other organizations, customers and individuals:

i. Training programs for pilots and SAR personnel;

ii. Internal and external customer surveys;

iii. Interaction with other aviation-related organizations;

iv. Performance evaluation during the duty shift of the SAR operator/operational supervisor of the unit;

v. Meetings between SAR personnel and that of enterprises/organizations/bodies that contribute to SAR;

vi. Familiarization trips;

vii. Contact with customer associations (for example: local flight schools, airlines, aviation organizations, etc.);

viii. Safety seminars for pilots and groups engaged in rescue; and

ix. Survival seminars/courses.

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# 3. Verifying the Competencies of SAR Personnel

## 3.1 Introduction

In order to improve the technical competencies of SAR services on an ongoing basis, individual technical training requirements for technical performance purposes should be identified and met.

The verification of personnel competencies is intended to provide operational personnel and supervisors feedback from SAR supervisors and quality assurance officials/specialists regarding their competencies. This feedback should also be used to develop plans to improve competencies, as applicable.

## 3.2 Responsibilities

The head of the RCC/SRU is responsible for establishing and maintaining competence standards in the RCC/SRU. The SAR Services provider should formulate guidelines specifying the required level of knowledge, both theoretical and practical.

All of the operational personnel of the RCC/SRU should be required to periodically demonstrate that their performance meets the required competence standards. The SAR competencies of each SAR operator and supervisor should be verified.

In large RCCs and SRUs, SAR personnel specialized in on-the-job supervision, personnel training and evaluation (officials/specialists in quality assurance of SAR services) should be hired to perform this task within the unit. SAR quality assurance officials/specialists should prepare personnel competence verification shifts so that all operational staff is regularly investigated.

It is suggested that competence verifications be made at least twice a year. Advance notice of the conduction of competence verifications should be given to SAR operational personnel and supervisors so that they may be mentally and functionally prepared. A sample checklist for personnel competence verifications is shown in **"Appendix A - Sample checklist for conducting personnel proficiency checks"**.

In small RCCs and SRUs, the head of the SRU or whoever he/she designates, should fulfill these tasks. However, where arrangements are less formal due to the size of the RCC/SRU and the number of personnel, they should make sure that competence verifications are complete and thorough.

The official quality assurance operational supervisor should continuously evaluate personnel performance using both direct and indirect methods. Indirect methods may include remote monitoring, review of recordings, written documentation, observations by other supervisors, SAR quality assurance officers, etc.

If, upon verifying the competence of a SAR operator, it is found that he/she would benefit from individual competence-building training, the following references may be used as guidance to determine the type of training required:

a) This Advisory Circular for SAR Quality Assurance Programs (CAAT-GM-ANS-SARQA), Chapter 6 – Competence-Building Training Programs;

b) ICAO Doc 9731, International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, Volume I - Organization and Management, Chapter 3 – Training, qualification, certification and exercises.

Matters concerning SAR personnel performance cover technical performance areas which might benefit from technical update training. These matters are not necessarily deficiency areas. A SAR operator may, in general, have an acceptable technical performance and, nevertheless, benefit from training on some particular skill or task.

Once completed the verification of a SAR operator's competencies, the official quality assurance operational supervisor that conducted the verification should discuss the results with the SAR operator.

Although competence verifications are not intended to be graded as pass/fail, there may be occasions in which the performance of a SAR operator is found not to be satisfactory. In such cases, the certification should be suspended and the operator should receive appropriate update training, followed by a re-grading process. Under no circumstance should a person who has been rated as “not satisfactory” be allowed to keep on working without supervision. If, after a reasonable period of time, a SAR operator is not capable of passing the competence verification, all details pertaining to the not satisfactory grading should be collected and sent to the head of the RCC/SRU or government agency in charge of RCC/SRU.

Each RCC/SRU should review, at least once a year, all personnel competence verifications conducted, so as to identify recurring and major competence needs. The results of this review should be reflected in a report to the head of the RCC/SRU for purposes of developing effective future training plans.

## 3.3 Documentation

Each competence verification of a SAR operator should be discussed with said operator and be duly documented in the corresponding training record.

# 4. SAR Service Evaluation Program

## 4.1 Introduction

The standardization of procedures and methods is essential for any services that has international commitments and which uses procedures affecting more than one unit. The degree of standardization achieved is directly related to the proficiency with which individuals perform their tasks. This, in turn, determines the efficiency of the SAR service provided.

In SAR services, personal proficiency and the standardization of procedures and methods are achieved and maintained through training, certification, verification of competencies, evaluations and audits, and more importantly, through the deliberate and conscientious participation of all SAR personnel.

This chapter deals with the need to carry out an ongoing evaluation of each RCC/SRU and of the SAR system in general. This task is normally performed by personnel which have been properly trained so as to understand all aspects of the organization and which are charged with appraising personnel proficiency and with making a critical evaluation of SAR's general efficiency.

## 4.2 Purpose and Scope of the Evaluation

The SAR evaluation includes a review of each RCC, RSC and SRU, or some other activity of the SAR, or an overall review of several units or of the whole domestic SAR system. The evaluated should be done at RCC by OSARC, SRU by SRU itself or OSARC. The evaluation of the RCCs/SRUs is necessary to guarantee that:

a) the service always be top quality; and

b) all units and staff apply criteria, standards, rules and procedures in the authorized manner.

Whatever the scope of the evaluation may be, it should be noted that some common objectives should be applied.

It should be kept in mind that evaluations should cover the management and implementation of SAR service procedures, while the "internal audit" is carried out to determine whether the quality management system complies with the provisions foreseen in the quality management requirements established by the organization and whether it has been implemented and maintained in an efficient manner.

The audit program should be planned taking into account the status and importance of the processes and areas to be audited; as well as the criteria, scope, frequency and methodology of audits. The selection of auditors and the conduction of audits should guarantee the objectivity and impartiality of the auditing process. Auditors may not audit their own performance.

SAR evaluation covers all or part of the following aspects:

a) Determining the standardization, quality and suitability of services provided;

b) Making sure that operational procedures are consistent with the Letters of Agreement in force, and with domestic and international standards and legislation;

c) Determining and making recommendations regarding operational requirements;

d) Detecting any potentially unsafe operational procedure or practice, so as to permit the adoption of immediate corrective/preventive measures;

e) Detecting problem areas or deficiencies; determining their probable cause and recommending the immediate corrective/preventive measures as may deem appropriate;

f) Examining the efficiency of communications and coordination among and within units; and

g) Examining the utilization of staff, the work required in each position and unit payrolls, with a view to achieving the desired compatibility.

Once the SAR evaluation has been completed, the conclusions should be fully documented, making the relevant recommendations whenever changes are needed. The aspects requiring immediate correction should be reported and corrected as soon as possible, preferably before submitting the corresponding official report.

The management of the area being evaluated should make sure that action is taken without unjustified delay in order to correct the deficiencies detected and their causes. Follow-up activities should include verification of action taken, and reporting on the results of such verification.

## 4.3 Performing the Evaluation

The designated staff should perform a periodic evaluation of the SAR, based on a minimum recommended frequency of at least once a year. In those units where the evaluation team is part of the permanent staff, the evaluation should be an on-going process, particularly as regards personnel competence. Whenever necessary, it might be desirable to carry out interim evaluations of selected units, approximately midway between scheduled evaluations.

Before starting the SAR evaluation, it is common practice to notify the head or the person in charge of the unit involved. This person should obtain the assistance which might be required to properly conduct the evaluation, even getting in contact with other interested parties, such as agencies with which Letters of Agreement for the use of means and personnel during SAR operations have been signed. Perhaps it might also be necessary to organize consultations with the operators, other civil aviation groups or with military authorities. In this latter case, it might be necessary to give them advance notice of the nature of the aspects contemplated.

Once the SAR evaluation has been completed, a meeting should be called to report all important results and recommendations to the head or person in charge of the unit. The purpose of this meeting should be to:

a) review the conclusions;

b) identify problem areas;

c) discuss other alternate solutions proposed;

d) appoint the person in charge of subsequent measures;

e) co-ordinate corrective/preventive measures; and

f) set provisional deadlines for completion of the measures deemed necessary.

Should there be the need to review some given aspect or function, special evaluations may need to be carried out at any point in time.

## 4.4 Documentation

Once the evaluation of the RCC/SRU has been completed, the person in charge should:

a) draft a report on each of the evaluated units which are part of the system;

b) prepare a written report;

c) send the evaluation reports to the unit within 30 days

Note: in case of SRU evaluated itself, the evaluation report should be sent to OSARC within the 15 days after item c) and then at regular intervals until all pending points have been resolved.

The evaluation reports of the RCCs/SRUs should be written as a narrative and include, at least, the data listed below with respect to each routine observation or evaluation:

a) a description of the deficiency or problem areas found;

b) recommendations for correcting the situation;

c) the agency, individual or persons in charge of implementing the subsequent measures, if applicable; and

d) the dates foreseen for the implementation of the necessary corrective measures.

The relevant sections of the evaluation report should be sent to units not belonging to the SAR, as the case may be, so that they may be duly advised and be able to adopt the required measures.

## 4.5 Evaluation Process

4.5.1 Full evaluation

a) ***Preparation and notification.*** A full evaluation should be carried out every two years. The SAR Services provider should notify the head of unit at least 30 days before carrying out a full evaluation. This notice may request data for the pre-evaluation review, and will request subjects of special interest for the evaluation. For example, the checklist for SRU evaluation as shown in **"Appendix B – RCC/SRU Assessment Checklist"**,

b) ***Information meeting.*** Should involve introducing the members of the team, and discussing the evaluation program and activities with the head of the unit and other staff related to the unit.

c) ***Conducting the evaluation.*** The evaluation staff should perform a full evaluation of the unit through one or all of the following elements: -direct observations, operations room and/or monitoring the Operations Plan/Operational Manual/data, attendance to staff meetings, observing training activities, reviewing administrative records, interviews/discussions and a review of previous SAR missions or exercise reports. If possible, items classified as not compliant should be discussed with the unit staff to determine how much they know about the item. If a satisfactory answer is received, the item may be classified as satisfactory. If no satisfactory answer is received, the item should then be suitably classified. Interviews should normally be held with the heads, supervisors, operation supervisors, and specialist staff of the unit, SAR operators, etc. Additionally, representatives of agencies which contribute to the SAR service and who have letters of agreement signed with the SRU involved for the use of means, personnel and/or survival material, representatives of ATS units (ATSUs) associated with the SRU, etc., may be interviewed.

d) ***Daily report meeting.*** The person acting as a leader will normally hold a daily meeting with the head of the unit to report on the progress made with the evaluation.

e) ***Meeting to report on results.*** The head of the unit should be kept advised on the findings of the evaluating person/team once the evaluation is concluded. It is recommended that all available staff attend these results reporting meeting. At that time, or as soon as possible, a draft copy of the SAR evaluation report should be delivered to the head of the unit.

f) ***Review of the evaluation.*** The leader of the evaluation team should deliver an evaluation review form to be filled in by the head of the unit.

g) ***Re-identified items.*** Items re-identified as "not satisfactory" in the evaluation of unit should be recorded under the same designation.

4.5.2 SAR follow-up evaluations

a) ***Preparation and notification.*** Follow-up of SAR evaluations should normally be carried out unannounced or with a minimum notice of on-site evaluation, desktop audit or combination of both. These evaluations should normally be carried out no less than six months after the date of the meeting reporting the results of the full evaluation of the unit, or as may be determined by the SAR service provider. The head of the unit may be requested to supply data for the pre-evaluation review. The on-site SAR follow-up evaluation should follow the same process.

b) ***Pending items.*** Items previously classified as unsatisfactory should be considered as pending if the three-step closure procedure has not been carried out and/or the discrepancy can still be detected. Each item should be addressed in the evaluation report with an explanation as to why it had to be reopened.

c) ***Closed items.*** Items may be taken as closed when the discrepancy can no longer be detected, and:

i. the initial action adopted by the unit to correct the discrepancy has been completed;

ii. the action that has been taken for some period of time to make sure that the initial action has corrected the discrepancy has been completed; and

iii. some action and/or program has been implemented to make sure that the problem does not arise again.

4.5.3 Special evaluations

A special evaluation may be carried out whenever the SAR Services provider deems it necessary or upon request by the unit.

4.5.4 Evaluation reports

a) ***Completion of the report.*** The results of all evaluations should be documented so as to make sure that all concerned unit fully advised as regards the effectiveness of the SAR service system. All final reports should be completed and distributed within 30 days following the date of the meeting where the results were reported.

b) The RCC/SRU full evaluation reports should:

i. contain the results of the evaluations of regards the areas involved;

ii. describe all the points which were reported; and

iii. assign tracking control numbers to all the identified points.

Example of tracking control number of the RCC/SRU evaluation:

**AAAYY-FE-01X**

**Legend**

| | |
|---|---|
| "AAA" refers to the type of the unit | RCC;<br>RSC;<br>SRU. |
| "YY" refers to the identification of the evaluation year | Last 2 numeric of A.D. year |
| "FE" refers to the type of evaluation | "FE" = of the whole SRU<br>"DA" = desktop audit<br>"FU" = follow-up evaluation<br>"SP" = special evaluation |
| "01" refers to the tracking number | |
| "X" is the classification | "I" = unsatisfactory<br>"S" = satisfactory |

c) ***Executive summaries***. Executive summaries of all unit evaluations should be prepared.

4.5.5 Response to unit evaluations

All items classified as unsatisfactory in unit evaluations require a response which should comply with the three-step closure procedure: Corrective action, follow-up action and management control. Additionally, the following criterion applies:

a) **Action Plan.** Action plans for all items classified as unsatisfactory should be developed and made known to the corresponding SAR Services provider within 30 days following reception of the unit final evaluation report;

b) **First response.** The head of the unit should complete and send one first response to the SAR Services provider 60 days after the meeting where the results of the evaluation of the unit were reported; and

c) **Second response.** The head of the unit should complete and send the second response to the SAR Services provider 180 days after the meeting where the results of the evaluation of the unit was reported and every 180 days henceforth, until all points have been closed.

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# 5. Quality Service Improvement Program

## 5.1 Introduction

SAR service provider should seek initiatives to improve the overall quality of the SAR services they provide. This chapter contains several initiatives that should be taken into account to improve the quality of SAR.

## 5.2 Periodic Reviews of RCC/SRU Records

The quality assurance official/specialist of the RCC/SRU should periodically review the SAR mission report records and the time records kept in the operational guard log book and, if available, any voice communications recordings, in order to guarantee that the overall quality of SAR services rendered is maintained.

## 5.3 ICAO Terminology Familiarization Program

Administrative and operational tasks are carried out in the RCCs. The administrative tasks involve keeping the RCC permanent preparedness. Operational tasks involve the efficient performance of an SAR operation or exercise, and thus are of a temporary nature. Said tasks correspond to the SAR Mission Coordinator (SMC), whose duties may be performed by the head of the RCC or other trained personnel of the RCC. Said personnel may include members of other official or private agencies for purposes of facilitating co-ordination in those events in which use is made of elements belonging to such services but which have no training or a constant relation with aeronautical communications.

In the case of this staff coming from other agencies, SAR service provider should implement a program to make them familiar with ICAO phraseology. The implementation of programs to improve the phraseology of an SRU will contribute to avoiding misinterpretation of the messages exchanged between the staff mentioned in the previous paragraph and the professional personnel of the aeronautical SAR. The results of this program could improve the quality of the services and contribute to avoiding incidents during SAR operations. This may be achieved through random voice recording reviews, voice recording monitoring evaluations, or through direct observation. It is important to follow up on this program in order to give some type of recognition to SRU staff showing outstanding use of phraseology or a significant improvement in the use of ICAO standard phraseology.

## 5.4 Customer/Feedback

It is very important to establish good communications among SAR service provide, SRUs and SAR system users. All SAR system users, whether from commercial airlines, business aircraft or general aviation, can provide valuable feedback. Feedback from other aviation departments, for instance airport offices and ATSUs, and from ATS internal staff is equally important. This feedback can be obtained through surveys and may be used as a method to determine the quality of the services rendered by the RCC/SRU.

### 5.4.1 SAR quality assurance surveys

RCCs/SRUs should conduct an internal and external SAR quality assurance survey every year to obtain feedback on the services they provide. A sample SAR quality assurance survey for SAR personnel is shown in **“Appendix C - SAR Quality Assurance Internal RCC/SRU Survey”**.

The data collected from these surveys should be analyzed and validated, and the results made available to all SAR personnel. Based on the review of the collected data, those issues affecting the quality of services should be identified and assigned an order of priority, and an action plan should be developed and implemented to apply these matters. Surveys from previous years could be used as a basis to determine how the RCC/SRU is doing as regards the quality of the SAR services provided.

## 5.5 Pilot/SAR Personnel Forum

SAR service provider should organize pilot/SAR personnel forum at least once a year. These forums can generate good relations and enhance communications between SAR service provider, pilots and SAR personnel. The main objective of these forum is to link the pilot in the cockpit with the SAR personnel (such as RCC/SRU/ATS staff, SMC and OSC) so as to have a better understanding of the responsibilities and functions of each party. It is recommended that these forums not be organized as meetings and that no concrete action be taken. These forums may also be used by SAR service provider to introduce and explain information regarding local and domestic SAR system and procedures.

## 5.6 Participation in Pilot Safety Seminars

SAR service provider should participate in pilot safety seminars in an effort to submit information on the SAR system related to SAR quality assurance.

## 5.7 Visits to RCCs/SRUs by Pilots

Pilots should be encouraged to visit RCCs/SRUs and to familiarize themselves with the SAR system. In rare occasions, SAR facilities may be unable to receive visits due to the work load or to other reasons. Consequently, pilots should contact the RCC/SRU before the planned visit and report the number of people in the group, the time and date of the proposed visit, as well as the main interest of the group. With this information on hand, the SAR facility can prepare a program and have someone available to guide the group within the unit.

## 5.8 SAR System Familiarization/Training for all Pilots

It is recommended that SAR service provider consider developing a SAR system training program for all pilots. The program would be intended to train pilots on how to make the best use of the SAR system, its functions, responsibilities, benefits and available services.

## 5.9 Familiarization Training Flights for SAR Personnel

SAR service provider should establish a program with the air operator/general aviation to have the SAR personnel participate in familiarization flights. SAR personnel (supervisors and operators) should be encouraged to participate in these flights. This program would allow the staff of RCCs/SRUs to have first-hand experience of cockpit activities.

They should also establish a program for the staff of the RCC/SRU to participate in familiarization flights in the area of jurisdiction. In the course of these flights, the radio communication difficulties that arise (generally due to transmitter/receiver equipment range or terrain configuration) in navigation, meteorology, etc., should be tested. These flights should preferably be conducted on aircraft intended to provide support in SAR operations.

Familiarization flights should be considered as skill training for SAR personnel.

## 5.10 Recognizing Quality Performance

Positive performance and quality recognition is as important as identifying deficiencies. SAR personnel, individually or as a team, should receive recognition for rendering a high standard of performance and quality of service. It is therefore recommended that SAR service provider develop a program aimed at recognizing quality performance.

## 5.11 Measuring Performance

It is important that SAR service providers find ways to continuously improve the safety and efficiency of SAR operations in order to optimize performance in general. This section describes various ways by which SAR performance cay be measured.

The following factors should be taken into account when measuring the performance and the quality of SAR services provided:

**Safety.** Safety being the top priority, the number of accidents and incidents handled by the SAR should not be the only thing to be measured. Measurements should include the level of risk which exists during SAR operations for the materials and crews engaged in the search and/or rescue.

**Delay.** It is vital that utmost efforts be made to make sure that emergency alerts, independently of the communications channel used, get to the RCC/RSC with the least delay possible. It is also vital that there be no delays in alerting SRUs of an imminent coming into action.

**Prediction.** Is the variable measure of performance? For example: The predictable measures should be compared with the real times it takes the SRU to apply (implement) the Operations Plan as opposed to the optimum times expected from it.

**Flexibility.** Flexibility refers to the ability of SAR personnel to adapt SAR operations to the changing conditions that may arise during the course of said operations. Greater flexibility makes it possible to explore operational opportunities as they arise. This includes guiding SRUs to more favorable routes or minimizing delays or cancellations in some scheduled SAR operations as a result of unforeseen events affecting capacity such as, for example, bad weather. Flexibility measures will make it possible to review the extent to which the training received by the staff of the SRU allows them to make dynamic operational decisions as a result of meteorological changes or operational conditions either before or during SRU operations.

**Efficiency.** Efficiency may be measured in terms of a flight deviating from an optimum flight routing. For example: An efficient routing would reduce direct costs of operation by optimizing the flight path and eliminating excess flight time, route distance, use of fuel in non-optimal velocities and altitudes, time of arrival to the search and/or rescue area, time of search, etc. Efficiency measurements should compare the actual flight path with the ideal path.

**Availability.** Availability in SAR services is an indicator of the reliability and quality of the SAR services provided. Failures in key systems may reduce (or annul) the capacity of the system, causing delays, diversion or cancellation of flights scheduled for SAR; total or partial lack of fuel and/or lubricants for the timely replenishment of SRUs; health facilities not ready to receive and care for casualties as the case may be, etc.; which increases the costs of SAR service, becomes an added burden to the SAR supplier or, as in the last example, the difference between life and death of a survivor evacuated from the accident site.

**Access.** Access to an airport or to the area designated for search or rescue may increase the value of performance measurements; as in the case of path efficiency, the value of access can increase through the measures agreed upon in this regard with ATC (Air Traffic Control) units to obtain the release of the airspace that is inaccessible for SAR operations, airport reduction or limitations of the airspace itself. Access measurements should include the ability of the SRU to coordinate passage of SAR air units through restricted areas, the availability and quality of preferred routes, and the skills of the ATS provider, the ATS system and the airport to meet the demands for use.

**Cost of the service.** At the international level, habit and practice stipulate that the State rendering the aeronautical and maritime SAR services should finance them, even when the assistance given is at the request of some other agency, for example, the RCC of another State. Hence, petitions for reimbursement to the State that requested or received the services are not usually submitted. Thus, the SAR system should have some financial support. Usually, this support increases when the party responsible for the SAR service can explain and demonstrate the importance of the SAR system through some efficient dissemination of the main activities it conducts. Therefore, measuring SAR performance based on its successes and failures acquires great importance for its growth based on what is required from it, while offering valuable information to assess efficiency and to determine the best way to improve.

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# 6. Competence-Building Training Programs

## 6.1 Introduction

There is a need for competence-building training in each RCC/SRU in order to maintain and update the knowledge and skills required to apply SAR procedures in a safe and efficient manner. This training includes update and supplementary training, improvement of skills, and corrective training.

Training can be achieved in different ways, using both internal and external methods (local competence-building). The most practical and efficient way of providing competence-building training is by developing a local competence-building training program. This concept involves sending a limited number of employees to external training and, upon returning to the unit, they would train their colleagues in the areas in which they received training. This concept is known as "training the trainer" and would be useful to assist SAR authorities to complete their competence-building training programs as required. This type of training may include training videos, discussion/summary of operational procedures, emergency procedures, co-ordination procedures, SAR incidents, contingency procedures, etc. Consideration should be given to preparing a room within the SRU to be used for competence-building training. This room should have the appropriate training equipment, that is, video cassette, TV set, white boards for markers, aviation charts, local, national and ICAO reference material, etc.

## 6.2 Competence-Building Training

Competence building should be a requirement for all operational personnel, as well as for support personnel that need to maintain their operational level of knowledge. This training is intended to maintain and update the knowledge and skills required for safe and efficient implementation of SAR procedures.

Competence-building needs will vary from one RCC/SRU to the other. Therefore, training should be adjusted to accommodate the requirements and needs of each unit.

Competence-building may include training on issues mandated by SAR service provider and local SRUs.

This type of training program should be described in the directives for the RCC/SRU.

SAR service provider should make sure they apply an annual mandatory competence-building training program and that competencies are acquired.

All training related to competence-building should be documented in the personal training record of each SAR personnel.

***Update training.*** Each RCC/SRU should establish an annual update training program. SAR service provider, managers and supervisors should stress the fact that update training is intended to improve competencies and not to assess performance.

This program should include, but not be limited to, training in the following topics:

a) ***Unusual situations***, such as adverse weather conditions, on-board equipment failure, pilot's lack of knowledge of the route, or other type of contingencies (for improved learning, training for emergencies should be based on actual incidents);

b) ***Barely used procedures***, for example: cases and planning of parachute jumping, communication with the public and the media, communication with relatives, scope of electronic scanning, interview techniques, rescue procedures, AMVER (Automated Mutual-Assistance Vessel Rescue System), receiving medical advice, etc.;

c) SAR agreements,

d) Data collection and evaluation;

e) Allocation of SAR resources;

f) Documentation of incidents;

g) Completion of instruction forms/questionnaires for RCCs/SRUs;

h) Identification of elements of reference;

i) Risk assessment;

j) SAR communications;

k) End of SAR operations;

l) Emergency phases, SAR stages and components;

m) SAR resource capabilities;

n) SAR technology;

o) Search configurations;

p) Search planning;

q) Selection of SRUs;

r) Survival equipment;

s) Scope of visual scanning;

t) Water currents;

u) Aircraft performance and characteristics;

v) Co-ordination procedures;

w) Civil/military coordination and joint use of airspace procedures;

x) Aeronautical phraseology;

y) Fire/life safety procedures at the SRU;

z) Other issues identified and reported by SAR service provider or local SRUs.

***Supplementary training.*** Operational personnel should complete the supplementary training prior to the implementation of new/revised procedures, regulations or equipment.

***Skill-improvement training.*** Training provided by the SAR operational supervisor when a need for improving the skills of a SAR operator is identified. When this happens:

a) the SAR operator should be notified in writing as to the skills in which he/she needs a higher level of training; and

b) the SAR operational supervisor, in co-operation with the operator, is responsible for developing the training to be provided to the SAR operator. The methods and contents will be tailored to the individual needs and will include laboratory scenarios, classroom training, computer lessons and on-the-job training. The SAR operational supervisor will determine the most effective method.

***Remedial training.*** Training aimed at correcting specific performance deficiencies, such as:

a) a SAR operator who makes mistakes due to a performance deficiency; and

b) training provided following bad performance, which should be documented as remedial training.

The SAR controller should be notified in writing about the topics to be covered and the reasons.

The SAR operator should have reasonable opportunity to make comments about his/her performance during remedial training.

The methods and contents should be designed to meet the needs of the SAR controller and may include simulated scenarios with theoretical and/or practical laboratory exercises, classroom training and on-the-job training. The SAR operational supervisor should identify the most effective method.

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# 7. Human Factors

The human factor is the essential element for achieving efficiency in any organization. Technology facilitates SAR tasks and, in many cases, is indispensable for the successful implementation of SAR operations. But the proper use of the tools which technology puts at SAR's disposal depends on the level of competence of the user is. It is the quality of human resources which makes the difference as regards performance. Thus, to optimize performance, one should try to establish an adequate professional and work environment.

Exclusively at the professional level, it should be stressed that an aspect which favors performance is motivation. From this point of view, motivation implies the provision of the means needed for professional development and for acquiring the capabilities required by the position. It also implies getting the person involved in achieving an aim which transcends mere individual interests. This can be done by creating a healthy spirit of teamwork and professional identity. The best of an individual emerges when committing to a project or an idea which will be of benefit to society. It is a matter of placing at the disposal of that individual all the means which, from a personal outlook, are required for the achievement of some general objectives.

From the above it is possible to conclude that a demanding training program is a basic ingredient for motivation, strictly from its professional side. Furthermore, in activities with an implicit risk, training and professional improve the level of safety. This is an unquestionable reality and is applicable to SAR organizations since, due to the nature of their functions and the repercussions which SAR incidents may have, they are under the obligation of not only planning their activities in detail but also of improve all the knowledge acquired in their training as well as the response capabilities of the staff in charge of handling emergencies.

On the other hand, public opinion in developed societies demands the highest degree of protection and efficiency from emergency services, being quite sensitive to any errors deriving from lack of foresight, deficient planning or poor use of available resources.

RCCs exercise management and co-ordination functions which require a large diversity of skills as well as a resolute attitude. Their staff has to be highly specialized and, hence, requires theoretical and practical skills training and updating in SAR subjects, ratified through qualification procedures. The international nature of air and maritime activities and, consequently, of SAR activities, also demands certifications proving the levels of competence.

In a SAR system, administrative and support actions are combined with operational functions. Personnel organization involves covering all the SAR organization positions, deciding on personnel requirements and then hiring, selecting, evaluating, promoting, paying and training the necessary staff. Personnel organization should be closely related to the organization of functions and positions.

Staff selection should be quite strict, for the new members of the organization should have skills consistent with the philosophy of Quality Management (teamwork, responsibility, esprit de corps and commitment). It is convenient for people coming into an organization to show or have shown great capacity to resolve changing situations, as well as a series of particular skills and attitudes (ability to work as a team, responsibility, willingness to participate).

The training area is also fundamental to have a SAR staff which has been duly trained to participate and to introduce quality improvements into the system. If they do not have the necessary knowledge, they will be unable to make their contribution. The fact that personnel is hired means that an effort has been made to have those chosen achieve the desired objectives. The time and the training dedicated to the team and its development should be considered an investment and not an economic cost. The need for training applies both to SAR staff (supervisors and SAR operators) as well as to top and middle management of the service (SAR director, managers, heads of SRUs, etc.), not only in quality improvement methods but also in the processes and procedures of the organization, and in an indoctrination aiming at a total quality culture.

Lack of training will make it difficult for participation programs, which are a basic element in Quality Management, to prevail. Adequate training of SAR Staffs constitutes the basis for a participatory attitude. Furthermore, without such basic knowledge, the SAR staff will not be able to do a good job. The knowledge they should have is that related to interpersonal and group relations, statistical/quality analysis and awareness of the objective of the SAR service, and the training which the position may demand.

All of the members of the organization should receive initial training on Quality Management basics to facilitate their understanding of it and to encourage them to participate. It should be pointed out that the members of the organization should be trained and increase their skills as regards communications, teamwork and participation at meetings.

The staff of the SAR system requires training if it is to be responsible for quality. Quality training and participation are closely linked. All members of a system are responsible for improving processes, hence; the training provided should be such that suggestions can be contributed from every position. What is involved is for every person to have a sufficiently broad view so as to improve the whole process, and not be limited to only the specific position of the individual, something which can be achieved through teamwork.

**Communications** should be taken as just another human resource department task. Methods should be devised to see to it that any information which might be useful for people gets to them so that they can do their jobs properly, and to adapt to the organizational culture. SAR Staffs participation requires not only training but information as well.

Communicating positive results to the SAR improves their morale and their motivation, while hearing about the negative ones should encourage their efforts to correct them. Linking participation to quality emphasizes the importance of establishing good communication channels throughout the SAR system. To improve quality, SAR staff needs information about its work, its results and its contributions. Thanks to such information, people improve their knowledge and can make suggestions which, through the appropriate participatory channels, may represent major innovations for any enterprise which may have decided to take advantage of the collective intelligence of its entire staff.

In human resource management under the Quality Management system, it is fundamental to encourage the participation of all members of the organization. Participation, or “empowerment”, means encouraging, favoring and rewarding the SAR staff for behaving at all times in the way it deems convenient to achieve the goals of the SAR service. This means that, for the SAR staff to participate, it has to receive the necessary instructions to make decisions affecting organizational management and results, receive information on the results, information enabling them to understand and contribute to those results and the rewards based on those results.

For real participation, the SAR staff should receive adequate amounts of these four factors. Only thus will the SAR staff be able to see a direct relationship between its efforts and the results of the organization. For the participation to be effective, aspects such as the importance of the leadership style should be taken into account. The enterprises which use it consider their employees as professionals capable of fulfilling their tasks in a precise and effective way, and thus delegate on them a large measure of responsibility and allowing them to participate in the decision-making process.

***Automation focused on the human element***

A technology-oriented approach automates all possible functions and lets the human element handle the rest. This places the operator in the role of an automation custodian. A human-focused approach offers the operator an automated assistance that helps him/her save time and effort, since automation provides support to, but does not direct, the operator in the performance of his/her tasks. The three high-level automation objectives are: Usefulness, Operational Convenience and Acceptance by the Labor Force.

***Status awareness***

Status awareness is defined as perceiving the elements making up the environment within a volume of time and space, understanding their meaning, and projecting their condition in the near future. The elements of status awareness in the SAR service are extremely dynamic and are subject to changes ranging from subtle to significant, which can occur in short notice and which can affect, or do affect, the performance of an operator at a given moment. For example:

a) Personal factors

b) Meteorological conditions

c) Airport infrastructure

d) Time needed to get the SAR elements ready

e) Availability of rescue personnel

f) Work environment

g) Geographical locations and preparedness for replenishment of SAR elements

h) Aircraft performance

i) Rescue operations equipment

j) Adjacent units

***Error management***

Error management has two components: error reduction and error contention. Error reduction covers measures designed to limit the occurrence of errors. Error contention measures are designed to limit the adverse consequences of any errors which may still occur.

Error management includes the following:

a) Measures to minimize the risk of individual and work team errors;

b) Measures to reduce the vulnerability to error of certain tasks or task elements;

c) Measures to discover, evaluate and then eliminate the factors which cause errors in the workplace;

d) Measures to diagnose organizational aspects which create error-generating factors for the individual, the work team, the task and the workplace;

e) Measures to improve troubleshooting;

f) Measures to increase error tolerance by the workplace and the system;

g) Measures to make sure that latent conditions are visible to those operating and managing the system;

h) Measures to improve the intrinsic resistance of the organization to human fallibility.

There is a relation among the concepts presented. Application of the concept of Automation centered on the human element will increase the Status Awareness of the SAR operator, which, in turn, becomes a component of the Error Management program. SAR operators that keep a high degree of Status Awareness are more likely to detect errors and to control their consequences.

***The human factor and SAR training***

On the other hand, the IAMSAR manual emphasizes RCC personnel training and improving professionalism. It stipulates that the SAR service provider is responsible for the formulation of training programs for SAR personnel, so that it may reach and maintain a high level of competence. Stressing the above, the SAR service provider should make sure that SAR personnel is as mature and as competent as required to perform the tasks which may be assigned to it.

# Appendix A - Sample checklist for conducting personnel proficiency checks

| PERSONNEL PROFICIENCY CHECK | | | | SRU Name | |
|---|---|---|---|---|---|
| Name | | | Date | Position/Sector: | |
| Weather<br><br>☐ VMC<br>☐ IMC<br>☐ Other | Workload<br><br>☐ Light<br>☐ Moderate<br>☐ Heavy | Complexity of SAR Case<br><br>☐ Not difficult<br>☐ Occasionally difficult<br>☐ Mostly difficult<br>☐ Very difficult | | | |
| Purpose:<br><br>☐ Proficiency check ☐ Follow-up ☐ Other | | | | Review period: | |
| | | | | From: | To: |

| Performance category | Performance indicator | More than Satisfactory | Satisfactory | Needs Improvement | Unsatisfactory |
|---|---|---|---|---|---|
| **A. Separation** | 1. Separation is ensured. | | | | |
| | 2. Safety alerts are provided. | | | | |
| **B. Coordination** | 3. Performs handoffs/point-outs. | | | | |
| | 4. Required coordination are performed | | | | |
| **C. Control judgment** | 5. Good control judgment is applied. | | | | |
| | 6. Priority of duties is understood. | | | | |
| | 7. Positive control is provided. | | | | |
| | 8. Effective traffic flow is maintained. | | | | |
| **D. Methods and procedures** | 9. Aircraft identity is maintained. | | | | |
| | 10. Strip posting is complete/correct. | | | | |
| | 11. Clearance delivery is complete/correct and timely. | | | | |
| | 12. LOAs/directives are adhered to. | | | | |
| | 13. Additional services are provided. | | | | |
| | 14. Rapidly recovers from equipment failures and emergencies. | | | | |
| | 15. Scans entire control environment. | | | | |
| | 16. Effective working speed is maintained. | | | | |
| **E. Equipment** | 17. Equipment status information is maintained. | | | | |
| | 18. Equipment capabilities are utilized/understood. | | | | |
| **F. Communication** | 19. Functions effectively as a team. | | | | |
| | 20. Communication is clear and concise. | | | | |
| | 21. Uses prescribed phraseology. | | | | |
| | 22. Makes only necessary transmissions. | | | | |
| | 23. Uses appropriate communications method. | | | | |
| | 24. Relief briefings are complete and accurate. | | | | |
| **G. Other** | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| |
|---|
| Comments: |
| Recommendation for Improvement: |
| Signature of person conducting check: Date: |
| Acknowledgement / Comments: |
| This report has been<br>Discussed with me<br>Personnel's signature _____<br><br>Date: _____ |

| SAR MISSION COORDINATOR (SMC) PROFICIENCY CHECK | | | | Name of the RCC | |
|---|---|---|---|---|---|
| Name | | | Date | Position/Sector: | |
| Meteorological conditions in the search area<br><br>☐ VMC<br>☐ IMC<br>☐ Other | Workload<br><br>☐ Light<br>☐ Moderate<br>☐ Heavy | Complexity of SAR Case<br><br>☐ Not difficult<br>☐ Occasionally difficult<br>☐ Mostly difficult<br>☐ Very difficult | | | |
| Purpose:<br><br>☐ Proficiency check ☐ Follow-up ☐ Other | | | | Review period: | |
| | | | | From: | To: |

| Performance category | Performance indicator | More than Satisfactory | Reaches the level required | Has knowledge but needs improvement | Unsatisfactory |
|---|---|---|---|---|---|
| **A. Reception of emergency alerts** | 1. Acknowledge receipt of emergency alerts, if necessary | | | | |
| | 2. Obtaining and assessment of all data on the emergency case. | | | | |
| | 3. Determines the type of emergency equipment of the aircraft / disappeared vessel or in an emergency situation. | | | | |
| | 4. Establishes personnel shift and/or through radio in appropriate frequencies to facilitate communications with SAR means. | | | | |
| | 5. Verifies and keeps corresponding records of all procedures with a graph, if necessary. | | | | |
| **B. Coordination of SAR services** | 6. Retransmits emergency alerts to RCC involved, if necessary. | | | | |
| | 7. Delimits the area subject of search and decided the methods and means required. | | | | |
| | 8. Designates the OSC (On-Scene Coordinator) (and ACO (Aircraft Coordinator), if necessary), alert to SAR means and assigns the frequencies for communications in the search area. | | | | |
| | 9. Organizes the delivery of instructions to SAR personnel affected to the search and further interrogation. | | | | |
| | 10. Organizes the delivery of provisions for subsistence of survivors. If necessary. | | | | |
| | 11. Informs the RCC Head of the search action plan. | | | | |
| | 12. Coordinates the operation with adjacent RCC. When applicable. | | | | |
| **C. Control criteria** | 13. Evaluates all the reports from any source and modifies the search action plan, if necessary. | | | | |
| | 14. Adopts previsions for the fuel provision of aircraft/vessels in long searches, organizes SAR personnel accommodation. | | | | |
| | 15. Has positive control of the actions in course. | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | 16. Analyzes the order and result of events, in order to evaluate the need to recommend the RCC head to suspend the search. | | | | |
| **D. Methods and procedures** | 17. Keeps in mind the RCC Operational Plan. | | | | |
| | 18. Complies with letters of agreement/ internal directives. | | | | |
| | 19. Coordinates flight safety aspects for SAR aircraft with corresponding ATC units. | | | | |
| | 20. Formulates the search action plan (and rescue plan, if applicable) assigns the search areas, sends the SAR means and designates the frequencies for communications in the accident scenario and watches for the compliance of instructions. | | | | |
| | 21. Writes or takes necessary previsions to write reports on the running of operations. | | | | |
| | 22. Expedites instructions in a timely, precisely and complete manner. | | | | |
| | 23. Permanently works with the OSC and makes sure to receive and assess all reports of the same and from the ACO (if case it has been designated). | | | | |
| | 24. Maintains an effective working rhythm. | | | | |
| | 25. Releases SAR means in a timely manner when the assistance is no longer required. | | | | |
| | 26. Notifies and coordinates with accident investigative authorities and with security personnel the surveillance of the accident location. | | | | |
| | 27. If such were the case, notify the State of the aircraft/vessel registry in accordance with the established standards. | | | | |
| | 28. Takes provisions for the writing of the final report on the results of the operation. | | | | |
| **G. Others** | | | | | |
| | | | | | |
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| |
|---|
| Comments: |
| Recommendation for Improvement: |
| Signature of person conducting check: Date: |
| Acknowledgement / Comments: |
| This report **has/ has not** been Discussed with me<br>SMC signature _____<br>Date: _____ |

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## Appendix B – RCC/SRU Assessment Checklist

**RCC / SRU name:** _____

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| **A. ADMINISTRATION** | | | | |
| SAR Organization | 1. Which official bodies have authority and responsibility to coordinate the aeronautical SAR services?<br>2. Is the same body responsible to coordinate aeronautical and maritime SAR services?<br>3. Is there a national SAR committee, which coordinates SAR matters with other national official or private bodies and with SAR bodies of other States?<br>4. Does current organization meet SAR requirements? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 – IAMSAR Manual, Vol. I |
| ICAO and States documents | 1. Review availability and status of amendment (Annex 12, Doc. 9731 Volume I, II and III, National SAR Plan, Unit Plans of Operation, Manuals, guidelines, Circulars).<br>2. Are the documents updated? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | ICAO Asia/Pacific SAR Plan |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| Status of differences to SARPS | 1. Are there any differences with Annex 12?<br>2. Has the state notified ICAO of these differences?<br>3. Have the differences been published in the Aeronautical Information Publication (AIP)? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Annex 15<br>ICAO Asia/Pacific SAR Plan |
| SAR personnel training | 1. Does the RCC/RSC or SRU staff get training, qualification, titles or official certification?<br>2. Does SAR responsible body assess the status of training of personnel and does it take the necessary measures to correct the training needs detected? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 3<br>Annex 12, Ch. 2, Para. 2.1.1.3 |
| **B. OPERATIONS** | | | | |
| Capacity to attend responsibilities related to SAR | 1. Are the units assigned to perform other tasks, which might detract from their ability to handle SAR responsibilities? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual Vol. I, Appendix H |
| Operational Documentation | 1. Does the unit have Plan of Operations duly updated, which provides guidance to comply with SAR situations foreseen in all the area under jurisdiction?<br>2. Is there an updated and accessible filing of permanent availability for SRU personnel consultations with all SAR agreements with other adjacent RCC/RSC and/or with the SAR provider means? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Annex 12, Ch. 4, Para. 4.2.1 until 4.2.4 inclusive<br>Doc 9731 - IAMSAR Manual, Vol. II Ch. 1, Para 1.5 |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| Operational Teamwork | 1. Do you observe if SAR shift personnel work as a teamwork?<br>2. Is personnel foreseen to cover service shifts in the unit sufficient and is it ready to initiate and continue carrying out operational tasks on a 24-hours basis? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 2, Para. 2.3.11<br><br>Annex 12 Ch. 2, Para 2.1.1 and 2.3.3 |
| Operational Supervisor/ SAR personnel | 1. Is there an operational supervisor or a SAR staff in charge of the operational shift?<br>2. Is the supervisor/operator in charge trained to plan and coordinate SAR operations until the SMC takes over and/or perform other tasks that the SMC may assign during the development of a SAR? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 2, Para. 2.3.11 |
| Communications available in the unit | 1. Does the RCC have a two-way rapid and reliable communications with:<br>a) Associated ATSUs;<br>b) Associated RSC;<br>c) The appropriate direction-finding and position-fixing stations;<br>d) Where appropriate, coastal radio stations capable of alerting and communicating with surface vessels in the region;<br>e) Headquarters SAR<br>f) All Maritime RCC located at the maritime SRR and RCC or joint RCC in adjacent SRR;<br>g) The designated meteorological office or meteorological watch office; | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Annex 12, Ch. 2, Para.2.4.1 - 2.4.2<br><br>Doc 9731 – IAMSAR Manual, Vol. I, Ch. 4, Para. 4.5.6 |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| | h) SRUs<br>i) Alerting post<br>j) The MCC servicing the SRR?<br>2. Does the RSC have two-way rapid and reliable communications with:<br>a) Adjacent RSC<br>b) The meteorological office or meteorological watch office;<br>c) SRUs<br>d) Alerting posts?<br>3. Does the national ground communication systems provide complete coverage of the jurisdictional area and with a rapid and reliable service? | | | |
| Communications Procedures | 1. Is communications phraseology correctly applied?<br>2. Are communications procedures with SAR aircraft and ATS associated units correctly applied? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Annex 10<br><br>Annex 12, Ch. 2, Para.2.3.3 |
| Communications with SRUs | 1. Does the Unit Plan of Operations include procedures to establish communications with the civil SRUs provided by concurrent bodies? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Appendix H, No. 40 |
| Coordination Procedures | 1. Are coordination procedures adequately carried out with RCC/RSC, SRUs, and with the associated ATSU? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Annex 12, Ch. 2, Para.2.3.3 |
| Operational Updating | 1. How does the unit ensure that SAR personnel are updated in operational aspects?<br>2. Does SAR personnel from the main SAR contributory units receive | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable | | Annex 12, Ch. 4, Para. 4.4.1<br><br>Doc 9731 - |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| | training or participate in SAR exercises on a periodical basis?<br>3. Is there an official planning and assessment process regarding these exercises?<br>4. Does the unit have detailed information regarding the capacity (scope, number of persons that may be saved, alert time required to attend an alert, point of contact of the authority authorizing the support for the alert, etc.) of all main SRUs within its jurisdictional area? | ☐ Not assessed | | IAMSAR Manual, Vol. I, Appendix H |
| Procedures related with medical evacuation | 1. Are there any official procedures in the RCC/RSC, in order to make decisions on medical evacuation within its jurisdictional area?<br>2. Do SRUs have special equipment for medical evacuation?<br>3. Are there letters of agreement or other coordination tool in the RCC/RSC to receive medical care for all persons evacuated after a medical emergency? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Appendix H |
| Emergency Location Transmitter (ELT) | 1. Does the RCC/RSC have instructions and means to have round the clock availability to the information contained in the ELT national registry operating in 406 MHz? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 4, Para 4.5.14 - Para 4.5.23 inclusive |
| False alerts | 1. Are there instructions to attend RCC/RSC false alerts? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable | | Doc 9731 – IAMSAR Manual, |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| | 2. Are there instructions to reduce RCC/RSC false alerts?<br>3. Is a registry kept and is the MCC serving the SRR informed? | ☐ Not assessed | | Vol. I, Appendix E |
| **C. OPERATIONAL SUPPORT** | | | | |
| Contingency Procedures | 1. Are there any contingency procedures in case of a considerable failure of communications equipment? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | CAAT Advisory Circular for SAR Quality Assurance Programs |
| Documentation | 1. Is there a complete registry (enough to the incident of all SAR events?<br>2. Is this registry consulted to analyze and improve the system?<br>3. Does the documentation available in the RCC/RSC satisfy the need for SAR personnel to take all necessary measures to comply with law requirements established? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 – IAMSAR Manual, Vol. I, Appendix H |
| **D. QUALITY ASSURANCE** | | | | |
| SAR Quality Assurance Program | 1. Does the RCC/SRC have a quality assurance program implemented?<br>a) Is there any guideline for such program?<br>b) Has any SAR officer/SAR quality assurance specialist been designated? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | CAAT Advisory Circular for SAR Quality Assurance Programs |
| Assessments | 1. Are there any regional or national assessment programs implemented? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable | | Idem |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| | 2. If such were the case, which aspects do they assess?<br>3. How often are the assessments?<br>4. Do these assessments result in Action Plans and responsibility to apply the assessments? | ☐ Not assessed | | |
| **E. TRAINING** | | | | |
| Certification and refreshment certification | 1. Which is the training process and certification?<br>2. Who determines it? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 3 |
| Training tests | 1. Is SAR staff required to demonstrate their performance?<br>a) Are there abilities tests carried out?<br>b) If so, how often?<br>2. Are there training courses?<br>a) Does the RCC/RSC have annual lists of requirements for training courses?<br>b) Who and how are training matters determined? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 3 |
| Reports to supervisors staff / SAR personnel | 1. How are supervisors staff /SAR personnel informed on the changes in procedures?<br>2. When and who makes sure that all personnel have been informed? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 3 |
| Updating English refreshment courses | 1. Is there any English course available to learn the English language?<br>2. How is any acceptable level of proficiency determined?<br>3. Are there any updating courses? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 3 |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| **F. EQUIPMENT AND FACILITIES** | | | | |
| Communications system | 1. How reliable are communications (ground-ground, air-ground)?<br>a) Aeronautical Fix Service (AFS)<br>i. Aeronautical Fixed Telecommunications Network (AFTN)<br>ii. Speech Circuit<br>b) Aeronautical Mobile Service (AMS)<br>i. Very High Frequency (VHF)<br>ii. High Frequency (HF)<br>2. Are there procedures to compensate deficiencies?<br>3. How are SAR registries kept and maintained? | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 4<br><br>Doc 9731 - IAMSAR Manual, Vol. II, Ch. 2 |
| Location of the unit | 1. Is the RCC/RSC located next to a Flight Information Center (FIC) or an ACC so that the additional communications means may be reduced?<br>2. Do the dimensions of the locations assigned to the RCC/RSC satisfy the provision of SAR services?<br>3. What is the status of the RCC/RSC infrastructure?<br>4. Is there a new location required (indicate reasons, if affirmative)?<br>5. Is there any general office equipment for tracks tracing, or charts showing the area of responsibility of the RCC/RSC and adjacent areas, file cabinets, etc.?<br>6. Is there sufficient comfort contemplating the SAR personnel | ☐ Satisfactory<br>☐ Unsatisfactory<br>☐ Not applicable<br>☐ Not assessed | | Doc 9731 - IAMSAR Manual, Vol. I, Ch. 2, Para. 2.3.8 |

| SUBJECT | ASPECTS TO BE ASSESSED OR QUESTIONS TO REPLY | SITUATION | COMMENTS | ICAO Reference |
|---|---|---|---|---|
| | needs during operational shifts to cover 24-hours capacity (dining room, living room, wardrobe, toilettes, etc.? | | | |

Assessment Team Name Organization

Original Signed by:

Date:

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## Appendix C - SAR Quality Assurance Internal RCC/SRU Survey

**This survey is intended to be filled out by SAR personnel.**

"Name of SRU" **QUALITY OF SAR SERVICE EMPLOYEE SURVEY**

"Name of SRU" is very interested in obtaining your feedback on the quality of services that you provide to users of the system and if all the tools you need are available to provide these services. Your comments are very important to us and we would like to thank you in advance for taking the time to complete this survey.

1. Please provide us with the following information (Optional):

   Name:

   Position:

2. How do you rate the overall quality of search and rescue services provided by your RCC/SRU?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

3. How do you rate the quality of equipment that you work with?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

4. How do you rate the type of training (includes proficiency training, refresher training, initial training, etc.) you received?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

5. How do you rate the working environment?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

6. How do you rate the attitude of SAR personnel as it pertains to professionalism and friendliness?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

7. How do you rate the use of proper aeronautical phraseology in your RCC/SRU?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

8. How do you rate the procedures in the Operations Plan?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

9. How do you rate the availability and quality of local, national, and ICAO directives?

   ☐ Excellent
   ☐ Good
   ☐ Average
   ☐ Fair
   ☐ Poor

10. How do you rate the workload distribution (is the workload distributed evenly)?

    ☐ Excellent
    ☐ Good
    ☐ Average
    ☐ Fair
    ☐ Poor

11. How do you rate the quality and timeliness of briefings (new procedures, changes to procedures, etc.)?

    ☐ Excellent
    ☐ Good
    ☐ Average
    ☐ Fair
    ☐ Poor

12. How do you rate the communications between SAR personnel (between personnel and personnel, supervisors and personnel, management and personnel, etc.)?

    ☐ Excellent
    ☐ Good
    ☐ Average
    ☐ Fair
    ☐ Poor

13. How do you rate your job satisfaction in your current position?

    ☐ Excellent
    ☐ Good
    ☐ Average
    ☐ Fair
    ☐ Poor

14. Please share with us any comments and/or suggestions pertaining to your RCC/SRU you believe that may need improvement.

    Comments/Suggestions:

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