



WORKING PAPER

**ICAO/IMO JOINT WORKING GROUP
ON HARMONIZATION OF AERONAUTICAL
AND MARITIME SEARCH AND RESCUE (ICAO/IMO JWG-SAR)**

FOURTEENTH MEETING

Saint Gilles les Bains, La Réunion, France, 10 to 14 September 2007

**Agenda Item 5: SAR system administration, organization and implementation methods:
5.3: quality/improvement, needs assessment, risk management, (including subregional
organizations) and resource allocation**

SAR SYSTEM PERFORMANCE MEASUREMENT

(Presented by the ICAO Secretariat)

SUMMARY

This document seeks guidance from the ICAO/IMO JWG regarding the definition of metrics to be considered for SAR system performance measurement in the future.

Action by the ICAO/IMO JWG is in paragraph 3.

1. INTRODUCTION

1.1 In several States, public expectations in terms of financial accountability has become a leading force in the definition of policies on public fund allocation and management.

1.2 Government decision makers can no longer afford to spend public funds without being able to provide some factual elements justifying any public expense.

1.3 The International civil aviation organization has embarked into structural reforms, heading towards the implementation of performance-based policies, the development of a business plan and the definition of six strategic objectives (Safety — Enhance global civil aviation safety; Security — Enhance global civil aviation security; Environmental Protection — Minimize the adverse effect of global civil aviation on the environment; Efficiency — Enhance the efficiency of aviation operations; Continuity — Maintain the continuity of aviation operations; Rule of Law — Strengthen law governing international civil aviation).

1.4 The Organization business plan is structured into programmes and tasks, each one of which must comprise measurable parameters to evaluate the overall impact of each programme/task against its related strategic objective.

2. MEASURING A SAR SYSTEM PERFORMANCE

2.1 In several JWG Members' States, equivalent policies have been implemented in the recent past. It is therefore assumed that some JWG Members have faced the same challenge: how can the SAR system performance be measured ?

2.2 The most obvious metric to use could be the number of lives saved. This variable, however, is not fully satisfactory for a number of reasons; e.g.: the number of accidents with survivors is a quite random parameter. Each accident being different, the same response (in terms of quality of SAR procedures implementation and level of resources deployed) can lead to quite different results in terms of number of lives saved. In some States, fatal aircraft accidents, because of a quite low level of aviation activity (especially in terms of general aviation), happen only once a decade or so. This means that no data would be available to measure the SAR system for years. Furthermore, in States where aviation safety level is higher, hence the accident rate lower, the SAR system is activated at a lower frequency, therefore appearing to be less effective (with the proposed use of the number of lives saved, as a single parameter), which would be quite paradoxical. Last but not least, the metrics to be retained by ICAO should be relatively homogenous at the worldwide scale. States with hostile environment where life expectancy for survivors of an aircraft accident is very limited would be penalized (States with very cold seas, deserts etc.).

2.3 The level of compliance with ICAO standards and recommended practices (SARPs), could be used as a variable. However, there has been no scientific demonstration of a strong correlation between the level of compliance with ICAO SARPs and the overall quality of the SAR system.

2.4 JWG members are therefore invited to propose other ideas of measurable variables that could be used to evaluate the overall effectiveness or efficiency of SAR systems.

2.5 Should ICAO fail to define metrics to measure the outcome of its SAR programme (i.e. its impact on States or groups of States SAR systems), at least some variables could be identified to measure the outputs of the programme (e.g. the number of SAR workshops, the quality of the *International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual* (Doc 9731) and Annex 12 — *Search and Rescue* updates...).

3. ACTION BY THE ICAO/IMO JWG

3.1 The ICAO/IMO JWG is invited to:

- a) consider the information provided; and
- b) make suggestions of metrics that could be used to evaluate the overall efficiency of a SAR system.