



*International Civil Aviation Organization*

**Fifteenth Meeting of the APANPIRG ATM/AIS/SAR Sub-Group  
(ATM/AIS/SAR/SG/15)**

Bangkok, Thailand, 25 – 29 July 2005

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**Agenda Item 3: Review and progress the tasks assigned to the ATM/AIS/SAR/SG by APANPIRG**

**ANNEX 12 - SEARCH AND RESCUE**

(Presented by the United States of America)

**SUMMARY**

This information paper provides background on the amended Annex 12 – *Search and Rescue* of the Chicago Convention which went into effect on July 12, 2004.

**References**

1. Convention on International Civil Aviation, Annex 12 - *Search and Rescue*

**1. Background**

1.1 Annex 12 was amended substantially to better incorporate current search and rescue (SAR) concepts and principles and also align it, to the extent practicable, with the International Maritime Organization's (IMO) *International Convention on Maritime Search and Rescue*. Alignment with maritime SAR services was viewed as essential due to the number of aircraft flying over vast expanses of oceanic airspace, large bodies of water inside of land masses, and water areas around many airports. Close cooperation between aeronautical and maritime SAR services would lead to improved SAR capability, resulting in a more effective and efficient response. SAR experts from several Asia/Pacific States participated in the forum that developed the recommendations which were incorporated into the amended Annex 12.

**2. Discussion**

2.1 Great care was exercised to respect the integrity of the set of ICAO Annexes and to promulgate SAR procedures directly relevant and responsive to aviation emergency needs. The amended Annex 12 has significant changes to be incorporated into national SAR documents regarding policies and practices. Some countries will have an additional sense of urgency in implementing the amended Annex 12 due to ICAO's Universal Safety Oversight Audit Program (USOAP). All annexes under the Chicago Convention will undergo this audit. The current USOAP process is for the State to complete an initial audit checklist and then ICAO will conduct an on-site audit some months later.

2.2 A summary of the principle underlying concepts that made up the amendment to Annex 12 is appended to this paper (Appendix A). Some of those concepts noted in this appendix include:

- New or revised definitions
- The establishment of joint aeronautical and maritime rescue coordination centers is now a Recommendation
- More attention on the need for agreements and coordination of both policies and operations between States and between aeronautical and maritime SAR services
- Emphasis on need for State aeronautical SAR authorities to make arrangements with maritime authorities for ready information regarding ship availability and means for their alert since most of the globe is covered by water and that rescue is frequently accomplished by ships
- A Recommendation that SAR plans should be integrated with airport emergency plans
- The existing Recommendation that States should engage in SAR training is now a Standard.

### **3. Recommendation**

3.1 The meeting is invited to note the information provided in this paper and Appendix A.

**Summary of Amendments to Annex 12****1.0 Chapter 1. - Definitions**

1.1 Definitions have been made consistent with definitions in the International Aeronautical and Maritime Search and Rescue (IAMSAR) manual which, in turn, are consistent with the International Maritime Organization (IMO) SAR Convention. Those existing Annex 12 definitions, however, that are uniquely aeronautically relevant or which need to be consistent throughout a number of ICAO Annexes, have been preserved in their original form. The approach has been to seek closer harmonization between aeronautical and maritime SAR documents, but only to the extent that aeronautical SAR meanings and procedures are in no way compromised.

1.2 The words and phrases *search*, *rescue*, *search and rescue facility* and *search and rescue service* are defined as these terms are basic and are used in subsequent Annex 12 chapters.

1.3 *Search and rescue service* is drafted to reflect the actual components of the service and to indicate, in general terms, the resources used to provide it.

1.4 A definition of *vessel* has been added for the sake of consistency with the IMO SAR Convention; its meaning pertains to ships and boats - something perhaps not widely known in the aviation community - and is used in such a way in Chapter 2.

1.5 Definitions of *alerting post*, *rescue subcentre*, *search and rescue unit* and *search and rescue region* have been amended to conform to those in the IAMSAR manual. Regarding the definition of *rescue subcentre*, (RSC) delegation of responsibilities to RSCs may be along either geographic or functional lines or both. There are numerous States that retain certain functions at the rescue coordination centre (RCC) even though they have an RSC with geographic responsibilities; there are a few States that delegate duties to RSCs solely on a functional basis.

1.6 The definition for *search and rescue services unit* has been deleted. It was used twice in Annex 12 but not in any other international document. It ran the risk of being confused with *rescue unit* which has a different meaning.

1.7 *Radio Direction Finding* has been deleted on the basis that it is self evident.

1.8 *Rescue unit* has been changed to *search and rescue unit* which better describes its function. The ICAO Regional Air Navigation Plans (ANP) and Facilities and Services Implementation Documents (FASID) will need to be updated to use the new term in due course.

1.9 A concept deemed to require greater emphasis in Annex 12 is the requirement to make use of all available resources, whether or not dedicated to provision of a SAR service. Thus it was considered that there was a need to define *search and rescue facility*. The title of Volume III of the IAMSAR Manual is *Mobile Facilities*. *Facilities* is also used in the definition of *search*.

1.10 The definition of *pilot in command* has been brought into line with ICAO Annex 6.

**2.0 Chapter 2. - Organization**

2.1 In several places, the words *individually or in cooperation with other States* have been inserted after the words *Contracting State* to provide for a regional approach to SAR system establishment. This is the strategy being advanced by both IMO and ICAO and soon to be applied in a major SAR rehabilitation project on the African continent. A regional

**APPENDIX A**

developmental approach ensures greater cost effectiveness and relieves the unnecessary sense of obligation otherwise imposing on some States unable to provide a State-wide service.

2.2 Greater detail of SAR service components is included because fundamental building blocks are necessary for some States to come to terms with the effort and method necessary to establish services.

2.3 Allowance is made for SAR regions to be unaligned with territorial boundaries where, for some practical reasons, higher-level arrangements may apply. The emphasis throughout the Annex is away from territorial boundaries with their connotations of sovereignty and towards regional SAR areas, to facilitate the most effective coverage of areas of greatest risk and need.

2.4 Some historic tendency to use SAR region boundaries to justify national borders has been a problem which now maybe minimized as a result. In this regard, use of the word *boundary* has been avoided in all of Annex 12, the IMO SAR Convention and the IAMSAR Manual.

2.5 A requirement for RCC staff to be proficient in the use of the English language has been added. While it might be argued that the Standard lacks definition, practical implementation of a closely defined Standard cannot be realistically expected in the near future. The embodiment of the provision as a Standard, however, raises the issue to one of importance, gives impetus to States to give it serious attention, and clears the way for continuing input by international entities and supporting agencies.

2.6 The establishment of joint aeronautical and maritime RCCs (JRCCs) has been established as a Recommendation. The concept is given more emphasis in the IAMSAR Manual.

2.7 Wording has been changed to provide for coordination between all RCCs within the global SAR system rather than simply between neighbouring RCCs.

2.8 The term *on-scene* has replaced *scene of action* in conformity with prevailing contemporary usage and its appearance elsewhere in Annex 12.

2.9 The common availability of frequency 4125 kHz on both ships and aircraft, and the fact that most ships are now required by IMO to be able to communicate with aircraft on 121.5MHz for purposes of mutual assistance and joint SAR operations were both noted.

2.10 Information on droppable survival equipment has been deleted, in keeping with the subject matter being deleted from the IMO SAR Convention. These details are considered more appropriate to inclusion in the IAMSAR Manual where they are now published.

**3.0 Chapter 3. - Cooperation**

3.1 Changes focus attention on the need for agreements and coordination of both policies and operations between States and between aeronautical and maritime SAR services.

3.2 Wording of the recommendation for agreements between States for strengthened cooperation and coordination seeks to establish a balance between concerns for sovereignty and concerns for lifesaving. These changes bring Annex 12 into closer conformity with the tone of the IMO SAR Convention.

3.3 Reference to ship reporting systems was deleted due to expanded references on the topic in chapter 4.

**4.0 Chapter 4. - Preparatory Measures**

4.1 Emphasis is added to ensure the ready availability of essential intelligence data to RCC staff.

4.2 An amendment acknowledges the fact that ships are increasingly contacted using means of identification other than call signs.

4.3 Inclusion of more comprehensive information regarding shipping movements is included to present a more balanced treatment of search *and* rescue, acknowledging that most of the globe is covered by water and that, frequently, rescue is accomplished by ships. It is considered important that State aeronautical SAR authorities make tight arrangements with maritime authorities for ready information regarding ship availability and means for their alert. This section is a condensation of parallel text in chapter 5 of the IMO SAR Convention.

4.4 Reference to *a large scale map* was deleted since many RCCs now retain and display intelligence data electronically.

4.5 Contemporary RCCs commonly develop a series of contingency plans designed to cope with a wide range of potential disaster scenarios, rather than, as the existing text suggests, a single plan. The new text provides for a plurality of plans.

4.6 A new recommendation allows for aeronautical SAR services to benefit from and assist in provision for emergencies of a more general kind that may involve mass casualties or mass rescues. Demands on SAR services in such circumstances can be overwhelming and the aeronautical SAR services should share in meeting this responsibility.

4.7 A recommendation is included that SAR plans should be integrated with airport emergency plans. There is potential for confusion with various services responding to incidents in the vicinity of airports.

4.8 The existing Recommendation that States should engage in SAR training is now a Standard.

## **5.0 Chapter 5. - Operating Procedures**

5.1 The new text differentiates between plans of operation that address SAR scenarios and plans of action that are developed for actual cases. This conforms to the treatment given in the IMO SAR Convention.

5.2 Careful attention has been paid to the section dealing with termination and suspension of SAR operations. It is important that there be consistency in international law on these topics. As drafted, Annex 12 is now consistent with the IMO SAR Convention.

5.3 Provision has been made for the now common practice that RCCs designate an on-scene commander or aircraft coordinator to exercise aircraft coordinating authority at distress sites. Until such time as a designated aircraft arrives on-scene, provision is included for the assumption of these duties by the first suitable aircraft to arrive in the vicinity.

## **6.0 Appendix A**

6.1 Reference to and inclusion of Appendix A has been deleted. Air to ground and ground to air visual signals are published in Volume III of the IAMSAR Manual with an accompanying explanation where their inclusion is considered more appropriate.