



## **THIRTEENTH ICAO/IMO JOINT WORKING GROUP**

**Singapore**

**28 August to 1 September 2006**

### **REPORT OF THE THIRTEENTH SESSION OF THE ICAO/IMO JOINT WORKING GROUP ON HARMONIZATION OF AERONAUTICAL AND MARITIME SEARCH AND RESCUE**

#### **1. ADOPTION OF THE AGENDA**

1.1 As approved by MSC 81 and endorsed by C 96, the thirteenth meeting of the International Civil Aviation Organization/International Maritime Organization (ICAO/IMO) Joint Working Group (JWG) on the Harmonization of Aeronautical and Maritime Search and Rescue was held in Singapore, from 28 August to 1 September 2006.

1.2 After taking up new duties within the Canadian Maritime Administration earlier in the year, Mr. Ron Miller was unable to continue as Chairman of the JWG. Subsequent to nomination by ICAO, duly seconded by Singapore and Sweden, Mr. David Edwards (United States) was unanimously elected by the Group to assume the Chairmanship. The Group expressed its sincere appreciation to Mr. Miller for his dedication and valuable contribution as Chair of the Group for the past two years and wished him well in his new role. The Vice-Chairman, Mr. Dave Cole (Australia) was also present.

1.3 The experts who participated in the JWG 13 meeting are listed in Appendix A.

1.4 The Group adopted the draft agenda given in Appendix B.

#### **2. CONSIDERATION OF TERMS OF REFERENCE**

2.0 The terms of reference are contained in Appendix C.

##### **2.1 Outcome of COMSAR 10 and MSC 81**

2.1.1 The IMO Secretariat representative, (Mr. Graham Mapplebeck), introduced document 13/WP/10 which provided information on the outcome of COMSAR 10 and MSC 81 with respect to SAR matters relevant to the Group. These included the adoption, by MSC 81, of amendments to SOLAS Chapter V in relation to Long-Range Identification and Tracking, due to enter into force on 1 January 2008, and associated Performance Standards for LRIT equipment. MSC 81 had also considered the outcomes of the Sub-Committee's work on passenger ship safety, including recovery arrangements and techniques, voyage planning for passenger ships, training of SAR service personnel and contingency planning. He also advised that the next MSC will be held in Istanbul, Turkey, from 29 November to 8 December 2006, due to the refurbishment of the IMO Headquarters building.

2.1.2 Following the introduction of the paper, the Group, noting that COMSAR 10 had prepared appropriate draft amendments to the IAMSAR Manual on the use of mobile phones in SAR, further discussed issues related to the use of such phones in SAR. The Group was of the view that the use of mobile phones in SAR was ever increasing and must be kept under review and on its agenda for future sessions. Several delegations also considered that data computer communications must be also considered as well as mobile phones. The Group was of the view that given the advances in technology since the GMDSS was conceived, that future SAR communications should be more prominent on its agenda and should be a separate agenda item. (See also paragraph 7.3).

2.1.3 The Group noted the instructions of COMSAR 10 that the JWG should prepare relevant amendments to the IAMSAR Manual in regard to the fitting of maritime and air band radio equipment and prepared draft amendments accordingly as at Appendix D.

2.1.4 The Group also noted the comments of COMSAR in relation to the SAR Protocol questions presented at JWG 12 and agreed that these were only applicable to the aeronautical services. Australia will submit a revised version to JWG 14 with a view to incorporating them in Appendix H of the National Self Assessment Questionnaire in Volume I of the IAMSAR Manual.

### **Recommendation 13/1 – Draft amendments to the IAMSAR Manual**

**That IMO and ICAO may wish to consider the draft amendments to the IAMSAR Manual in regard to the fitting of maritime and air band radio equipment contained at Appendix D.**

## **2.2 Outcome of ICAO activities related to JWG work**

2.2.1 The ICAO Secretariat representative (Mr. Gregory Lievre) introduced document 13/WP/8 in regard to performance requirements of ELTs from the SAR point of view. During the debate that ensued, it was agreed to amend the list of performance requirements appearing in paragraph 2.2 (f) of the WP.

2.2.2 The JWG recommended that the following amended list be considered by the ICAO Secretariat for the development of performance-based SAR crash alert and location provisions in the future:

1. Global coverage;
2. Signal activation without human intervention;
3. Crash alert to responsible RCC within 5 minutes;
4. Crash alert location to an accuracy of 5 km or better;
5. Capability for both distress and homing signal for a minimum period of 48 hours under temperature conditions between -40°C and +40°C;
6. Crash survivability; and
7. ID transmission facility.

### **Recommendation 13/2 – Crash alert and location provisions**

**That the ICAO Secretariat considers the above amended list in regard to the development of performance-based SAR crash alert and location provisions in the future.**

### **3. PROVISION OF CONVENTIONS, PLANS, MANUALS AND OTHER DOCUMENTS AFFECTING SAR**

#### **3.1 Status of the Maritime SAR Convention**

3.1.1 The IMO Secretariat representative informed the meeting that as of 31 July 2006, there were 88 Member States who were parties to the SAR Convention, representing about 52 per cent of the gross tonnage of the world's merchant fleet.

3.1.2 He also advised the Group that the 2003 amendments to the SOLAS and SAR Conventions, including particularly those referring to the treatment of persons rescued at sea, came into force on 1 July 2006. The Parties of Malta, Norway and Finland had notified their formal objections to the amendments but, in the case of Norway and Finland, it was understood that this was related to national legislative requirements rather than objections to the substantive text of the amendments. Norway had since withdrawn its objection to the amendments.

#### **3.2 Progress report on the possible alignment of the IMO Global SAR Plan, the GMDSS Master Plan and ICAO Regional Air Navigation Plans**

3.2.1 No report was given to this item.

#### **3.3 Progress report on work by the Air Navigation Commission in advancing provisions for carriage of ELTs**

3.3.1 No report was given to this item.

#### **3.4 Further work on the IAMSAR Manual, availability for training institutions, priority items for amendments**

3.4.1 The Representative from Sweden, (Mr. Christer Waldegren), introduced document 13/WP/12. He advised that this document was submitted on the request of the 11th session of the JWG and provided a proposal for amendments to Appendix A in Volume I of the IAMSAR Manual, in respect of sample legislation establishing a SAR organization. Due to national legislation, SAR services on a global basis are organized in different ways and are not under the control of the same competent and responsible authority. Accordingly, as proposed in the document, amendments were needed to describe the competent authorities more accurately.

3.4.2 It was also proposed to include text showing that, as an introduction to Appendix A, a Search and Rescue Organization shall be established in accordance with the definition of Search and Rescue in the IMO International Convention on Maritime Search and Rescue and the ICAO Annex 12.

3.4.3 After discussion and slight amendment of the text, the Group agreed with the proposal and prepared amendments as at Appendix E.

3.4.4 Mr. Waldegren also introduced document 13/WP/11 which proposed amendments to the IAMSAR Manual, Volumes I, II and III, regarding the consequential SAR communication system changes due to the final implementation of the Global Maritime Distress and Safety System (GMDSS).

3.4.5 Before the implementation of the GMDSS, two of the main components in maritime radio communications for distress and safety were radio telegraphy 500 kHz and 2182 kHz radio telephony. Since 1 February 1999, these frequencies were no longer in use for distress alerting although 2182 was still used for SAR communications. Coast radio stations had closed down watch keeping and vessels were not equipped with radio telegraphy any more. As the use of the radio telegraphy service on 500 kHz and 8364 kHz was no longer required for SOLAS vessels, the text in the IAMSAR Manual referring to the old system was proposed to be amended accordingly.

3.4.6 The Group agreed with the proposal and prepared amendments as at Appendix F.

3.4.7 In the same context and following a suggestion by the Chairman, the Group also agreed that the opportunity should be taken to delete all references to Inmarsat-E within the manual, given that, as advised previously, this service is being closed on 1 December 2006; and the Secretariat was instructed accordingly.

3.4.8 During discussions on the IAMSAR Manual it became apparent that the present amendment process is somewhat cumbersome and it was, on occasion, difficult to keep track of the various amendments. The Group discussed possible solutions to this and the Representative of Australia, Mr. Dave Cole offered to submit a paper with the assistance of other representatives to the next session in regard to the amendments process.

#### **Recommendation 13/3 – Draft amendments to the IAMSAR Manual**

**That IMO and ICAO may wish to consider the draft amendments to the IAMSAR Manual in regard to sample legislation establishing a SAR organization and updating the sections referring to radio matters and contained at Appendixes E and F.**

#### **3.5 List of references and electronic index to the IAMSAR Manual**

3.5.1 No papers were submitted to this item, for the third year in succession and the Group recommended that it be taken off its agenda.

#### **Recommendation 13/4 – Deletion of agenda item**

**That COMSAR delete from its agenda, Item 3.5 list of references and electronic index to the IAMSAR Manual.**

### **4. SAR OPERATIONAL PROCEDURES, PRINCIPLES AND TECHNIQUES**

#### **4.1 Safety of passenger ships**

4.1.1 The United Kingdom Representative, (Mr. David Jardine-Smith), introduced document 13/WP/13. He advised that as tasked by previous sessions of MSC, COMSAR 10 reported on various passenger ship safety issues to MSC 81. One of the tasks given to COMSAR had been to develop a functional requirement for systems enabling SOLAS ships to recover people from the water or from survival craft. A draft amendment to SOLAS had been duly developed and submitted to the Maritime Safety Committee by COMSAR 10.

4.1.2 COMSAR's proposal was further developed by the Passenger Ship Safety Working Group at MSC 81. The Working Group concluded that SOLAS should be amended to include a requirement to carry such a recovery system, but that implementation of this new regulation should be deferred until 2012 to enable suitable systems to be developed in the meantime.

4.1.3 MSC 81, however, came to the conclusion that the proposed new regulation should not be adopted until after the DE Sub-Committee had developed "performance standards for recovery systems for all types of ships", taking into account the work done by the Working Group and "with a view to preparing mandatory requirements for implementation by 1 July 2012 for all types of new and existing ships", and the STW Sub-Committee had developed "relevant training standards after the aforementioned standards have been finalized".

4.1.4 It was the view of the United Kingdom that in the case of a mass rescue operation anywhere in the world, and any rescue operation in areas of the world not provided with dedicated SAR units, the assistance of SOLAS ships was essential to successful rescue: such ships should, therefore, be equipped, and their crews trained, for the task.

4.1.5 The Group agreed with the United Kingdom that in the great majority of SAR incidents, SOLAS ships were crucial to the success of the incident and that this was a very important issue, which had never been adequately addressed. The Group considered that every effort should be made by SAR authorities to encourage their Maritime Administrations to support the early fitting of relevant recovery equipment, appropriate to the specific ship, on all ships.

4.1.6 The Representative of Norway (Mr. Stein Solberg) also informed the Group of relevant extracts of reports that ship masters had submitted in relation to recent real life accidents and the extreme difficulties experienced by ships crews in recovering survivors from life rafts or the water, including in one tragic case where the crew of a ship had survived the sinking but, due to bad weather, and despite several ships being in the vicinity the survivors were unable to be recovered successfully and were lost during the attempted transfer from life rafts to the rescue ships.

### **Recommendation 13/5 – Recovery equipment for SOLAS ships**

**That IMO may wish to note the JWG's view of the continuing importance of this issue.**

4.1.7 Mr. Jardine-Smith also introduced document 13/WP/17 and advised the Group in regard to the co-ordination of SAR research programmes related to passenger ships by the World Maritime University (WMU). MSC 80 had approved a proposal that WMU should collect information on SAR-related research efforts related to passenger ships, which had stemmed from a recommendation from COMSAR's work on the passenger ship safety review. Circular letter No.2650, had been issued on 4 July 2005, requesting that relevant authorities report such research activities to the WMU. Information was still being sought by WMU, and they had also requested that SAR experts consider what research efforts could usefully be conducted. A further request for input to this work was made by email in July 2006.

4.1.8 The United Kingdom had been advised that there had been limited response to the WMU's requests for information; ICCL were now seeking further information from their members; and that WMU would like to include in their report to MSC, suggestions for further research that might usefully be undertaken in this regard. The Group noted the information and agreed to seek the required information in their administrations if relevant. Mr. Jardine-Smith offered to be the contact point for this, if necessary, to pass the information to the WMU, to meet the MSC deadline of 26 September 2006.

## **4.2 Mass rescue operations**

4.2.1 No papers were presented, although presentations on recent incidents involving such operations were made later to the Group. (See also paragraph 9.7).

## **4.3 Medical assistance in SAR services**

4.3.1 The Representative from Australia, (Mr. Dave Cole), introduced document 13/WP/1. He advised that this document proposed to amend Section 4.7, Chapter 4, Volume I of the IAMSAR Manual on MEDICO Communications, and provided a template for RCCs and medical authorities to establish Telemedical Assistance Services (TMAS) procedures and practices.

4.3.2 The Rescue Co-ordination Centre (RCC) was the unit responsible for providing search and rescue services which could include the provision of medical advice and assistance. The RCC may establish contractual arrangements to provide this Telemedical Assistance Service (TMAS) from a suitably recognized medical authority.

4.3.3 At the last session of the Group (JWG/12), Australia introduced a working paper comprising, as an example and prospective template, the contractual arrangements made by the Australian Maritime Safety Authority (AMSA) with the Royal Flying Doctor Service (RFDS) for the provision of a Telemedical Assistance Service (TMAS) to Masters of ships at sea.

4.3.4 The proposed template included suggested text to establish the procedures and practices, including lines of responsibility, for both the TMAS and the RCC, in the co-ordination and provision of medical advice and assistance to ships at sea and the provision of medical advice to the RCC in support of search and rescue.

4.3.5 The Group noted that MSC Circ.960 had been issued on Medical Assistance at Sea, and that COMSAR 10 had recommended the approval of a further draft MSC Circular on Exchange of Medical Information between Telemedical Assistance Services, to be considered by MSC 82. The Group agreed with the proposal from Australia and recommended that the IAMSAR Manual be amended accordingly.

## **Recommendation 13/6 – Draft amendments to the IAMSAR Manual**

**That IMO and ICAO may wish to consider the draft amendments to the IAMSAR Manual in regard to updating the sections referring to Telemedical services and contained at Appendix G.**

## **4.4 Effects of measures to enhance maritime and aeronautical security on SAR services**

4.4.1 In his role as the maritime representative of the United States, (Mr. David Edwards) introduced document 13/WP/14. He advised that this paper discussed ship reporting systems (SRSs) and Long-Range Identification and Tracking (LRIT), and raised issues for discussion and resolution regarding the use of data on ships at sea for maritime and aeronautical SAR.

4.4.2 Chapter 5 of the Maritime SAR Convention provided for the use of SRSs for SAR, and the annex 12 of the Chicago Convention (paragraph 4.1.3) recommended that aeronautical RCCs with SAR regions that included maritime areas have ready access to information on the position, course and speed of ships that may be able to assist aircraft in distress, and information on how to contact those ships.

4.4.3 MSC 81 had adopted a requirement for Long-Range Identification and Tracking (LRIT) of ships at its May 2006 meeting as an amendment to SOLAS Chapter V, due to come into force on 1 January 2008, and the LRIT system was to be operational by 31 December 2008.

4.4.4 While LRIT was mainly being implemented for maritime security purposes, LRIT data will also be available to support SAR operations. LRIT data collected from a ship will only be required to include the ship's identity (based on its IMO number), position of the ship (latitude and longitude) and the date and time of the position provided. The automatic reports were to be made at 6-hour intervals.

4.4.5 The Group noted with appreciation that LRIT information will be available to the SAR services of Contracting Governments for use in relation to persons in distress at sea, and that MSC 81 had agreed that this information, including on demand information, would be free of charge. (MSC 81/25, paragraph 5.92).

4.4.6 The Group discussed the likely impact of LRIT when finally implemented on present ship reporting systems and expressed the view that because of the relatively small amount of information included in the LRIT, when compared to the information presently being received in SRS, that LRIT information would complement and enhance the information received from the SRS rather than replace the present SRS, although the Group recognised that this would be for national administrations operating such reporting systems to decide. The representatives of at least two SRS systems commented that there had been a significant increase in participation in their systems recently. The Group also expressed the need for LRIT information to be readily available as and when required by SAR authorities.

#### **Recommendation 13/7 – Long-Range Identification and Tracking**

**Noting that while access to LRIT information will be readily available to the SAR services of Contracting Governments as and when requested and that it will remain free of charge, IMO may wish to encourage the continued use of Ship Reporting Systems in addition to LRIT.**

#### **4.5 Development of procedural strategies for the practical provision of SAR services**

##### **Aviation SAR funding**

4.5.1 The ICAO Secretariat representative presented document 13/WP/2 and advised that the paper presented the outcome of debates that took place during a recent meeting of the ICAO Air Navigation Services Economics Panel (ANSEP) on the use of Air Navigation Charges to recover some SAR costs.

4.5.2 The JWG was invited to draft a proposed amendment to a note in Doc 9082 – “ICAO's policies on charges for airports and air navigation services” at Appendix 2. After in-depth debate on the issue, the JWG established a splinter group that drafted the following note, for consideration as an amendment to Doc 9082, Appendix 2 – “guide to the facilities and services to be taken into account in determining the total costs of air navigation services”, after the paragraph that deals with “*Other ancillary aviation services*” (All that part of the services allocable to civil aviation of any permanent civil establishment of equipment and personnel maintained for the purposes of providing such services as search and rescue, accident investigation, aeronautical charts and information services). The amended note is as follows:

*Note: In some States or groups of States, it may be cost efficient to use a variety of civil and military facilities, which may or may not be permanently assigned to search and rescue. The proportion of such facilities' operating costs directly related to the provision of SAR services to international civil aviation may be taken into account in determining the total cost to be paid for by charges on international air services.*

**Recommendation 13/8**

**That ICAO may wish to consider the proposed draft amendment note to Document 9082 as above.**

**Media Management**

4.5.3 The ICAO Secretariat representative presented document 13/WP/15, which proposed an amendment to the existing provisions of the IAMSAR Manual on media management. He informed the meeting that on the occasion of missions to African States or SAR training sessions in Africa, the issue of relations with the media during SAR operations was often raised. He suggested that there would be an obvious interest from many States' SAR Officials for detailed guidance about media management being included in the IAMSAR Manual.

4.5.4 The IAMSAR Manual already comprised a few elements on this subject matter, including a list of elements that Search Mission Coordinators (SMCs) should not reveal to the press. It was proposed to add an indicative list of elements that, on the other hand, SMCs could reveal to the press, in order to complement the existing guidance material.

4.5.5 The JWG recognized the importance of this subject matter. The proposed indicative list of elements that SMCs could reveal to the media was amended and recommended by the JWG as an amendment to the IAMSAR Manual contained in Appendix H.

**Recommendation 13/9**

**That IMO and ICAO may wish to consider the draft amendments to the IAMSAR Manual in regard to updating the sections referring to media management and contained at Appendix H.**

**5. SAR SYSTEM ADMINISTRATION, ORGANIZATION AND IMPLEMENTATION METHODS****5.1 Regional SAR databases**

5.1.1 No papers were presented.

**5.2 Development of guidelines for sub-regional arrangements**

5.2.1 The Representative of Australia introduced document 13/WP/4 which summarized the SAR obligations of States and was a succinct version of the working paper submitted at JWG/12. It was proposed as an amendment to the IAMSAR Manual.

5.2.2 At JWG/11, Australia had introduced a working paper on the responsibilities of Contracting States. The aim of the paper was to state in simple terms the benefits of having an effective SAR system, to outline the national responsibilities of States under the 'Chicago' and other International Conventions, and to show how these obligations establish a framework for regional co-operation when responding to a major aviation or maritime disaster. The paper was designed as a template that may be useful for other countries to use when seeking support for SAR principles especially with parties that are not fully aware of the international dimensions of SAR.



5.2.3 At JWG/12, Australia re-submitted the working paper in an amended form as a possible amendment to the IAMSAR Manual. The Group considered that in a more abbreviated form, the paper could be a useful document and should be prepared as a draft amendment to the IAMSAR Manual and be re-presented at JWG/13.

5.2.4 After some discussion, the Group agreed with the proposal with some amendments and recommended inclusion in the IAMSAR Manual.

### **Recommendation 13/10 – Draft amendments to the IAMSAR Manual**

**That IMO and ICAO may wish to consider the draft amendments to the IAMSAR Manual in regard to updating the sections referring to SAR responsibilities of States contained at Appendix I.**

### **5.3 SAR Co-ordination between maritime and aeronautical authorities on a regional basis**

5.3.1 The maritime representative of the United States, introduced document 13/WP/6, which discussed the need to improve information exchanges between regional groups and ideas regarding support of a special implementation project for a Pacific Island State.

5.3.2 He advised that Annex 12 – *Search and Rescue* to the Convention on International Civil Aviation and the *International Convention on Maritime SAR* under IMO called for the closest practical coordination between maritime and aeronautical SAR authorities to provide for the most effective and efficient SAR services. To this end, good use could be made of scheduled meetings and events which include SAR discussions. Ongoing events in the Asia-Pacific region can be used as an example for other regions to consider. As an example, the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) is an annual meeting of senior government officials for aeronautical safety matters, and the Asia-Pacific Heads of Maritime Safety Agencies (APHMSA) Forum meets annually in April for maritime safety matters. Whereas APANPIRG meetings are organized under ICAO, the APHMSA Forum was a co-operative effort under the national governments involved, but both meet on a recurring, regional basis and include SAR on the agenda.

5.3.3 Both the APANPIRG and the APHMSA Forum discuss common SAR matters but there appeared to be frequent occasions of limited sharing of information between the two regional groups or lost opportunities to cooperate on joint SAR efforts.

5.3.4 Recently, extracts of meeting reports pertaining to SAR had been shared at respective meetings of the APANPIRG and the APHMSA Forum. It was anticipated that this information flow will grow with time and lead to enhanced joint efforts and solutions to common SAR problems.

5.3.5 The APANPIRG is currently considering a special implementation project (SIP) developed by the ICAO Regional Office in Bangkok, Thailand, and funded by ICAO for completion in 2006. The objective of the SIP is to improve SAR services; co-ordination and cooperation between island States of the Pacific. This would be for a SAR seminar and SAR exercise at a Pacific Island State. However, various planning and workload problems will prevent this SIP from being conducted in 2006. If co-operative support is found to assist a Pacific Island State to conduct this SIP, then ICAO Headquarters has advised there is a high probability that the funding would be available through April 2007.

5.3.6 The SIP for a SAR exercise and seminar at a Pacific Island State is an excellent example of where the APANPIRG and the APHMSA Forum participants could co-operate on a joint SAR effort. Members of the JWG will be co-ordinating to see what action can be taken in support of this ICAO initiative. New Zealand will work with the JWG Chairman and the ICAO Secretariat to identify regional stakeholders who could assist and possible scenarios. Contact will be made with the Secretariat of the Pacific Community (SPC) who could assist in this matter.

5.3.7 The Group discussed the proposal at length and agreed in principle that there was a need for greater joint participation in organized meetings that did or could have SAR on their agenda and co-operation in scheduling these meetings. They noted however that the two organizations have different methods of work e.g. ICAO held a program of scheduled regional meetings, whereas IMO did not, and that this could cause a problem. The Group also noted that Member States often scheduled meetings on a regional basis and while IMO circulated any notification of these when received from a Member State, some Member States were reluctant to distribute the information on an international basis.

5.3.8 The Group then discussed the establishment of a website dedicated to SAR, which could include such type of information and also such additional information of use to world wide SAR authorities such as lessons to be learned from incidents, etc. The representative from ILF, Mr. Gerry Keeling advised the Group that the ILF was presently seeking to establish just such a website, which the Group noted with interest.

5.3.9 In this context, the Group also discussed a suggestion from the representative from Japan (Cmdr. Wakabayashi) that an additional agenda item should be established whereby operational matters and lessons learned could be brought to the attention of the Group. After discussion, the Group was of the opinion that this would exceed their terms of reference, that too much time may be spent in this way and that, in fact, the present agenda items already allowed this to some extent in that lessons learned from incidents could be submitted particularly in the context of proposed amendments to the IAMSAR Manual.

#### **5.4 Implementation and operation of the “International SAR Fund”**

5.4.1 The IMO Secretariat representative informed the Group of the recent establishment of the Mombasa RCC, of the equipment donated by Inmarsat Ltd. and financial support under the auspices of the ISAR fund, in the establishment of that MRCC and the on-going establishment of sub-regional RCCs in the Seychelles and Tanzania.

#### **5.5 Evaluate the effect of various “Technical co-operation projects” in co-operation with relevant Governments, organizations and agencies with a view to assess their impact on implementing and maintaining SAR services**

5.5.1 No papers were submitted.

### **6. RCC/RSC EQUIPMENT AND FACILITY DESIGNATIONS AND STANDARDS**

6.1.1 No papers were presented.

## **7. SAR COMMUNICATIONS**

### **7.1 Status of the GMDSS**

#### **Status of the COSPAS-SARSAT System**

7.1.1 The representative of COSPAS-SARSAT, (Ms. Cheryl Bertoia) introduced document 13/INF/2 which gave provisional data on COSPAS-SARSAT operations, in particular that in 2005, COSPAS-SARSAT alert data assisted in 436 distress incidents and 1660 persons were rescued. Since September 1982, the COSPAS-SARSAT System had provided assistance in rescuing at least 20525 persons in 5753 SAR events. The 406 MHz system was used in 59.2% of all events (1256 persons rescued) and the 121.5 MHz system was used in 40.8% of all events (404 persons rescued). In 43.0% of 406 MHz distress alerts, COSPAS-SARSAT was the unique source of information (“only alert” category).

7.1.2 Based on information received from manufacturers on beacon production, there were approximately 429,000 406 MHz beacons in use worldwide at the end of 2005, up 13.2% from 2004. In 2005 beacon manufacturers produced 37,198 EPIRBs and SSAS beacons, 16,578 ELTs and 17,269 PLBs (respectively 52.4%, 23.3% and 24.3% of all beacons produced).

7.1.3 Ms. Bertoia also introduced paper 13/INF/1 which provided information on the performance of the COSPAS-SARSAT system during the sinking of the ferry “Al-Salam Boccaccio” in February 2006.

7.1.4 She advised the Group that on the evening of 2 February 2006 (3 February local time), the Panamanian registered ferry “Al-Salam Boccaccio” sank in the Red Sea. The vessel had carried a COSPAS-SARSAT 406 MHz beacon programmed with the Maritime User Protocol (the beacon did not include a GPS receiver).

7.1.5 The first COSPAS-SARSAT detection was received at 23:33 hrs (UTC) on 2 February 2006. The associated alert messages were forwarded to the USMCC. Upon receipt the USMCC sent an alert message to the Panamanian SPOC at 23:37 hrs and this alert was sent to the Panamanian Civil Maritime Authority. Presently, there was no independent information to determine when the beacon was actually activated, although it was reasonable to assume that it was activated at or just before 23:33 hrs. Therefore, within about four minutes of beacon activation, an unlocated alert was provided through the COSPAS-SARSAT GEO System. A simple decode of the beacon’s message allowed identification of the vessel involved. The COSPAS-SARSAT System subsequently provided a located alert about an hour and a half after beacon activation, despite a noted gap in beacon bursts from 23:33 hrs to 23:58 hrs.

7.1.6 While the alerts were sent to Egypt, the Algerian MCC advised that they did not receive any acknowledgement messages indicating that the alerts were received. In view of this, COSPAS-SARSAT was considering whether changes are required to minimize the possibility of alert messages being delayed, not received or delivered to non-responsive SPOCs/RCCs.

7.1.7 The Group appreciated the information given by COSPAS-SARSAT and discussed at length the issue of the lack of acknowledgement of receipt of distress alert messages by a SPOC. While recognising that the investigations by the relevant Member States into the circumstances of the incident were still going on, the Group expressed concern at the apparent non-responsiveness from a SPOC. The Group was of the view that in this incident the COSPAS-SARSAT system worked as it should, but there appeared to be a delay in the SAR response. The Group agreed to request that COSPAS-SARSAT submit a paper to COMSAR 11 on the issue.

7.1.8 This led to further discussion on the continuing non-responsiveness of some RCCs worldwide. The Group agreed to submit a joint paper to COMSAR 11 proposing possible means to minimise delays in SAR response and containing a draft circular with a view to encouraging Member States to fulfil their obligations under the SAR Convention.

7.1.9 The Group also expressed the view that they would appreciate the opportunity to consider the relevant parts of the investigation reports into the circumstances of the incident as soon as possible when they become available to IMO, so that the SAR services may learn from the disaster.

#### **Recommendation 13/11 – SAR Obligations**

**That after consideration of a paper proposed to be submitted by SAR authorities through their Administrations, COMSAR may wish to consider possible means to minimize delays in SAR response and encouraging Member States to fulfil their obligations under the SAR convention and other international instruments possibly by means of an appropriate Circular.**

#### **Recommendation 13/12 – Investigation reports**

**That IMO may wish to instruct the Group to consider the relevant parts of the investigation reports on the sinking of the “Al-Salam Boccaccio” as soon as possible when they become available to IMO, so that the SAR services, both aviation and maritime may learn from the disaster.**

### **7.2 Status of aeronautical communications systems for distress and SAR**

#### **Establishment of the IBRD**

7.2.1 The COSPAS-SARSAT Representative, also introduced document 13/INF/3. This document provided information on the establishment and initial operation of the COSPAS-SARSAT International 406 MHz Beacon Registration Database.

7.2.2 Ms. Bertoia explained that COSPAS-SARSAT Participants operated a satellite system capable of detecting and locating distress alert transmissions from radio beacons operating at 121.5, 243 and 406 MHz. The beacon signals transmitted over 121.5 MHz and 243 MHz do not include any identification that can be processed by the receiving stations of the COSPAS-SARSAT system. Therefore, there was no operational advantage to registering these types of beacons.

7.2.3 The COSPAS-SARSAT 406 MHz system provided search and rescue (SAR) services with distress alerts that include the unique 15-character hexadecimal identification of the transmitting beacon. This beacon identification can be decoded to obtain information including:

- a) the type of beacon, i.e. aircraft Emergency Locator Transmitter (ELT), vessel Emergency Position Indicating Radio Beacon (EPIRB) or Personal Locator Beacon (PLB);
- b) the country code and identification data which form the unique beacon identification; and
- c) the type of auxiliary radio locating (homing) device.

If a beacon had been properly registered, the 15-character hexadecimal identification of the beacon can be used to access additional information. Beacon registration databases can provide information of great use to SAR services.

7.2.4 Such information can be made available to SAR services only if the required information was provided to the registration authority by the beacon owner/operator.

7.2.5 Registration of 406 MHz beacons was required in accordance with international regulations on SAR established by the ICAO and IMO, and registration information must be made available to SAR services on a 24-hour basis. A number of countries had made 406 MHz beacon registration mandatory and maintain national 406 MHz beacon registration databases.

7.2.6 However, despite the clear advantages of registration, a large number of 406 MHz beacons had not been properly registered due to a lack of registration facilities in a number of countries. Furthermore, a number of beacon registries did not have 24-hour points-of-contact easily accessible by SAR services. The IBRD was freely available to users with no access to national registration facilities and to Administrations who wish to avail themselves of the facility to make their national beacon registration data more available to SAR services.

7.2.7 The IBRD provided various levels of access to:

- a) beacon owners who wish to register their beacons;
- b) Administrations who wish to make registration data available to international SAR services; and
- c) SAR services that need to access beacon registration data to efficiently process distress alerts.

7.2.8 COSPAS-SARSAT provided the IBRD solely for the purpose of assisting SAR Services in SAR operations and it was not intended to fulfil the obligation of National Administrations, as required by IMO and ICAO, to provide a National beacon registration facility, but it could be used as such by countries. COSPAS-SARSAT participants were still considering the final extent of the operations of the IBRD and its interface with national databases.

7.2.9 The Group discussed some of the difficulties being experienced with beacon registration and specifically country coding from the manufacturers and requested COSPAS-SARSAT continue to consult with beacon manufacturers to overcome some of the problems. The Group also discussed the issue of the use of the IBRD by countries who provided their own databases and who wished to fulfil their legal obligations to make their beacon registration details available to international SAR authorities. Ms. Bertoia gave a brief presentation to the Group on access to the IBRD, including the process of the registration of beacons.

7.2.10 The Group expressed its appreciation to COSPAS-SARSAT for its initiative in establishing the IBRD, which could prove to be very useful for SAR authorities worldwide. The Group also noted that MSC 81, had approved MSC.1/Circ.1210 on the COSPAS-SARSAT International 406 MHz Beacon Registration Database, which had been distributed to Member States.

### **Personal Locator Beacons**

7.2.11 The Representative of COSPAS-SARSAT and the aeronautical representative from the United States, presented document 13/WP/3 and explained that the paper summarized the discussion and findings of a splinter group on Personal Locator Beacons (PLBs) convened during the COSPAS-SARSAT Joint Committee in June 2006. They advised that two key issues were identified, the manner of registration of PLBs, taking into account operational requirements, ease of administration, available tools and State responsibilities; and the suitability of PLBs as a means of compliance with regulations for carriage of ELTs by general aviation (GA) aircraft.

7.2.12 After detailed discussion, that group had agreed that there were distinct benefits for States, users and SAR service providers in States making arrangements for a consolidated database for registration of all emergency beacons. It was also agreed that there was a strong case for the allowance of PLBs as a means of compliance with requirements for non-automatic ELT carriage by GA aircraft. This was in consideration of the presently extensive and rapidly expanding use of PLBs by users within all transport domains, including the aeronautical. While 406 MHz ELTs were recognised as providing more effective service, and automatic 406 MHz ELTs even more so, it was recognised that despite best efforts to educate users in the insufficiencies of 121.5 MHz ELTs, it was likely that without having access to 406 MHz PLBs for general aviation aircraft use, many owners/operators would continue to use 121.5 MHz ELTs. The JWG noted the information provided with appreciation.

### **7.3 Future trends in SAR communications**

7.3.1 The JWG was of the opinion that this was a vital area, which should be closely reviewed. Given the huge advances in technology since the GMDSS was designed, the Group was of the strong view that the planning for the future requirements of GMDSS should be urgently considered by COMSAR and SAR authorities should encourage their maritime administrations to seek such a review. In any review of these needs, the practical aspects of SAR communications must be considered and detailed consideration be given to new techniques such as mobile phones and computer data communications and exchange. Members were invited to submit proposals to future JWG sessions.

7.3.2 The Group was of the view that the disparate radio systems currently used for both maritime and aeronautical communications predate the efforts to harmonise emergency search and rescue. In the intervening period there have been significant developments in communications and information technology and many of these unapproved, but nonetheless useful, technologies are currently being used within SAR to augment the approved GMDSS and the equivalent aeronautical emergency communications systems.

7.3.3 The JWG was of the opinion that IMO and ICAO should establish harmonised mechanisms to ensure that:

- .1 every opportunity is exploited to utilise available technology to improve interoperability between maritime and aeronautical and other search and rescue systems;
- .2 improvements in global positioning systems, communications and information technology can be best utilised for the transfer, storage, presentation and sharing of SAR information;
- .3 proper forward planning processes are put in place to ensure that any emergent technologies, considered to be necessary and relevant to search and rescue, are properly anticipated, considered and then integrated, once their reliable operation can be assured; and
- .4 on-going compatibility, support and acceptability of existing technologies is assured for reasonable periods of time.

The JWG would also recommend that in any review of SAR communications there should be proper consultation with technological subject-matter experts, who may be outside of the SAR systems.

7.3.4 The Group was also of the view that to reflect the importance of this item that it should be a separate agenda item on its own and would recommend accordingly.

### **Recommendation 13/13 – Review of GMDSS**

**That IMO may wish to consider that given the advances in communications technology since the GMDSS was designed and implemented, planning for the future requirements of GMDSS should be urgently considered by COMSAR with due consideration of the aeronautical distress communications. SAR authorities should encourage their maritime administrations to seek a review of the GMDSS in this regard.**

### **Recommendation 13/14 – Agenda items**

**That COMSAR may wish to consider adding a new item 7.5, on Non-GMDSS communications systems which may be used for distress alerting to the JWG agenda. In addition, COMSAR may wish to consider that the item on Future trends in SAR communications should be a separate agenda item to reflect its growing importance.**

## **7.4 Minimum communications needs for RCCs**

7.4.1 No papers were presented.

## **8. SAR PERSONNEL STAFFING AND TRAINING**

### **8.1 Development of RCC Staff Certificates**

8.1.1 The Representative of the United States introduced document 13/WP/7 and advised that this document included the Air Force Rescue Coordination Centre's (AFRCC) Controller Trainer training syllabus and task performance grade sheet. The syllabus and grade sheet were standardized throughout the AFRCC's training program to include AFRCC Basic SAR Controller, Watch Supervisor, Trainer and Search Management Course Instructor.

8.1.2 At JWG/12, the Group had expressed concern regarding the lack of formal standardized training programs within Rescue Co-ordination Centres (RCC). After discussion, the JWG identified an interest in building a formal standardized training program template for RCCs that could easily be moulded to the specific needs/criteria of an individual RCC without undermining the integrity of the agreed upon format and structure. The purpose of this presentation was to solicit views and facilitate discussion among the participants concerning the benefits to creating a standardized training program format/template and to agree upon said format. The JWG had welcomed the need for further discussion and invited the AFRCC to submit its completed work for consideration by the JWG at a future date.

8.1.3 The Group noted and appreciated the information provided. In response to a query from the ICAO Secretariat Representative, Lieutenant Colonel Wash agreed that the information could be displayed on the ICAO website.

### **8.2 Development of joint SAR courses based on the IAMSAR Manual**

8.2.1 The representative of Singapore (Mr. Tai Kit) informed the meeting that the SAR Standardized Training Package (STP) that the Singapore Aviation Academy is currently developing in co-operation with the ICAO TRAINAIR Programme is planned to be finalized within the coming months and, in any case, before July 2007.

## **9. ANY OTHER BUSINESS**

### **9.1 MEOSAR Presentation**

9.1.1 Dr. Jerry Nardi from Techno-Sciences Inc. gave a presentation to the Group on the MEOSAR system, mid-earth orbiting satellites with SAR transponders, which was noted with appreciation.

### **9.2 Proposal for *ad hoc* meeting**

9.2.1 The ICAO Secretariat representative introduced document 13/WP/5 which contained a proposal to host an *ad-hoc* meeting the week after the next ICAO/IMO JWG-SAR/14 meeting which was expected to be hosted by France in 2007.

9.2.2 Mr. Lievre advised the Group that ICAO, the African Civil Aviation Commission (AFCAC) and France had signed in 2002 a Memorandum of Understanding (MoU) that established a search and rescue (SAR) technical co-operation project for African States. Since 2003, several activities have been conducted in the framework of this project, including evaluation and technical assistance missions, during which complete sets of documentation were developed to the benefit – and at the request – of petitioning States.

9.2.3 In order to validate the whole set of documentation that has been produced, ICAO wished to organize an *ad hoc* meeting, in the framework of the ICAO/AFCAC SAR Technical Co-operation Project to be held the week after the JWG 14 meeting.

9.2.4 JWG SAR Experts and African SAR officials would be invited to attend this *ad hoc* meeting, and to participate in the debates. It is expected that such debates would benefit both JWG members and African SAR Authorities by way of better understanding of African specificities on the one hand, and better understanding of SAR technicalities on the other.

9.2.5 It was proposed that the meeting should last three to five days (to be determined) and that it would be held at the same venue as the JWG meeting in the week immediately following JWG 14. Simultaneous interpretation services would probably be made available for the *ad hoc* meeting.

9.2.6 The costs related to the *ad hoc* meeting would be covered by the ICAO/AFCAC SAR project. These would mainly include Secretariat services. It was proposed that all participants (JWG members and African SAR officials) would cover their own subsistence costs. There would be no participation fees.

9.2.7 Most of the documents to be reviewed deal more specifically with aviation SAR. However, maritime participation would be important. Some documents, including a draft SAR Bill, include significant Maritime SAR-related provisions. It is envisaged that technical documents such as an RCC procedural handbook, a SAR plan and a SAR exercise manual will be placed on a dedicated website in advance of JWG 14 and the *ad hoc* meeting to allow participants opportunity to peruse their material beforehand. Thus it is foreseen that only detailed comments and suggestions would need to be discussed during the *ad hoc* meeting. High level documents, however, such as a draft SAR Bill, draft SAR Co-ordinating Committee Terms of Reference and draft international SAR agreements may need to be reviewed more comprehensively.



9.2.8 The Group expressed interest in the proposal and was of the opinion that it could be a worthwhile meeting. It was stressed however that the meeting was *ad hoc* and that it was not an extension of the JWG but had, nevertheless, direct relevance to the work of the JWG and the promotion of harmonized SAR in the African region. To this end, several delegates requested that notification of the *ad hoc* meeting could be added to the formal invite for the JWG, which would assist delegates in their travel budgets and planning.

### **9.3 Search and Rescue Optimal Planning System**

9.3.1 The representative of the United States (Mr. Jack Frost) introduced document 13/WP/9 and gave a presentation which provided information on progress that has been made with the Search and Rescue Optimal Planning System (SAROPS) as it nears the end of its initial development.

9.3.2 He explained that Appendix P to Volume II of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, initially distributed as part of MSC/Circ.999 dated 11 June 2001, describes the “Functional Characteristics to Consider with Computer-Based Search Planning Aids.” For the last three years the U.S. has been developing the Search and Rescue Optimal Planning System (SAROPS) with these characteristics in mind. The initial version of SAROPS is nearly complete and includes almost all of the functional characteristics listed.

9.3.3 Advanced capabilities of SAROPS included: ArcGIS® Extension, modular design, simulation of pre-distress situations, more accurate drift modelling, animation, more accurate detection model and others. SAROPS version 1.0 should be ready for fielding within the United States Coast Guard by the fall of 2006, with actual fielding planned for early 2007.

9.3.4 The United States is exploring the possibility of partnering with the World Maritime University to distribute SAROPS worldwide at minimal cost and also train search planners in its use.

9.3.5 The Group expressed their appreciation on the enthusiasm and dedication shown by Mr. Jack Frost over the years in the development of the SAROPS program. The Group encouraged other States to review the program, and noted that Mr. Frost will provide a demonstration to Australia in September and that a presentation will be made at the Japan Coastguard Workshop in October. The Group commends the SAROPS presentation to the wider SAR community at COMSAR.

### **Recommendation 13/15 – SAROPS program**

**That COMSAR may wish to encourage the use of the SAROPS program within the wider SAR community**

### **9.4 International Lifeboat Federation**

9.4.1 The representative of the International Lifeboat Federation (ILF) (Mr. Gerry Keeling), advised the Group that the ILF had recently changed its name to the International Maritime Rescue Federation, to better reflect its wider role in search and rescue. The ILF has Observer status at IMO and he will be formally advising the Organization of this change shortly.

## **9.5 SAR Project website**

9.5.1 The ICAO Secretariat briefed the JWG on content of a website that ICAO had recently established, to share information related to and developed by the ICAO/AFCAC SAR technical project for African States at [www.icao.int/anb/SARAfrica](http://www.icao.int/anb/SARAfrica). JWG members were invited to indicate by e-mail to Mr. Lievre ([glievre@icao.int](mailto:glievre@icao.int)) whether they agreed to have their name and e-mail address published on the Website, under the “Contacts” section, and whether they wish their organisation’s Website address to appear in the “Links” section of the SAR project Website.

## **9.6 SAR system resourcing survey**

9.6.1 The Representative from New Zealand, (Mr. Chris Raley) introduced document 13/WP/16, which detailed the results of a survey conducted to establish a benchmark on international SAR services, conducted recently by New Zealand as part of a strategic business plan towards the establishment of a joint RCC. The Group noted the outcome with interest.

## **9.7 Mass rescue incidents**

9.7.1 The representative from Japan (Cmdr. Wakabayashi) gave a short presentation on the successful rescue by Breeches Buoy of some 250 persons aboard a sail training ship which dragged anchor and was wrecked against a breakwater in very heavy seas during a recent typhoon in Japan and an overview of the Japan Coastguard Workshop to be held October 2006.

9.7.2 The Representative from the United Kingdom (Mr. Jardine-Smith) also gave a presentation on a potential mass rescue operation regarding a serious engine room fire aboard the passenger ship **Calypso** in the English Channel earlier in 2006. During this incident, teams of specialised offshore fire/rescue teams were deployed, although fortunately in the event, abandonment of the ship was eventually not necessary.

## **10. Next meeting**

10.1 The JWG welcomed and accepted the kind offer by France to host the next meeting of the JWG, which was tentatively scheduled to be held at a venue yet to be confirmed in August/September 2007, pending approval from the Maritime Safety Committee.

## **11. Expressions of Appreciation**

11.1 All JWG participants expressed deep appreciation and sincere thanks for the arrangements made by the Civil Aviation Authority of Singapore (CAAS), supported by the Singapore Aviation Academy, in hosting JWG 13. The Group also expressed its appreciation to Mr. Jason Lee of Singapore Technologies and Dr. Jerry Nardi from Techno-Sciences Inc., who hosted functions during the meeting, as well as to the CAAS and the Maritime and Ports Authority of Singapore for arranging visits to the JRCC and to the Vessel Traffic Management Centre in Singapore.

11.2 The Group also expressed its sincere appreciation to Mr. Brian Day (ICAO) who is shortly retiring from ICAO after some 10 years service. While unfortunately not present at this session due to his involvement in an unforeseen high priority task, Mr. Day had been involved with the Group since that time and his passion for and dedication to SAR and to the aims and objectives of the Group and the wider SAR community had served the Group well.

11.3 The Group expressed the fervent hope that, following Mr. Day's retirement, the ICAO Secretariat would continue to support the JWG with a suitable technical officer with relevant SAR experience.

**Recommendation 13/16 – Future Secretariat support to the Joint Group**

**That ICAO may wish to consider continuing to support the JWG with a suitable technical officer with relevant SAR experience.**

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- \* Aeronautical Member  
\*\* Maritime Member

**APPENDIX A**  
**LIST OF PARTICIPANTS**

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**APPENDIX B**

**PROVISIONAL AGENDA FOR THE THIRTEENTH SESSION  
OF THE JOINT WORKING GROUP ICAO/IMO ON THE HARMONIZATION OF  
AERONAUTICAL AND MARITIME SEARCH AND RESCUE**

1. Adoption of the agenda
  - election of a chairperson.
2. Consideration of terms of reference – future work of the Joint Working Group and priorities:
  - .1 briefing on the outcome of COMSAR 10 and MSC 81; and
  - .2 briefing on outcome of ICAO activities related to the Joint Working Group work.
3. Provisions of conventions, plans, manuals and other documents affecting SAR:
  - .1 status of the Maritime SAR Convention;
  - .2 progress report on the possible alignment of the IMO Area SAR Plans, GMDSS Master Plan and ICAO Regional Air Navigation Plans;
  - .3 progress report on work by the Air Navigation Commission in advancing provisions for carriage of ELTs and in reviewing States' responses to the provisions;
  - .4 further work on the IAMSAR Manual, availability for training – institutions, priority items for amendments; and
  - .5 list of references and electronic index to the IAMSAR Manual.
4. SAR operational principles, procedures and techniques:
  - .1 safety of passenger ships;
  - .2 mass rescue operations, taking account of experiences from major disasters;
  - .3 medical assistance in SAR services;
  - .4 effects of measures to enhance maritime and aeronautical security on SAR services; and
  - .5 development of procedural strategies for the practical provision of SAR services.
5. SAR system administration, organization and implementation methods:
  - .1 regional SAR databases i.e. SDP, facilities;
  - .2 development of guidelines for subregional SAR organization;

- .3 quality assurance, improvement, needs assessment, risk management (including subregional organizations) and resource allocation;
    - .4 implementation and operation of the “International SAR Fund”; and
    - .5 evaluating the effect of various technical co-operation projects in co-operation with relevant governments, organizations and agencies with a view to assess their impact on implementing and maintaining SAR services.
  - 6. RCC/RSC equipment and facility designations and standards:
    - .1 establishment of RCCs and in particular JRCCs; and
    - .2 status of AIS and related systems in aeronautical and maritime SAR.
  - 7. SAR communications:
    - .1 status of the GMDSS;
    - .2 status of aeronautical communications systems for distress and SAR, including:
      - .2.1 establishment of IBRD;
      - .2.2 suitability of PLBs for carriage by ships and aircraft; and
      - .2.3 registration of PLBs;
    - .3 future trends in SAR communications including cell phones; and
    - .4 minimum communications needs for RCCs.
  - 8. SAR personnel staffing and training:
    - .1 development of RCC Staff Certificates; and
    - .2 development of joint SAR courses based on the IAMSAR Manual.
  - 9. Any other business
  - 10. Report to ICAO and the COMSAR Sub-Committee
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## APPENDIX C

### TERMS OF REFERENCE

#### **TERMS OF REFERENCE FOR THE THIRTEENTH SESSION OF THE ICAO/IMO JOINT WORKING GROUP ON THE HARMONIZATION OF AERONAUTICAL AND MARITIME SEARCH AND RESCUE**

1. This Joint Working Group (JWG) is established to develop recommendations and information to support the IMO Sub-Committee on Radiocommunications and Search and rescue and/or ICAO, as appropriate, on any matters pertinent to harmonization of international maritime and aeronautical SAR.
2. The JWG will meet as necessary, subject to approval of the IMO Maritime Safety Committee and ICAO, with meetings hosted and supported by IMO and ICAO on an alternating basis.
3. Invitations to participate in the JWG will be submitted to respective Member States by both IMO and ICAO.
4. Language services will not be provided during JWG meetings.
5. JWG meetings will generally take place annually about midway between meetings of the IMO Sub-Committee on Radiocommunications and Search and Rescue.
6. The JWG will provide an active interface between IMO and ICAO for harmonization of maritime and aeronautical SAR plans and procedures in accordance with the 1985 MoU between IMO and ICAO, and with resolution 1 of the 1979 International Conference on Maritime Search and Rescue.
7. The JWG will review and develop proposals relating to harmonization in various matters including:
  - a) provisions of conventions, plans, manuals and other documents affecting SAR;
  - b) SAR operational principles, procedures and techniques;
  - c) SAR system administration, organization and implementation methods;
  - d) RCC/RSC equipment and facility designations and standards;
  - e) SAR communications; and
  - f) SAR personnel staffing and training.
8. Need for JWG continuation will be reviewed by IMO and ICAO on an ongoing basis; the JWG will be discontinued when either organization concludes the work is no longer cost effective, and formally informs the other of its decision to discontinue.

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## APPENDIX D

### PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

#### Fitting of maritime and air band radio equipment

1. Vol. I, 2.2.11 (new text underlined, deletions ~~struck through~~):

##### “On-Scene

“2.2.11 On-scene channels are used between SRUs and the OSC. The SMC should specify an on-scene communications channel for use by all SRUs based on the equipment carried by the SRUs. If an on-scene radio frequency is required for communications between air and surface facilities involved in a SAR operation, distress and on-scene frequencies may be used. Designated SAR aircraft operating in maritime areas ~~must~~ should be equipped with a frequency for communicating with vessels during SAR operations.

[new paragraph 2.2.12<sup>1</sup>] “Administrations should encourage voluntary fitting of air band radio equipment, especially on marine SAR units and government vessels, but also on SOLAS ships operating in areas where working with aircraft not fitted with maritime band radio equipment is known to be a possibility.

[new paragraph 2.2.13] “SAR Co-ordinators should consider communications between aircraft and surface units in their SAR Regions and plan to ensure effective communications even if the aircraft were not fitted with maritime band radio equipment.”

2. Propose amending Vol. II, Annex G 2.15 as follows:

“Equipment for aircraft participating in SAR operations includes:

[...]

“*Communications equipment.* All aircraft should be equipped to maintain good communications with their RCC and RSC (either directly or indirectly) and other SAR facilities. SAR aircraft, particularly those engaged in oceanic searches, should be equipped to communicate with vessels or survival craft. They also should be able to communicate with survivors on VHF-FM Channel 16 (156.8 MHz) and VHF-AM on 121.5 MHz. SAR coordinators should consider communications between aircraft and surface units in their SAR Regions and plan to ensure effective communications even if the aircraft were not fitted with maritime band radio equipment. Chapter 2 of this Volume discusses selection of appropriate radio frequencies.”

3. Propose amending Vol. II, Annex G 3.9 as follows:

“Equipment for vessels participating in SAR operations includes:

[...]

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<sup>1</sup> No need for subsequent re-numbering: existing 2.2.11 ends this section.

*“Communications.* The communications requirements for SAR vessels are generally the same as those for SAR aircraft. Good direct or indirect communications with the RCC, RSC, and other SAR units are essential. All SAR units must have radio communications to guard and communicate on the international distress frequency being used by the ship or other craft in distress. Radio equipment should be capable of operating on MF/HF and VHF/UHF to communicate with the RCC and rescue units. SAR coordinators should consider communications between aircraft and surface units in their SAR Regions and plan to ensure effective communications even if the aircraft were not fitted with maritime band radio equipment. Voluntary fitting of air band radio equipment, especially on marine SAR units and government vessels, but also on SOLAS ships operating in areas where working with aircraft not fitted with maritime band radio equipment is known to be a possibility, should be encouraged. Chapter 2 discusses selection of radio frequencies.”

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## APPENDIX E

### PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

#### Sample legislation

**Volume I, Appendix A** – Sample Legislation Establishing a SAR Organization of the IAMSAR Manual to be more open and adequate. Changes to Appendix A (new text is underlined; text recommended for deletion is crossed out);

#### Article 1

A Search and Rescue Organization shall be established for the provision of search and rescue services ~~to [State's aeronautical or maritime] craft, and foreign craft.~~ in accordance with the definition of Search and Rescue in the IMO International Convention on Maritime Search and Rescue 1979, as amended and ICAO Annex 12.

The Search and Rescue Organization shall, as far as its primary function permits, assist in other emergencies.

#### Article 2

The ~~Departments~~ competent national civil aviation and/or ~~Merchant Marine~~ maritime authorities shall be responsible for the organization and operation of the Search and Rescue ~~Organization services.~~

#### Article 3

During search and rescue operations, the ~~Departments~~ competent national civil aviation and/or ~~Merchant Marine~~ maritime authorities shall be entitled to call for the collaboration and support of other Government services.

The ~~Departments~~ competent national civil aviation and/or ~~Merchant Marine~~ maritime authorities shall be authorized to conclude agreements concerning the provision of assistance with local (State, provincial, municipal) authorities and suitable private agencies or persons.

#### Article 4

The ~~Departments~~ competent national civil aviation and/or ~~Merchant Marine~~ maritime authorities shall be responsible for negotiating the terms of international agreements with the Search and Rescue organization of other States.\*

All Government services concerned shall take measures to facilitate, as far as possible, the immediate and temporary entry of personnel, and their equipment, from other States who, in agreement with the ~~Departments~~ competent national civil aviation and/or ~~Merchant Marine~~ maritime authorities are participating in search and rescue operations. All Government services concerned shall seek to implement, as appropriate, the search and rescue recommendations and standards of *the International Civil Aviation Organization and/or the International Maritime Organization.*

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\* Depending on the administrative practices, agreements of this type may have to be endorsed at higher levels.



## APPENDIX F

### PROPOSED IAMSAR MANUAL CHANGES

#### Volume I – Communications

##### Chapter 4 Equipment used by persons in distress

###### 4.4.4 c)

Some ships may carry radios for use in survival craft capable of transmitting and receiving ~~on the frequency 500 KHz (radiotelegraphy) and on the frequency 2182 KHz (radiotelephony)~~. Some vessels may also carry portable survival craft VHF transceivers. Appendix G provides more information on carriage for SOLAS Ships.

#### Volume II

##### Chapter 2 Communications

###### 2.3 Maritime Radio Service

2.3 Vessels communicate with coast radio stations and with each other on maritime frequencies available in MF, HF and VHF bands. The GMDSS (Global Maritime Distress and Safety System) is mandatory for all SOLAS ships from 1999. Volume I, Appendix G provides more information on carriage requirements for SOLAS ships.

~~2.3.3. Use of 500 KHz for Morse Code distress, safety and calling transmissions has historically been popular, and has often overcome language barriers. However with the event of more advanced technologies, use of 500 KHz is decreasing. As of February 1999, international requirements to have this capability aboard ships will cease. Silence periods on this frequency are observed for three minutes twice an hour, beginning at 15 and 45 minutes past each hour, to facilitate reception of distress calls, and in the and in the last 15 seconds of each period to announce distress, urgency, or safety broadcasts.~~

2.3.4 The frequency 2182 KHz, an international maritime voice distress, safety and calling frequency may be also available in SAR aircraft. ~~Silence periods on this frequency are observed for three minutes twice an hour, beginning on the hour and at 30 minutes past each hour, to facilitate reception of distress calls.~~

~~2.3.5 MF Radio Alarms. A number of coast and ships stations are equipped to transmit the radio alarm signal on 500 KHz radiotelegraphy or 2182 KHz radiotelephony by means of an automatic signal generating device. The signal actuates automatic devices giving an alarm to attract attention of operators not maintaining an aural watch, and is followed by the Morse signal “SOS SOS SOS” on 500 KHz radiotelegraphy and the spoken words “MAYDAY MAYDAY MAYDAY” on 2182 KHz.~~

a) ~~The telegraphy distress alarm consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds, and the duration of the interval between consecutive dashes being one second.~~

- ~~b) — The radiotelephony alarm consists of two audio frequency tones transmitted alternately (similar in sound to a two tone siren used by some ambulances). It is sent continuously for a period lasting from 30 seconds to a minute. A long continuous tone at the end of the alarm signifies that the signal originated from a coast station and not a ship station.~~
- ~~e) — Radio alarms may only be used to announce:  
  
That a distress call or message is about to follow; or  
  
That transmission of an urgent meteorological warning; or  
  
The loss of a person overboard, when help of other vessels is required and cannot be satisfactorily obtained by use of the urgency signal only.~~
- ~~d) — Tests of radio alarms are prohibited.~~

### Volume III

#### Section 3 – On Scene Co-ordination

##### Radio Telegraph (WT)

- ~~• — Radio telegraph is a Morse Code service provided in the MF and HF maritime bands. For distress alerting, it is used on the frequencies 500 MHz and 8364 KHz.~~
- ~~• — After 1 February 1999, SOLAS vessels are not required to continue use of the service.~~
- ~~• — This service overcomes language barriers, but it depends upon trained radio or less.~~
- ~~• — Ship to shore WT working frequencies are 425, 454, 458, 468, 480 and 512 KHz.~~
- ~~• — During their hours of service, ships are supposed to watch on 500 KHz for three minutes twice per hour beginning at h + 15 and h + 45 by an operator using headphones or loudspeaker.~~
  - ~~□ — During these periods of silence, only distress, urgency and safety signals are permitted.~~

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## **APPENDIX G**

### **PROPOSED AMENDMENTS TO THE IAMSAR MANUAL**

It is proposed that the section 4.7, Chapter 4, Volume I of the IAMSAR Manual on MEDICO Communications should be amended, as follows:

- a) paragraph 4.7.1 – stet; and
- b) add new paragraph 4.7.2; 4.7.3 & 4.7.4, as follows:
  - 4.7.2** The International Convention on Maritime Search and Rescue, 1979 provides for parties to the Convention, on request from Masters of ships, to make arrangements for medical advice, initial medical assistance or medical evacuations for patients;
  - 4.7.3** The Rescue Co-ordination Centre (RCC) is the unit responsible for providing search and rescue services which could include the provision of medical advice and assistance. The RCC may establish contractual arrangements to provide this Telemedical Assistance Service (TMAs) from a suitably recognized medical authority; and
  - 4.7.4** Appendix ( ) provides a sample text for RCCs and medical authorities to establish appropriate procedures and practices, including lines of responsibility, for both the TMAS and the RCC, in the coordination and provision of medical advice and assistance to ships at sea and the provision of medical advice to the RCC in support of search and rescue.

APPENDIX

ANNEX 1

**APPENDIX ( ) TO THE INTERNATIONAL AERONAUTICAL AND  
MARITIME SEARCH AND RESCUE (IAMSAR) MANUAL, VOLUME I —  
ORGANIZATION AND MANAGEMENT (Doc 9731)**

**PROVISION OF MEDICAL ADVICE AND ASSISTANCE TO SHIPS AT SEA**

**1. Roles and functions of the Telemedical Assistance Service (TMAS) Provider and the Rescue Co-ordination Centre (RCC)**

**1.1 General**

1.1.1 The International Convention on Maritime Search and Rescue 1979 allows for parties to the Convention to provide on request from Masters of ships, medical advice, initial medical assistance or arrange medical evacuations for patients.

1.1.2 The RCC is responsible for search and rescue services which include the provision of medical advice and assistance. The RCC has established a Telemedical Assistance Service. This service will be provided from the (*Organization*) at (*Location*). Accordingly, (*Organization – Location*) is the designated (*Country*) Telemedical Assistance Service (**TMAS**).

1.1.3 The procedures and practices defined in this document establish Procedures and Practices, including lines of responsibility for both the TMAS Provider and the Rescue Co-ordination Centre in the coordination and provision of medical advice and assistance to ships at sea and the provision of medical advice to the RCC in support of search and rescue.

1.1.4 Further guidance on Medical Assistance at Sea, Importance of the Role of Telemedical Assistance Services; and Medical Assistance at Sea and Maritime Radiocommunications can be found in IMO MSC/Circ.960.

**1.2 Roles and responsibilities**

1.2.1 Masters of ships

1.2.1.1 The Masters of ships are ultimately responsible for the health and safety of crew and passengers on board their ships.

1.2.2 Maritime Communications Station.

1.2.2.1 The Maritime Communications Station is responsible for:

- a. responding to any request for medical advice or assistance;

- b. providing an effective communications interface between Masters of ships at sea and the TMAS; and
- c. in the event of a MEDEVAC being required, requesting and passing all necessary information to the RCC.

1.2.3 Telemedical Assistance Service (TMAS).

1.2.3.1 The TMAS is responsible for the following functions:

- a. Be available 24 hours per day, 7 days a week to receive requests from vessels at sea and/or the RCC for the provision of medical advice;
- b. Making prompt medical assessments of remote patients and providing prompt advice to ships' Masters in relation to medical treatment to be administered to those patients, generally by non-medical personnel;
- c. Providing prompt medical specialist advice when required;
- d. Where it is essential for the safety of the patient, taking into account all circumstances, making recommendations to ship Masters and to the RCC for evacuation of patients to shore-based facilities or to another vessel;
- e. Advising the RCC of any special medical requirements or constraints that may affect the type and equipment fit of the proposed recovery platform for evacuation of patients to shore-based facilities or to another vessel;
- f. Providing briefing to the paramedic or doctor who may accompany the MEDEVAC vehicle, to provide continuity of medical attention and also consult on evacuation procedures and constraints;
- g. When a patient is to be evacuated to a shore-based medical facility or the Master of a ship has decided to divert to a port, consulting with the RCC and the evacuating craft and recommending a medical facility to which the patient should be evacuated. Make appropriate arrangements with the medical facility to receive the patient;
- h. Ensuring, through liaison as required, that the receiving hospital is briefed about the patients condition and treatment;
- i. As necessary for the purpose of communicating with a ship's Master or crew, arranging access to interpreter services where possible. – Note that this interpreter service may be arranged by the RCC;
- j. Providing medical advice to the RCC with respect to the prospects for survival/injury of persons subject to search and rescue in both land and sea environments; and
- k. Providing statistical information, to the RCC, on an annual basis in relation to the services performed.

1.2.4 Rescue Co-ordination Centre.

1.2.4.1 The RCC is responsible for the following functions:

- a. Ensuring that ships' Masters have the necessary information available to be able to contact the TMAS;
- b. Co-ordinating any MEDEVAC when requested, assisted by medical advice provided from the TMAS;
- c. Arranging of surface (water and land) or air assets necessary to conduct a MEDEVAC to achieve delivery to the medical facility determined by the TMAS. As an integral part of the evacuation, the RCC will, where possible, organize to have paramedics on board the recovery platform;
- d. Where evacuation is required and requested, co-ordinating with the ships' Masters for meeting or receiving the rescue platform and patient transfer arrangements;
- e. Where the TMAS recommends the patient is landed urgently, and the Master requests assistance, the RCC will advise the ship's Master and the TMAS of suitable port(s) based on operational assessment only;
- f. Liaising with the provider of the surface or air assets for invoicing and payment; and
- g. As necessary for the purpose of communicating with a ship's Master or crew, arranging access to interpreter services where possible.

**2. Practices and Procedures**

**2.1 General**

2.1.1 The TMAS can expect to receive requests for assistance from:

- a. any ships in surrounding waters; and
- b. Country-flag and foreign ships outside that country's designated Search and Rescue Region.

2.1.2 This section addresses procedures to be adopted in response to three main conditions:

- a. medical advice to ships;
- b. diversion of a ship to another port; and
- c. MEDEVAC.



- 2.1.3 When the TMAS receives a request for medical assistance it must:
- a. promptly undertake a remote medical assessment of the patient; and
  - b. promptly provide appropriate medical advice to the ship's Master on the treatment to be administered (generally by non-medical personnel).
- 2.1.4 Where the condition of the patient is such as to warrant more urgent and specialized care, the TMAS may also decide to make a recommendation to a ship's Master that:
- a. the patient should be landed urgently/as soon as possible to enable more expert treatment of the patient; or
  - b. the patient should be evacuated immediately/as soon as possible to a land-based medical facility.

## 2.2 Medical advice to ships

- 2.2.1 On receipt of a request for medical advice from a ship's Master, the TMAS will consult with the ship's Master as necessary and provide the appropriate medical advice.
- 2.2.2 Requests for medical advice received directly by, or on-passed to, the TMAS from SOLAS and country-flagged merchant ships do not require referring or reporting to the RCC unless evacuation is recommended.
- 2.2.3 In the event that the TMAS suspects that the medical problem may have border control implications:
- a. **TMAS.** The TMAS must inform the RCC of the:
    - Name of the ship;
    - Name(s) of the affected person;
    - the medical condition; and
    - probable port of arrival.
  - b. **The RCC.** The RCC must inform the appropriate border control agencies.

## 2.3 Diversion of a ship to port

- 2.3.1 In those cases where it is determined by the ship's Master, after medical consultation with the TMAS that diversion to a port other than the next port of call is or may be necessary:
- 2.3.2 The TMAS must inform the RCC that diversion is or may be undertaken.
- 2.3.3 The RCC must, on request from the Master of the ship, render necessary assistance to the Master of the ship. This may include advice as to available ports and advising the ship's agent, port, medical and border control authorities at the port of diversion.

## 2.4 MEDEVAC

- 2.4.1 The decision to MEDEVAC a patient is a matter for the ship's Master to decide on the basis of medical advice that is provided by the TMAS. Consideration must be given to other factors, including the environmental conditions (weather, sea state etc.) that may prevail at the time of possible extraction and the ship's geographical location. The availability and type of recovery platform(s) may also affect the strategy or decision to MEDEVAC. Accordingly, close and on-going consultation may be required between the ship's Master, the ship's agent, the TMAS, the RCC, the operating agency/crew of the rescue platform and the receiving medical facility.
- 2.4.2 Medical evacuations are generally undertaken by helicopter, possibly supported by a fixed wing aircraft. The TMAS must take into account that such evacuations can be carried out only when the ship is within helicopter's flying range from land and only when a suitably equipped helicopter is available. It may be possible under conditions of extreme medical urgency for surface and air assets to be used (ship as a staging landing platform plus helicopter), however the availability of such assets cannot be assumed or guaranteed.
- 2.4.3 Where the ship's Master requires a MEDEVAC, either by his own decision or as a result of consultation with the TMAS, the ship's Master may communicate with the RCC directly or through a Maritime Communications Station without further reference to the TMAS. In this event the Maritime Communications Station or the RCC will ascertain the:
- patients condition;
  - vessel name;
  - call sign;
  - ship's position;
  - nearest port and ETA.
- 2.4.4 The RCC must:
- a. Consult with the TMAS for medical advice that may affect:
    - (a) the type of rescue platform provided;
    - (b) any medical constraints or requirements that may affect the point and method of extraction;
    - (c) the recommended medical facility for delivery; and
    - (d) any other considerations that could affect the conduct of the MEDEVAC.
  - b. Source and task the surface and/or air asset(s) to be used as a recovery platform;
  - c. Advise the TMAS of the details of the recovery platform and the operating agency;
  - d. Advise the ship's Master of arrangements for the MEDEVAC, including rendezvous and any pre-arrangements for the extraction;

- e. Advise the TMAS and the medical facility of the actual time of extraction and estimated time of delivery of the patient to the shore based medical facility;
- f. Facilitate the MEDEVAC as necessary and maintain a watch over the progress of the MEDEVAC until the patient is delivered to the medical facility; and
- g. Notify the Maritime Communications Station of the outcome of the MEDEVAC on completion of the event.

2.4.5 The TMAS must:

- a. Provide the RCC with:
  - (a) medical advice on issues that may affect the type of rescue platform provided;
  - (b) advice as to any medical constraints or requirements that may affect the point and method of extraction; and
  - (c) any other considerations that could affect the conduct of the MEDEVAC.
- b. If necessary advise on the most appropriate medical facility to which the MEDEVAC should deliver the patient and co-ordinate with the receiving medical facility for receipt of the patient;
- c. Consult with the operating agency/recovery platform to advise on the patient's medical condition, any recommended constraints or requirements related to immediate treatment or processes of MEDEVAC and the proposed medical facility to receive the patient;
- d. Continue to consult with the ship's Master regarding the patient's condition as necessary in the circumstances;
- e. Advise the medical facility of the medical status of the patient at the commencement of the MEDEVAC; and
- f. Inform the RCC of any circumstances that may cause a need for change in the recovery platform type or timing including where the MEDEVAC is no longer deemed necessary.

**2.5 Requests in respect of other than SOLAS vessels**

2.5.1 Requests from the RCC.

- 2.5.1.1 Requests for medical advice may be directed through, or by, the RCC to the TMAS relating to fishing and pleasure craft or land situations. The TMAS should treat these events essentially as for a ship at sea except that the medical stores and expertise of the skippers or other participants may/will not be equivalent to that of a ship's Master.

2.5.2 Requests from fishing and pleasure craft.

2.5.2.1 The skippers of fishing or pleasure craft may contact the TMAS direct or through other agencies requesting medical advice or medical evacuation. Fishing or pleasure craft put in touch with the TMAS by a Maritime Communications Station, should be provided with the appropriate advice. Where the medical situation allows, the TMAS must refer to the RCC requests from such craft it considers do not come under this Agreement.

**2.6 Medical advice to the RCC**

2.6.1 The RCC may have need for medical advice with respect to search and rescue, such as the prospects for survival/injury of persons subject to search in both land and sea environments. The RCC will provide the details of circumstances of the survivors and then ask for medical advice. In some instances the need for medical advice may be time critical and could contribute to decisions to continue or terminate searches for survivors.

**2.7 Liaison and reporting**

2.7.1 The TMAS facility will provide statistical information to the RCC on an annual basis in relation to the services performed. This information will include, broken down for each month:

a. The number of requests for medical advice from:

- Merchant Ships within the Search and Rescue Region
- Merchant Ships outside the Search and Rescue Region
- Commercial Fishing vessels
- Pleasure craft (Yachts, private fishing vessels etc.)
- Other
- Provincial government agencies

b. The number of diversions by:

- Merchant ships
- Commercial fishing craft

2.7.2 In the event of a need for a post event inquiry related to a MEDEVAC, the RCC may require the TMAS to provide a report on actions taken for a particular event, this may include the provision of records from the TMAS.

**3. Communications arrangements**

**3.1 General**

3.1.1 The TMAS must maintain in operation at all times facilities for voice and data communications to enable communication with the RCC, ships at sea and rescue personnel. Those communications capabilities should include:

- a. Voice communication;
- b. Text messages;
- c. Facsimile; and
- d. Digital data transmission; (photograph or electrocardiogram).

3.1.2 To support this communications capability, the TMAS must provide separate and dedicated phone and facsimile lines.

### **3.2 Communication between the TMAS and ships at sea**

3.2.1 Ships seeking medical advice will normally be put in contact with one of the Maritime Communications Stations. Calls will then either be transferred or relayed to the TMAS. Requests for advice may therefore come to the TMAS:

- a. directly from a ship via a transferred telephone call;
- b. via a Maritime Communications Station which has received a request for assistance from a ship by:
  - Sea phone;
  - Radiotelephony (RTF);
  - Radio telex;
  - Fax/phone;
  - Inmarsat;
  - Email; or
- c. via the RCC.

3.2.2 Fax or telex requests passed to a Maritime Communications Station will normally be relayed to the TMAS over the telephone and replies should be sent through the appropriate Maritime Communications Station. If a fax is going to be sent to the TMAS, by the RCC, a Maritime Communications Station or a Land Earth station, the initiator must contact the TMAS by telephone to advise that the fax is being sent. In some circumstances, the fax number to be used may be different from the normal contact fax number. Accordingly, when the initiator calls to advise that a fax is to be sent, check the fax number.

3.2.3 In some instances communications directly with a ship, for the provision of medical advice, may not be possible. In such circumstances, communications may need to be conducted through Maritime Communications Stations.

#### **3.2.4 Inmarsat Communications**

3.2.4.1 The various Inmarsat systems offer two abridged codes (Special Access Codes – SAC) 32 and 38, which can be used for medical advice or medical assistance at sea through telephone, fax or telex using satellite communications.

- **SAC 32** is used to obtain medical advice. The Land Earth Station will provide a direct link with the TMAC when this code is used.
- **SAC 38** is used when the condition of an injured or sick person on board a ship justifies medical assistance (evacuation to shore or services of a doctor on board). This code allows the call to be routed to the associated RCC.

### 3.3 Communication between the TMAS and the RCC

3.3.1 Communications between the TMAS and the RCC must be conducted by telephone or facsimile:

|                              |           |  |
|------------------------------|-----------|--|
| <b>TMAS contact details:</b> | Telephone | Medical line                                   |
|                              |           | General line                                   |
|                              |           | Facsimile                                      |
|                              |           | <i>(Check with TMAS prior to transmission)</i> |
|                              |           | Email  |

|                             |           |
|-----------------------------|-----------|
| <b>RCC contact details:</b> | Telephone |
|                             | Alternate |
|                             | Facsimile |
|                             | Email     |

### 3.4 Communication between the State TMAS and a Remote TMAS

3.4.1 Given the international dimension of maritime navigation, a medical problem may occur on board a ship very far from its country of origin. In such a case the master, who is responsible for the care of those on board, normally calls his designated national TMAS, which can perform remote consultation in his language. Should there be need, following the remote consultation, for an evacuation to the nearest shore, the master will contact the RCC responsible for SAR operations in the search and rescue region (SRR) concerned. In order to facilitate and enhance the planning of the medical aspects of the SAR operation involving medical assistance at sea, all available medical information collected by the TMAS that has carried out a remote consultation will be transferred to the TMAS attached to the responsible RCC. Everything must be done to avoid a second remote consultation by the second TMAS.

3.4.2 A common form for the exchange of medical information is available to facilitate the transfer of all available and relevant medical information between the two TMAS authorities. (see attachment or refer to yet to be distributed MSC circular).

3.4.3 On the basis of trans-national partnership agreements, the “medical information exchange form” is used for SAR operations involving medical assistance at sea, in the following manner:

- a. when, following a remote consultation, a TMAS has indicated its recommendation to carry out a medical evacuation, the physician will complete the “medical information exchange form”;
- b. once the RCC responsible for the SAR operation has been identified, the remote TMAS will transmit the form to the corresponding partner TMAS of the RCC concerned;

- c. the RCC will be advised appropriately by its designated national TMAS of the medical constraints affecting the SAR operation; and
- d. at the completion of the SAR operation, the operational TMAS will send any necessary information on medical follow-up to the TMAS that had performed the remote consultation.

### **3.5 Recording and reporting of communications**

- 3.5.1 Telemedical advice and assistance is subject to the confidentiality provision of the relevant Acts for the manner in which they are handled, stored and communicated.
- 3.5.2 In particular, telemedical advice must not be provided to third parties except for the delivery of the advice to:
  - a. the target ship;
  - b. the RCC; and
  - c. paramedic organizations and medical institutions involved in the provision of the particular medical services to which the advice and assistance relates.
- 3.5.3 All TMAS communications must be identified by date and time and must be stored securely and so as to enable the records to be accessed promptly should they be required.
- 3.5.4 TMAS must fully document all communications including but not limited to:
  - a. case notes;
  - b. time and date of contact and the name of the vessel;
  - c. the names of those with whom they deal (so far as a name can be ascertained); and
  - d. the means of communication (telephone, radio, fax, email, etc. plus contact numbers).
- 3.5.5 The TMAS must make the records, with the exception of case notes, available to the RCC on request.

See Proposed MSC Circular

Appendix

IDENTIFICATION OF THE REQUIRING TMAS:

Name: .....  
Address: ..... Tel: .....  
..... Fax: .....  
..... E-mail: .....

CONFIDENTIAL MEDICAL INFORMATION

MEDICAL ASSISTANCE AT SEA  
TMAS - TMAS Medical Information Exchange Form

To: TMAS: .....  
(via MRCC if necessary: .....)

Date: ...../...../..... Time: .....h..... Physician: Dr.....

PATIENT

Surname: ..... First Name: .....  
Date of Birth: ...../...../..... Age: ..... Sex: M ☐ F ☐  
Nationality: ..... Occupation on board: .....

MEDICAL CIRCUMSTANCES

|                                    |
|------------------------------------|
| <input type="checkbox"/> Illness   |
| <input type="checkbox"/> Accident  |
| <input type="checkbox"/> Poisoning |
| Since: .....                       |

| Previous Medical History | Ongoing Treatments | Care on board before<br>Teleconsultation |
|--------------------------|--------------------|--|
| .....                    | .....              | .....                                    |
| .....                    | .....              | .....                                    |

MEDICAL OBSERVATION

|                  |                 |
|------------------|-----------------|
| Pulse: ... / min | BP: .../...mmHg |
| BR: ... / min    | T: ..... °C     |
| Weight: ..... Kg |                 |
| Height: ..... m  |                 |

Diagnosis(es) given: .....  
.....  
.....  
.....



**IDENTIFICATION OF THE REQUIRING TMAS:**

Name: .....

Address: .....

Tel: .....

Fax: .....

E-mail: .....

**MEDICAL INSTRUCTIONS**

|       |
|-------|
| ..... |
| ..... |
| ..... |

**MEDICAL ASSISTANCE REQUIRED**Medical Decision: ☐ Ship diversion to (Port): .....☐ AmbulanceMedical Team: ☐ Doctor ☐ Nurse ☐ Paramedic☐ Medical EvacuationMedevac Time frame: ☐ Immediate ☐ Daylight hoursMedevac Method: ☐ Land on ☐ Winch/stretcher ☐ Winch/StropMedical Team: ☐ Doctor ☐ Nurse ☐ Paramedic☐ Air Drop of supplies:

.....

☐ Quarantine situation

.....

**SHIP**

Ship Name: ..... Call Sign: .....

Type: ..... Flag: .....

Location: .....

Port of Origin: ..... Departure/DTG: .....

Destination: ..... ETA / DTG: .....

Contact: .....

**Please send back all the available follow-up information to :**

TMAS Name: .....

Address: .....

Tel: .....

Fax: .....

E-mail: .....

\*\*\*



## APPENDIX H

### PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

#### 3. Media management

3.1 *The International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual*, Volume I — *Organization and Management*, Volume II — *Mission Co-ordination*, Volume III — *Mobile Facilities* (Doc 9731) presently contain detailed material on media management. This material is presented in Appendix 1 to this working paper.

3.2 These elements focus on pieces of information that SMCs should avoid revealing to the media.

3.3 It is proposed to insert another list of elements that SMC may reveal to the media.

#### **Suggested inclusion in the IAMSAR Manual**

It is suggested to add, in IAMSAR Volume II and III, the following text, in Volume II, paragraph 1.10.3, after sub-section (c) (the added text would appear as sub-section (d)) and in Volume III page 2-42:

“On the other hand, the type of information that the RCC spokesman could release, depending on the specific circumstances of the SAR operation, includes, but is not limited to:

general reason for the SAR operation;

type of aircraft or vessel involved;

owner/operator of the aircraft or vessel (only after the owner/operator has been informed and given consent);

name of vessel/flight number (only after the owner/operator has been informed and given consent);

number of people on board;

general area being searched;

number and types of aircraft and vessels engaged in the search and the number of hours flown;

arrangements for land or marine search (as applicable);

number of sighting or hearing reports received;

details of other authorities participating in the search;

contact number for next of kin;

contact number for further information; and

contact number for media enquiries.

— — — — —



## APPENDIX I

### PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

#### NATIONAL RESPONSIBILITIES OF CONTRACTING STATES UNDER INTERNATIONAL CONVENTIONS

##### IAMSAR Manual Volume 1 Chapter 1

##### 1.3 Legal Basis for Services

Insert the following text as the penultimate sentence in paragraph 1.3.1 as shown in the MSC/Circ.1181 amendments detailed in the text –

*Reference to Search and Rescue is also contained in the UN Convention on the Law of the Sea, 1982. This Convention includes a general statement at Article 98, paragraph 2, dealing with search and rescue:*

*‘Every coastal State shall promote the establishment, operation and maintenance of an adequate and effective search and rescue service regarding safety on and over the water and, where circumstances so require, by way of mutual regional arrangements, cooperate with neighbouring States for this purpose.’*

*The international community expects these commitments to be fulfilled.*

*Existing MSC text, renumber 1.3.3*

- 1.3.3 These services can be provided by States individually establishing effective national SAR organizations, or by establishing a SAR organization jointly with one or more other States. The role of agreements and plans in establishing SAR services will be discussed throughout this Manual.

*Add new Paragraph 1.3.3;*

- 1.3.4** *Appendix XX provides an overview of the relevant Articles, Annexes and Chapters of the International Convention on Maritime Search and Rescue and the Convention on International Civil Aviation*

*Renumber existing paragraphs starting with existing paragraph 1.3.3 shown in MSC/Circ.1181.*

APPENDIX

**NATIONAL RESPONSIBILITIES OF CONTRACTING STATES UNDER INTERNATIONAL CONVENTIONS**

**1. AVIATION ARRANGEMENTS**

1.1 The Convention on International Civil Aviation (Chicago Convention) provides a basis for international cooperation between Contracting States in the provision of international civil aviation SAR services. The Chapters, Articles and Annexes detail certain principles and arrangements in order that international civil aviation services may be developed in a safe and orderly manner, international air transport established on the basis of equality of opportunity and all such services operated soundly and economically.

1.2 The Convention articles and annexes, include the following:

Articles specific to search and rescue and aircraft emergencies are addressed as follows:

|                         |                                      |
|-------------------------|--------------------------------------|
| <b>Articles 1 and 2</b> | Airspace and Sovereignty;            |
| <b>Article 12</b>       | Rules and Regulations;               |
| <b>Article 25</b>       | Search and Rescue;                   |
| <b>Article 26</b>       | Accident and Incident Investigation; |
| <b>Article 28</b>       | Air Navigation Facilities;           |
| <b>Article 31</b>       | Certificate of Airworthiness;        |
| <b>Article 32</b>       | Licenses of Personnel; and           |
| <b>Article 68</b>       | Designation of Routes and Airports.  |

1.3 Details of the Articles are elaborated in Annexes to the Convention.

The Annexes that have a bearing on emergency situations involving aircraft are the following:

|                 |   |
|-----------------|---|
| <b>Annex 2</b>  | <i>Rules of the Air;</i>  |
| <b>Annex 3</b>  | <i>Meteorological Services;</i>   |
| <b>Annex 6</b>  | <i>Operation of aircraft and helicopters;</i>   |
| <b>Annex 10</b> | <i>Communications;</i>  |
| <b>Annex 11</b> | <i>Air Traffic Services</i> including the responsibilities for search and rescue alerting and in-flight emergency response; |
| <b>Annex 12</b> | <i>Search and Rescue;</i>   |
| <b>Annex 13</b> | <i>Aircraft Accident Investigation;</i>   |
| <b>Annex 14</b> | <i>Aerodrome and Heliport Design and Operations;</i> and  |
| <b>Annex 17</b> | <i>Security and Unlawful Interference.</i>  |

1.4 It should be noted that the Chicago Convention does not provide any minimum response standards or sanctions in relation to the non-provision of aviation search and rescue services but relies on Contracting States to provide a level of service commensurate with their perceived requirements and available resources. There is also an assumption that neighbouring countries will work together to achieve the common good.

## **2. Maritime Arrangements**

2.1 The International Convention on Maritime Search and Rescue, 1979, known as the SAR Convention 1979, is designed to provide a framework for carrying out search and rescue operations following accidents at sea.

2.2 The SAR Convention, as amended, clarifies the responsibilities of Governments and puts emphasis on the regional organizational approach and coordination between maritime and aeronautical operations.

2.3 Articles I to VIII of the Convention discuss the general obligations of Parties under the Convention, and the obligations or rights of vessels provided for in other international instruments.

2.4 The chapters and resolutions that have a bearing on the management of emergency incidents involving persons in distress at sea, include the following:

|                  |   |
|------------------|---|
| <b>Chapter 1</b> | Terms and definitions used;   |
| <b>Chapter 2</b> | Organisation and coordination of Search and Rescue services;                            |
| <b>Chapter 3</b> | Co-operation between States;  |
| <b>Chapter 4</b> | Overview of Rescue Co-ordination Centre and Rescue Sub-Centre operating procedures; and |
| <b>Chapter 5</b> | Operational requirements of ship reporting systems.                                     |

— END —