



**ICAO/IMO JOINT WORKING GROUP ON
HARMONIZATION OF AERONAUTICAL AND MARITIME
SEARCH AND RESCUE**

FOURTEENTH MEETING

ST-DENIS DE LA RÉUNION (LA REUNION, FRANCE)

10 TO 14 SEPTEMBER 2007

**SUMMARY OF DISCUSSIONS
AND CONCLUSIONS**

1. GENERAL

1.2 As agreed by COMSAR 11 and endorsed by C 94, the fourteenth 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 St. Gilles, La Reunion, from 10 to 14 September 2007.

1.3 The meeting was opened by the chairman (Mr. D. Edwards) at 0930. A welcome was extended to all members and observers by the French aeronautical member, Mr. P. Raphanaud, on behalf of the hosts, the government of France.

1.4 The experts and observers who participated in the JWG 14 meeting are listed in Appendix A.

Agenda item 1: Adoption of the agenda

The meeting was requested to make input to the agenda.

The Japanese maritime member, (Mr. Wakabayashi), advised a desire to notify a workshop to be conducted in Japan in December. The chairman proposed that this be dealt with under Other Business.

The IMO representative, (Mr. H. van der Graaf), noted that Agenda item 1 “election of chairman” was included by mistake.

It was agreed that the ICAO/AFCAC SAR project manager (Mr. G. Lièvre) would report on the SAR conference convened in La Reunion in the previous week under Agenda Item 5.5.

The International Maritime Rescue Federation (IMRF) observer, (Mr. G. Keeling), notified a desire to report on a recently developed database; the chairman suggested that it be incorporated in a presentation by Japan under Agenda Item 4.

The United Kingdom maritime member (Mr. D. Jardine-Smith), enquired whether the matter of non-responsive SPOCs was intended to be discussed. The chairman suggested that the matter be added under Agenda Item 4.5.

It was agreed that Agenda Item 3.3 (progress report on ELT carriage provisions) should be deleted although there is a residual matter with regard to carriage of PLBs as a means of compliance which, it was agreed, would be discussed under Agenda Item 7.

With these amendments, the Group adopted the draft agenda given in Appendix B.

2. ELECTION OF A MARITIME MEMBER

2.1 The representative of the IMO Secretariat (Mr. H van der Graaf), reported that he had been informed by the chairman that the Canadian maritime expert was no longer available to support the JWG. The available options to appoint a new maritime member to the Group were discussed between the chairman and the ICAO and IMO Secretariats. The most important criterion was considered to be genuine expertise in Search and Rescue operations, bearing in mind that the essential nature of the JWG is that of a technical group of experts mandated to advise ICAO and IMO on technical and operational Search and Rescue issues regarding harmonisation. Another important factor was evidence of experience in the work of the JWG and support provided to it. After considering a short list, it was decided to request Mrs. Anja Nachtegaal of the Netherlands to take on membership responsibilities in this capacity and she was duly nominated by the IMO representative. Mrs. Nachtegaal agreed and, in accepting her nomination, the chairman remarked that she brought a particularly good skill set to the group as a representative of the Netherlands Coastguard.

Agenda Item 2: Consideration of terms of reference

The terms of reference are contained in Appendix C.

Agenda item 2.1: Briefing on outcome of COMSAR 11 and MSC 82.

Mr. van der Graaf, introduced WP14/4 providing information on the **Outcome of COMSAR 11 and MSC 82** with respect to SAR matters relevant to the Group. The chief issues concerned information regarding:

- approval by the 82nd session of the Maritime Safety Committee (MSC 82) of MSC.1/Circ.1218 on exchange of medical information between telemedical assistance services involved in international SAR services;

- an invitation by the Sub-Committee on Radio Communications and Search and Rescue (COMSAR) for Member governments to inform the World Maritime University (WMU) about a suitable point of contact for collation of data concerning safety of passenger ships;

- the development and implementation of the Long-range Identification and Tracking (LRIT) System;

- development of procedural strategies for the practical provision of SAR services (including discussion of the merits of a flow chart stressing the importance of using the distress button to initiate a distress call);

- agreement by COMSAR 11 to forward the MSC Circular regarding the minimization of delays in SAR response to MSC 83; and

- a decision to add a new agenda item to the JWG agenda: “Non-GMDSS communication systems which may be used for distress alerts”.

Agenda Item 2.2: Briefing on outcome of ICAO activities related to JWG work

The representative of the ICAO Secretariat, (Mr. B. Day), made a report of the year's activities that included reference to:

- increasingly scarce resources within ICAO to accomplish demands being made of the organization and the impact on SAR services, particularly the reduced availability of SAR expertise within headquarters;
- the ICAO Business Plan and Strategic Objectives;
- the forthcoming General Assembly and its responsibilities to determine budget and ICAO Council membership;
- TCB activity;
- the AFCAC/ICAO SAR Project;
- a Special Implementation Project involving conduct of a SAR workshop in the ICAO Bangkok regional office;
- a SAR workshop in the ICAO Mexico City regional office;
- Provisions requiring carriage of ELTs – the residual aspect concerning the suitability of PLBs as a means of compliance with ELT carriage provisions; and
- Implementation of Aviation English provisions and their implication for SAR services.

Agenda Item 3: Provision of conventions, plans, manuals and other documents affecting SAR

Agenda Item 3.1: Status of the Maritime SAR Convention

No papers submitted.

Agenda Item 3.2: Progress report on the possible alignment of the IMO area SAR plans, GMDSS master plan and ICAO regional air navigation plans

No papers submitted.

Agenda Item 3.3: progress report on work by the Air Navigation Commission in advancing provisions for carriage of ELTs and in reviewing States' responses to the provisions

No papers submitted.

Agenda Item 3.4: Further work on the IAMSAR manual, availability for training – institutions, priority items for amendments

The Sweden maritime representative, (Mr. C. Waldegren) introduced WP14/2 “**Revision of the IAMSAR Manual – Reference to the standard IMO Standard Marine Communication Phrases**”.

Standard Marine Communication Phrases (SMCP) were adopted in 2001 and have a place in the Maritime SAR Convention. The Convention requires that “each RCC shall be operational on a 24-hour basis and be constantly staffed by trained personnel having a working knowledge of the English knowledge”. The SMCP are seen to play a large part in personnel’s compliance with this requirement.

During discussion it was noted that Annex 10 — *Aeronautical Telecommunications* to the Chicago Convention and the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) includes standard aeronautical phrases that serve the parallel purpose in aeronautical radiotelephony communications and reference to these could be included in any proposed amendments to the *International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual* (Doc 9731).

Recommendation 14/1:

that the proposed amendments at Appendix D be made to the IAMSAR manual to make reference to standard marine communication phrases and standard aeronautical communication phrases as aids to overcoming language barriers in the provision of SAR services.

Mr. Jardine-Smith presented WP14/19: “**Availability and Amendment of the IAMSAR Manual**”.

This working paper had a draft COMSAR paper annexed, to be submitted to COMSAR/12 by the United Kingdom and others. Mr. Jardine-Smith observed that the IAMSAR manual is the core document for establishing, providing and maintaining SAR services, but it is available only as a for-sale document. The draft paper proposes that the IAMSAR Manual should be made more readily available by making it available either to all users by free download from the IMO public website or to States with access to the IMO Documents site. The paper also proposes that the Manual amendment process should be more structured thus enabling users to keep their copies up to date more easily. Mr Jardine-Smith requested comment on, and support for, the draft paper. He subsequently proposed to the JWG a strategy outline for an amendment structure, which could be added to the COMSAR paper if its co-sponsors agreed.

In discussing the manual amendment process, the meeting was of the opinion that there is a strong argument for delegation of approval of amendments by the IMO MSC to COMSAR. This would greatly streamline the process.

It was reported to the meeting that ICAO has given a password to all Contracting States that allows free access to ICAO documents, including the IAMSAR manual, by entrance of a password. The manual is, however, presently only available in the French and English languages through this source.

Mr. Day reported that he had met with Mr. G. Mapplebeck (IMO) in London in 2006 and developed a revised coordination process between IMO and ICAO for the collation, editing, translation and printing of the IAMSAR manual. Mr. Day also remarked that the process for amending text, editing, translating, coordinating and publishing the manual is a complicated process. Joint arrangements are the subject of a written agreement of many years’ standing that has been recently revised by an exchange of correspondence. There have, over recent years, been difficulties in changes of staff, incompatible software between the two organisations, different page sizes and formats and protracted exchanges of letters between Secretaries General. Given the inherent complexities of internal ICAO and IMO processes, the revised arrangements agreed to by Messrs. Mapplebeck and Day may be as much as can be done. The meeting, however, was of the opinion that an approach should be made to IMO to streamline approval of the text of proposed amendments by delegating that responsibility from MSC to COMSAR.

Mr. van der Graaf advised that JWG meets annually in September, the MSC in May, and COMSAR before MSC, so it may be possible to schedule amendments to be ready by each year's JWG in September.

The JWG expressed its concern that while the IAMSAR manual is so critical to the effective provision of SAR services by almost all world SAR providers, both civil and military and maritime and aeronautical, that its economic, timely and orderly availability is presently less than optimal and, by virtue of ICAO's diminishing resources, threatened with still less prospects of efficient distribution.

The JWG agreed to make known to the Secretariats its willingness to assist in the production of the manual.

It was remarked that there is a need for a more wide-ranging review of the manual. This should include consideration of deletion of sections, not just the addition of text.

Long debate ensued on whether a fundamental review of the manual should be conducted and the type of group appropriate to getting the job done. The majority view was that the manual requires extensive rationalisation, editing and standardisation.

Reference was made to a report from a splinter group that met during JWG 11 that addressed the matter of a review of the IAMSAR manual. The report of this splinter group is included for reference in this report at Appendix E.

A list of suggestions for the amendment process made by Mr. Jardine-Smith is included at Appendix F.

The meeting was strongly of the opinion that the IAMSAR manual should be freely available to all users and interested parties.

Recommendation 14/2:

that ICAO and IMO COMSAR be advised that the JWG considers that a fundamental review of the IAMSAR manual is due if it is to continue serving the broad and important purposes to which it has been put to date. Any fundamental review of the IAMSAR manual should take into account the views of all users, including academic institutions. States should be encouraged to make experts available for the highly specialised task of review.

WP 14/1 was presented by the ICAO/AFCAC SAR Project Manager (Mr. G. Lièvre) on **"Establishment of SAR Coordinating Committees"**.

Mr. Lièvre reported that it is a matter of concern that a mechanism for inter-agency cooperation and coordination is lacking in many States. Mr. Lièvre suggested that it is indicative of global practice that only 4 or 5 of all African States have established a SAR Coordinating Committee (SCC). A specific provision for establishment of a SAR Coordinating Committee would give clearer direction to States with respect to a suitable process for the critical aspects of coordination and cooperation both in SAR service development and provision. Further, such a provision would provide a clearer focus for audit of SAR service compliance with respect to a cooperation and coordination mechanism. It was proposed that a Recommended Practice for the establishment of SAR Coordinating Committees be included in Annex 12 — *Search and Rescue* to the Chicago Convention. The further suggestion was made from the floor that it would be appropriate for a parallel provision to be included in maritime SAR legislation.

The point was made that the composition of SCCs is a vital aspect of their effectiveness and there could be advantage in including reference in the proposed amendment to include advice of appropriate membership of SAR Coordinating Committees. This could be achieved by including in the proposed amendment that SCC membership should comprise SAR system stakeholders.

A proposed amendment to Annex 12, as amended following discussion, was fully supported by the JWG, who agreed that the concept of the SAR Coordinating Committee should be actively promoted at senior government level.

The JWG, however, generally believed that while the proposed provision made good sense for inclusion in Annex 12, the necessary spirit of cooperation and coordination was already captured in the Maritime SAR Convention at Chapter 2.2, “Development of national search and rescue services”, and that in consideration of the perceived difficulty involved in amending the Maritime SAR Convention, there was no need to propose an amendment to that document.

At the same time, it was the opinion of the meeting that clearer reference to the benefits of a SAR Coordinating Committee and its functions should be included in the IAMSAR Manual as guidance material.

The chairman suggested that a note should be made in this JWG report that the specific mention of a SAR Coordinating Committee is not included in the text of the Maritime SAR Convention and the attention of COMSAR should be drawn to the fact.

The JWG reviewed the text of the IAMSAR Manual, and agreed that the text proposed for Annex 12 should also be inserted in Volume 1, at the head of paragraph 6, “Using SAR Committees to Improve SAR Services”.

Recommendation 14/3:

- 1) that ICAO and IMO consider incorporation of the text at Appendix G in IAMSAR Manual, Volume I, Chapter 6;**
- 2) that ICAO and IMO consider incorporation of the text at Appendix H in IAMSAR Manual, Volume 1, Appendix J; and**
- 3) that the ICAO Secretariat consider incorporation of the text at Appendix I in Annex 12 at Chapter 3 (Cooperation) in Section 3.2 (Cooperation with other services) after paragraph 3.2.2**

Mr. D. Edwards introduced WP14/15: “**SAR Capability Matrix**” on behalf of the United States. This matrix has been used by each State within the ICAO Asia/Pacific region as a means of self-reporting on its civil aviation SAR capability. Every year there is a meeting of a Regional Implementation and Planning Group (APANPIRG) that is comprised of Asia/Pacific States accredited to the Bangkok ICAO regional office at which the matrix is updated and/or reviewed.

A recommendation emanated from the SAR workshop convened as a Special Implementation Project at the Bangkok regional office in March 2007 that “there be a review of the regional SAR capability matrix by the JWG on SAR with particular guidance sought in relation to Cospas-Sarsat capabilities including Local User Terminals and SAR Points of Contact.”

It was generally agreed that there needs to be an explanation of the brief category titles included on the matrix. It was advised that APANPIRG has developed such explanations and they are published in the Asia/Pacific SAR Plan. In this regard, it was suggested that “LUT” as a category of system for assessment be replaced with “SAR Points of Contact”.

With respect to the inclusion of the matrix in the IAMSAR manual, it was noted that States’ self-assessment of their proficiency levels were subject to constant change. It was agreed that any time-dependent material should not be included in the IAMSAR manual, neither should there be specific reference to various States’ capabilities. If the matrix was to be included in the manual therefore, it was agreed that it would require some modification. The Observer of New Zealand advised that the categories at the top of the matrix were described in a document available through the ICAO Regional Office in Bangkok.

Further, the Group considered that any incorporation of the matrix in the IAMSAR manual should be delayed until after the Group’s consideration of a parallel paper (WP/10) prepared by Australia over the last year that addresses the same general topic of SAR system assessment. It was also agreed that COMSAR Circular 27 that proposes elements of maritime SAR services that are appropriate for assessment should be considered in this context. The United States offered to submit a paper to COMSAR 12, as appropriate, in consultation with the Australian representative regarding possible incorporation of the concept of the matrix into the revised self-assessment questionnaire discussed in WP14/10.

Agenda Item 4: SAR operational principles, procedures and techniques

Mr. Day introduced WP14/7: **The Future Flight Plan Concept.**

The paper reflected a concept for a future ICAO flight plan that will pay regard to the *Global Air Traffic Management Operational Concept* (Doc 9854). The attention of the JWG was directed to specific amendments to be made to accommodate and respond to contemporary and future air navigation procedures. Mr. Day explained that because there is a close connection between the submission and content of flight plans and the ease of SAR operations that may arise in the event of misadventure, the JWG was invited to make comment on any aspects of intended flight plan changes or any desirable additions or deletions that would ease the SAR task.

The Group advanced the following aspects for consideration by the ICAO Secretariat:

notification of any dangerous cargo, what it is and where it is on the aircraft;

POB;

emergency contact of owner/operator;

link to a picture of the aircraft;

assurance of sufficient data in the case of repetitive flight plans (POB, dangerous goods, route variations etc);

code of ELT(s) carried on board (bearing in mind that some ELTs are carried in life rafts);

fuel on board (as a separate item to endurance);

the simplicity principle.

Recommendation 14/4:

that the above information regarding flight plan structure be conveyed to the ICAO Secretariat.

Agenda Item 4.1: Safety of large passenger ships

Mr. Wakabayashi (Japan) introduced WP14/21: **“Safety of Passenger Ships”**

Mr. Wakabayashi observed that it is generally agreed that there should be a SOLAS requirement for carriage of a recovery system aboard SOLAS ships to enhance SAR operations. Performance standards are being worked upon with a target completion date of 2008.

Japan is proposing that:

- the JWG should develop guidelines for safe and effective rescue operations. It was acknowledged that this need had been met in part but more comprehensive guidance than that presently available is considered necessary;
- Conventions should provide for measures to maintain mariners’ rescue capability. Legislation should require appropriate basic training and regular exercises; and
- Further, an international database should be established for rescue operations that includes information on lessons learnt from SAR cases and emergency situations. This, Mr. Wakabayashi contended, would require an IMO recommendation for ships to report rescue operations in an agreed format.

Japan is prepared to produce draft text for consideration by JWG 15.

The Group agreed to Japan submitting a WP to this effect at JWG 15.

Mr. Keeling reported that the IMRF is willing to assist by hosting such a database of rescue data.

The World Maritime University (WMU) also has plans for an on-line database.

IMO has prepared and distributed a colour pamphlet using illustrations provided by the United Kingdom Maritime Coastguard Agency (UKMCA) that gives guidance on recovery procedures. It will be available for downloading from a website as a PDF document. Because it is quite a lengthy document, however, there is a need for a simple version that will be of benefit to the common seafarer.

The Standards of Training and Watchkeeping (STW) sub-committee is considering development of training material.

The meeting was advised that ships' masters commonly give feedback to RCCs on SAR operations by direct contact but the development of a standardised reporting form for that purpose would facilitate transmission of key knowledge. It was considered that such reporting should not be made mandatory but masters be given the opportunity to make input using a form specifically prepared for the purpose.

The UKMCA uses a purpose-developed form for reporting SAR experiences, which is included at Appendix J.

Recommendation 14/5:

1) That IMO may wish to instruct the JWG to consider:

- **development of operational guidelines for safe and effective rescue operations, taking account of previous experience; and**
 - **development of a database system of actual SAR operations in which SOLAS ships are involved.**
- 2) that IMO bring JWG views to the attention of the Design and Equipment (D and E) sub-committee and STW sub-committees through COMSAR as appropriate.**

Mr. Jardine-Smith presented WP14/18 “**Passenger Ships in the Antarctic**”.

These passenger services are increasing. The Antarctic Consultative Meeting (ATCM) has been discussing the increasing frequency and greater size of ship operations in the Antarctic region and the UK is a member of that group. ATCM is provided for under the Antarctic Treaty which currently has forty-six signatories. The IMO Design and Equipment (D and E) Sub-Committee has previously been requested to research the relevant issues.

MSC.1/Circ. 1184 was produced on the subject of contingency planning for operations beyond the range of rotary wing aircraft and lifeboats.

The guidelines for passenger ship safety contained in MSC.1/Circ. 1184 do not appear to have been applied by the industry. SAR plans for ships operating in the Antarctic should be enhanced. It had been proposed that sailing plans should be lodged with an appropriate RCC and ships should report in and out of Antarctic waters but these proposals have not been widely enacted. Another recommendation was that ships should “pair” i.e. no single cruise ships should operate completely remotely from all others. This proposal has not been welcomed by industry. It may have been understood to mean closer “pairing” than is actually needed for contingency planning purposes.

There have been close calls in Antarctic waters. The pairing concept worked well in one incident when passengers were transferred from one ship to another.

The meeting noted that similar concerns characterised the aviation industry; many airlines were operating on polar routes, especially over the North Pole, and some airlines were operating very far south of land on routes between Australasia and South America.

Recommendation: 14/6:

- 1) that IMO's MSC.1/Circ. 1184, dated 31 May 2006, be revised and special attention be given to the concept of pairing; and
- 2) that ICAO and IMO encourage responsible SAR parties to organize regional meetings to discuss the problems faced by ship and aircraft traffic in Antarctica and the Arctic.

Recommendation 14/7:

that IMO make further efforts to facilitate distribution to relevant RCCs of recommended SAR plans in MSC/Circ. 1079, dated 10 July 2003, Guidelines for Preparing Plans for Cooperation Between Search and Rescue Services and Passenger Ships.

Agenda Item 4.2: Mass rescue operations, taking account of experiences from the major disasters

No papers submitted.

Agenda item 4.3: Medical assistance in SAR services

The Australian representative (Mr. D. Cole) presented WP14/9: **“Provision of Medical Advice to Ships at Sea”**.

The paper proposes amendments and new MEDICO information to the three volumes of the IAMSAR Manual. Mr. Cole also presented a “Sample RCC and TMAS contractual arrangement” for the provision of such assistance.

The IAMSAR manual has minimal Medico information as the original manual text pre-dates the January 2000 change in definition of SAR services in the Maritime SAR Convention that includes the provision of medical advice, assistance and evacuation to Masters of ships at sea.

The Australian proposal to include a sample TMAS contract in the IAMSAR Manual draws heavily upon IMO MSC/Circ. 960, “Medical Assistance at Sea”, and more recently, MSC/Circ. 1218, “Exchange of medical information between TMAS providers”.

Italy submitted a late paper to the JWG, working paper, (WP14/22), proposing amendments to the sample RCC/TMAS contractual arrangement paper presented by Australia. Australia agreed to incorporate the proposed changes into Working Paper 14/9.

Italy also proposed further amendments to the contents of the IAMSAR Manual, Volume III, Section 4, MEDICO and MEDEVAC.

Despite its lateness, the Group agreed to accept the Italian paper and to review it in association with the Australian proposed manual changes.

The sample RCC/TMAS contractual arrangement is at Appendix K.

Recommendation 14/8:

that IMO and ICAO consider including in the IAMSAR Manual Volume I the Sample RCC/TMAS Contractual Arrangements at Appendix K of this report.

The proposed amendments to all three volumes of IAMSAR Manuals are at Appendix L.

Recommendation 14/9:

that IMO and ICAO consider for inclusion in the IAMSAR Manual the draft amendments at Appendix L in regard to medical assistance to Masters of Ships at sea, MEDICO and MEDEVAC.

Agenda Item 4.4: Effects of measures to enhance maritime and aeronautical security of SAR services

Reference was made to Working Paper 14/4, previously presented by the IMO representative, and it was noted that COMSAR 11 had encouraged Member States to address a list of questions regarding the LRIT system and to submit appropriate proposals for consideration at the next JWG.

Since no submissions had been received, the Group discussed the SAR services' need for information from LRIT, the proposed terms of its availability and the processes to be followed in obtaining it.

The International Maritime Satellite Organisation (IMSO), as the LRIT coordinating agency, advised that it recognised the importance of LRIT for SAR operations and the need for appropriate guidance material in relation to coordination between SAR services and LRIT authorities.

It was noted by the Group that there is a lack of understanding of LRIT by many authorities and that questions remain as to how best information from the LRIT program can be transferred to the SAR system. As an overall condition, it was agreed that there should be a ready transfer of information from LRIT to SAR service providers upon request.

The Group concurred that there were two particularly important factors that the LRIT-system should be required to fulfil:

1. information from the LRIT-system must be made available to all RCCs (Maritime and Aeronautical) free of charge;
2. information must be immediately accessible to RCCs on an H24 basis.

A list of questions on SAR-related LRIT issues that need to be addressed is attached at Appendix M. The JWG agreed on explanatory text amplifying the questions as an aid to national SAR authorities in discussions with their LRIT provider for making use of LRIT information for SAR.

Recommendation 14/10:

that access to LRIT information be made immediately available free of charge to the maritime and aeronautical RCCs of Contracting Governments and Parties upon request.

Recommendation 14/11:

that in consideration of the importance of the SAR aspects of LRIT, all States should consider the questions in Appendix M for negotiation with their LRIT provider.

Agenda Item 4.5 Development of procedural strategies for the practical provision for SAR services

Mr. C. Waldegren introduced WP14/3: **“Information on Problems faced by the Swedish Maritime SAR service in a rescue operation.”**

The paper was presented for the interest of members and to prompt discussion of rescue and recovery procedures.

Mr. Waldegren reported that a RO RO vessel, “Finnbirch”, had recently foundered in the Baltic Sea in heavy weather, listed and sent a Mayday signal that was received by the Swedish RCC and other ships in the area. (A flow chart regarding alerting procedures that was developed by Sweden was based on lessons learnt from this case.) The ship’s engine continued running and the propeller continued turning. There was a lot of debris and loose cargo floating in the water and, being unable to relocate, the crew was confined to a small area on the ship’s deck alongside the bridge. The situation was deemed too risky for helicopters to hoist persons from the ship and it was impossible to launch life boats. After transmitting the Mayday signal, the crew of the distressed vessel took possession of portable VHF radios. Survivors were dressed in survival suits. The alert was received at 3.40pm; sunset was at 4.15pm; darkness was at 5pm. Thus there was less than an hour from arrival of the first helicopter to the onset of darkness. The first rescue helicopter arrived on scene within 40 minutes of the distress alert. Two S76 helicopters, and several other helicopters that arrived later, stayed on scene until dark when the vessel sank. The helicopters then recovered 12 of the 14-crew members from the sea. All 12 personnel were rescued within an hour and a half after the vessel sank. The thirteenth person was recovered suffering severe hypothermia about an hour and a half later but subsequently succumbed. The body of the fourteenth person was found three weeks later. Two Dutch vessels assisted the MRCC with coordination and communication tasks.

There were problems with radio communications. While communications were sufficiently effective, the crews’ hand-held VHF sets were insufficient for direct communication with the RCC, thus the need for one of the Dutch vessels to act as a relay station. It took 15 minutes from the time of transmission of the distress call before the location of the incident was confirmed. No DSC distress alert was sent by the distressed vessel. Some survival suits were reported to be leaking; it is unknown whether they were properly closed. There was much frustration for helicopter crews in not being able to hoist survivors from the vessel and there was heavy workload in the RCC with respect to media liaison.

The comment was made that ships’ crews are able to assist their own rescue by, for example, making themselves a cooperative target.

It was observed that helicopter crews can be placed in dangerous positions in such extreme conditions in deciding for or against rescue by hoisting but if they know persons on the vessel are capable of handling a guideline, it can be of assistance.

Some questions were posed with respect to the relative merits of civil, commercial and military crews performing as SAR units and the means whereby crew proficiency can be maintained in a SAR system that is undergoing changes in service provision. It was agreed that ensuring the availability and continuing proficiency of rescue crews is an important factor in the determination of any new arrangements for external agencies to provide rescue services.

The Swedish maritime member asked for it to be recorded that the helicopter crews made highly commendable efforts during the rescue operation in the prevailing circumstances.

The JWG agreed to monitor the widespread moves towards privatisation of SAR services in various States with the matter of effective performance by operational aeronautical and maritime crews and their essential skill sets uppermost in mind.

Sweden made a further presentation of a flow diagram that had been offered by Sweden at COMSAR 11 and which was subsequently revised there. The diagram illustrated the procedures to be followed by mariners in making initial distress calls. This diagram was intended to supplement a flow chart already available from IMO that addresses “GMDSS Operating Guidance for Masters of Ships in Distress Situations”. Sweden may undertake to make a submission to COMSAR in this regard.

It was agreed that the newly produced flow diagram is an improvement on account of its clarity and simplicity. It was considered that the newly produced diagram would be the better chart to have displayed on ships’ bridges.

Discussion ensued about further improvements that could be made. Some suggestions included that:

- at the top left, the position of the word “DISTRESS” and the box “Lift cover, Press and red button for more than 3 seconds” should be reversed.
- In the “Mayday Mayday Mayday” box, delete “if needed”.
- The number of POB should be included in the initial distress message – to be placed after “initial distress”.
- In the “Mayday Mayday Mayday” box, add “required” after “Kind of assistance”.
- There is a box missing below the “Mayday Mayday Mayday” box; insert a box reading “Await Response”.
- Delete the “Begin your communication” box.
- In “Distress and Communication Frequencies” box, delete “and Communication”.

Subsequently, the IMRF observer, (Mr. G. Keeling), developed a more pictorial version of the flow chart that takes into account the task assigned the JWG by COMSAR 11 and the textual suggestions listed above. The chart is attached at Appendix N.

Recommendation 14/12:

that COMSAR be advised that the JWG sees great merit in the revised flow chart attached at Appendix N both from an amended textual perspective and because of it being more pictorial in form, and proposes that COMSAR give it consideration for production and distribution as a supplement to the IMO flow chart called “GMDSS Operating Guidance for Masters of Ships in Distress Situations.”

The Swedish aeronautical representative (Ms. Annika Wallengren) introduced WP14/12: **“Handover between RCCs”**.

The Swedish RCC has perceived a need for clarified procedures for transfer of information in the event of a SAR case being transferred to another RCC, particularly with respect to the status of aircraft SAR units – their endurance and sustainability, current communication arrangements and the fullness of their briefing. Swedish SAR experts believe that there is a need for greater clarification and elaboration in the IAMSAR manual.

It was agreed that the text in Volume II should be amended to draw attention to the need for transfer of information regarding sustainability of SAR units and crews and the active communications plan.

Proposed text for amendment is at Appendix O.

Recommendation 14/13:

that ICAO and IMO give consideration to inclusion in the IAMSAR manual of the text at Appendix O.

As agreed to in adopting the agenda, Mr. Jardine-Smith introduced the matter of **Non-responsive SAR Points of Contacts (SPOCs) and RCCs**.

This matter had led to the production of an MSC Circular urging all Member States to respect their obligations under the SAR Convention. COMSAR 11 was seeking an indication of the degree of the problem and any possible solutions.

Mr. Jardine-Smith recounted a recent SAR incident initially coordinated by MRCC Falmouth but located outside the UK SAR Region. Although, overall, the UK had experienced a fall in cases of non-responsive SPOCs and RCCs since the publication of the MSC Circular on the subject, in this case the RCCs of two States – both Parties to the Maritime SAR Convention – failed to respond to MRCC Falmouth’s attempts to alert them; in one case, this was despite contact being made at the diplomatic level.

The incident concerned involved economic migrants; this is a complicated issue in some respects although from a SAR perspective, the lifesaving response should be no different to that in any other situation.

Mr. Jardine-Smith raised three consequential concerns. First, non-response is clearly still an issue. Second, granted that the SOLAS and Maritime SAR Conventions now state that the delivery to a place of safety of persons rescued at sea is the responsibility of the State within whose SAR Region they are recovered, the question regarding respective State responsibilities remains in the event that the primarily responsible State fails to respond and another State’s RCC coordinates the rescue. The Conventions are silent on this eventuality. Third – although happily not a concern in the related incident – the question also remains of responsibility for recovery and landing deceased persons in cases coordinated by an RCC remote from the SAR Region in which they are found.

It was commented that the United States Coast Guard handles similar situations regularly. It was agreed that the problem is serious, widespread and continuing and recently developed Convention provisions seem not to be resolving it. The JWG agreed that a long-term effort should be undertaken to resolve this problem.

It was noted that non-response on the part of some States may not be as a result of unwillingness but rather on account of inability at the RCC level. Part of the problem might be solved by RCCs making regular communications checks amongst themselves and, by full implementation of the suggestion made by the Cospas-Sarsat Programme that each MCC should initiate a regular communication check with SPOCs and that back-up RCC contacts should be nominated.

Guidelines have recently been developed and circulated in an MSC Circular indicating the responsibility of RCCs to respond to SAR events even when known to be outside their SRRs.

ICAO will initiate a State Letter to all Contracting States drawing their attention to their obligations in this regard, using as a guide the MSC Circular issued earlier.

The ICAO audit program will, over time, make apparent those Contracting States that are non-compliant with their civil aviation SAR obligations.

Although a process of education and awareness may be somewhat effective in making States more appreciative of and responsive to their SAR responsibilities and may also prompt those States prepared to admit their inability to provide SAR services to formally delegate responsibility to other providers (so allowing respective responsibilities of recovery and landing and diplomatic aspects to be formally negotiated), it is inevitable that incidents will occur in the foreseeable future whereby responsible SAR providers will become aware of emergency situations in non-responsive providers' SRRs, and political and social problems of recovery, landing, immigration and the like will continue.

The JWG seeks to draw this as a serious problem to the attention of COMSAR for its further progression in determining a response.

Recommendation 14/14:

that COMSAR consider the JWG's continuing concern about non-responsive SPOCs and RCCs and the need to determine possible causes and to develop solutions.

Mr. Cole introduced WP/10: **"National Self-Assessment of Search and Rescue"** that proposed a list of questions for inclusion at Appendix H of IAMSAR Manual Volume I. The nature of Appendix H is that of a national self-assessment questionnaire which may be used to evaluate international and national SAR systems, to identify areas for improvement, and to assist SAR managers in assessing needs.

JWG 13 proposed that certain SAR service items be included in IAMSAR at Appendix H. COMSAR 11 subsequently indicated that some of the items were too aeronautically orientated to have generic application and requested that work be done to develop parallel items in the maritime SAR domain. Australia undertook this task and produced a revised list, taking into account the items already appearing in Appendix H. Questions were aligned with the chapters of the IAMSAR Manual, Volume I. The paper now presented to JWG 14 seeks to avoid any duplication and avoids posing separate single questions that include a maritime and aeronautical element and therefore may require two answers. The revised paper also includes questions that broach new aspects of service.

It was agreed that the question relating to agreement from neighbouring countries with respect to SRRs should be split into two separate questions regarding aeronautical and maritime SRRs.

The proposed new aggregated list of questions, suited to aviation and maritime SAR services, is at Attachment P.

Recommendation 14/15:

that ICAO and IMO consider the revised list of items at Appendix P regarding “National Self-Assessment on Search and Rescue” for inclusion in the IAMSAR manual at Appendix H.

Mr. Edwards introduced WP14/11: **The Cospas-Sarsat Programme: Long-term Planning Effort.**

The Cospas-Sarsat Programme is seeking input from ICAO and IMO with respect to Cospas-Sarsat long term planning over the coming twenty years. The MEOSAR system will be implemented within that period. All parties recognise that it is important for C-S to keep alert and location goals and objectives consistent with the SAR provisions and guidelines developed by ICAO and IMO.

In particular, C-S is seeking input on:

- IMO and ICAO priorities that may affect C-S;
- challenges confronting IMO and ICAO that C-S could help address;
- any converging or diverging interests affecting C-S and IMO and ICAO;
- IMO or ICAO safety or SAR performance indicators to which C-S can contribute;
- recent or emerging ICAO and IMO issues that may impact C-S in the future;
- aviation and maritime industry trends that might affect C-S, such as increased emergency beacon user base (noting the rapidly growing PLB user population), changes in technology and potential changes in IMO or ICAO regulations.

It was agreed that the JWG input in this regard should be made directly to ICAO and IMO and then, through them, to the C-S Secretariat.

Recognising that Cospas-Sarsat is an integral part of the GMDSS, the observer from IMSO made reference to the impact that new regulations may have in the long-term period for GMDSS providers, including new technologies and new trends in the GMDSS. IMSO will be in the position to offer updated information on these long-term developments for the consideration of future sessions of the JWG.

It was noted, particularly, that IMO Assembly Resolution A.888 (21) allows for other providers of GMDSS satellite services. Cospas-Sarsat, therefore, as a GMDSS provider, could reasonably expect new competitors to emerge.

The JWG highlighted the following as issues of concern and need:

- continuing free availability of C-S crash alert and location services.
- improved education of States in the availability and use of the C-S system;
- unregistered beacons,

- in the C-S type approval process, there be an abbreviated text included with respect to responsibilities of the users;
- inadvertent activations and false alerts;
- improper testing procedures;
- GEOSAR alerts, while almost immediate, require confirmation of position from LEOSAR satellites that notify location;
- non-responsive SPOCS;
- registration and re-registration (beacons being passed from one user to another without re-registration)
 - sufficient resources within C-S Secretariat to manage the IBRD, especially if an increasing number of States seek to use it;
- as the number of beacons increases, capacity needs to increase;
- performance criteria (as determined by JWG13):
 - global coverage;
 - signal activation without human intervention;
 - crash alert to responsible RCC within 5 minutes;
 - crash alert location to an accuracy of 5 km or better;
 - capability for both distress and homing signal for a minimum period of 48 hours under temperature conditions between -40°C and +40°C;
 - crash survivability; and
 - ID transmission facility.

The Group agreed that the above performance criteria need to be constantly reviewed.

Recommendation 14/16:

that the considerations and concerns stated above be conveyed to ICAO and IMO for forwarding to COMSAR and the Cospas-Sarsat Secretariat as factors to be taken into account in their planning.

Agenda Item 5: SAR system administration, organisation and implementation methods

Agenda Item 5.1: Regional SAR databases i.e. SDP, facilities

No papers submitted.

Agenda item 5.2: Development of guidelines for sub-regional SAR organisations

No papers submitted.

Agenda Item 5.3: Quality/improvement, needs assessment, risk management (including sub-regional organisation) and resource allocation

The ICAO observer, Mr. G. Lièvre, introduced WP14/20: **“SAR system performance measurement”**.

This paper noted that the ICAO Air Navigation Commission had requested the ICAO Secretariat to develop means to measure outcomes of ICAO's input to the civil aviation SAR system. Meaningful benchmarks in the service of SAR are, however, hard to find. Lives saved can be misleading. Appropriateness of responses can be both hard to determine and inappropriate in this context; there are many variables that can affect outcomes. The paper therefore sought JWG assistance being given to the ICAO Secretariat in identifying tools or benchmarks whereby the effectiveness of SAR systems might be sensibly and helpfully measured. This would assist policy makers in shaping SAR policy and allocating funds.

The meeting was informed that the numbers of RCC interventions are benchmarks that are observed by Norwegian authorities and are, accordingly, documented. Risk analyses are conducted and the levels of SAR provision are adjusted accordingly.

It was suggested that performance assessments can be best determined by formal audits. In the absence of a formal audit, a self-assessment exercise can be helpful especially when combined with a capability matrix of the type already being considered by the JWG.

It was suggested that a finding should be made of the operational outcome of SAR actions (while accepting that the number of lives saved should not be a sole performance criterion.). The following times were suggested to be meaningful benchmarks in determining performance:

- time of alert,
- time of receipt of the alert,
- time of notification of SAR Units,
- time of SAR Unit despatch, and
- time of SAR Unit response.

Also said to be relevant was the reported accuracy of the initial distress location.

The Australian SAR business plan was reported to utilise these points of reference. This system lays the foundation for approval for five fixed-wing aircraft being recently contracted for SAR coverage of the Australian SRR.

UKMCA has teams of auditors checking that staff are proficient and training is adequate. Incident analysis is an important activity. Indications of insufficiencies in SAR response are documented and corrective action taken.

Norway is implementing a system that requires all parties to forward reports on SAR actions that are linked with reports from the RCC in an effort to assist accurate focus on quality of response.

France suggested that the ratio of SAR operations to SAR units is important. This ratio is an indicator of the efficiency of SAR response. Knowing the ratio, a determination of required minimal SAR Units can be made.

Hong Kong, China, has a performance pledge, which requires dedicated SAR Units to mobilise within a pre-determined time of being tasked.

The United States collects data from participants in all SAR cases for compilation of an annual report which is helpful to policy makers.

Sweden has a system of recording statistics that is activated as required and indicative of efficiency. The system takes account of false and inadvertent GMDSS alerts. An analysis is made of the alerts that actually catalyse a SAR response.

Japan has various quality control checks in place.

Agenda Item 5.4: Implementation and operation of the “International SAR Fund”

No papers submitted

Agenda Item 5.5: Evaluation of the effect of various “Technical co-operation projects” in cooperation with relevant governments, organizations and agencies with a view to assessing impact on implementing and maintaining SAR services

Mr. G. Lièvre briefed the JWG on the outcome of the ICAO/AFCAC SAR Conference that took place in St-Denis de La Réunion (La Réunion, France), from 3 to 7 September 2007.

Mr. Lièvre thanked the JWG members who participated for their helpful contribution. These participants included Australia, Canada, France, Norway, Sweden, United Kingdom and United States, as well as the International Maritime Organization (IMO).

The objectives of the conference were twofold:

- adoption of a set of template SAR documents, and
- determination of a strategy to perpetuate the positive effects of the project on Africa-Indian Ocean (AFI) SAR system. The project is scheduled to terminate at the end of 2007.

The conference also gave opportunity for the sharing of operational experiences. Presentations of some live SAR operations were made by service providers and discussed at length. General benefit was derived.

Presentations of their SAR organizations were made by representatives of Senegal and South Africa.

The SAR training courses at the *École Africaine et Malgache de l'Aviation Civile* (EAMAC – Niamey) and the East African School of Aviation (EASA – Nairobi) were discussed.

The following documents were discussed and approved by the conference as templates:

- a draft SAR Bill;
- a draft SAR Presidential Decree;
- a draft SAR Plan;
- a draft Inter-ministerial SAR Decree;
- a draft Agreement between the Ministries of Civil Aviation and Defence;
- draft terms of reference for a SAR Coordinating Committee;
- a draft International SAR Agreement;
- a draft regulation on the carriage of Emergency Locator Transmitter (ELT);
- a draft Rescue Coordination Centre (RCC) Operations Manual; and
- a SAR Exercise Manual.

These documents will be published on the internet and will be available free of charge from the ICAO website at www.icao.int/SARAfrica.

The Conference also drafted the following conclusions which will be available on the ICAO website:

“The Conference:

12. recalled that the provision of SAR services, compliant with international standards and recommended practices, is an obligation of ICAO contracting States;
13. recalled that the correction of many SAR deficiencies in the AFI region requires stronger political support from States;
14. highlighted the importance of the outcome of the ICAO / AFCAC SAR technical cooperation project, and thanked the Government of France for its financial support to the project;
15. noted that some SAR remedial actions are complex by nature. This, for example, is the case with respect to the implementation of a SAR funding mechanism or the adoption of high level organisational texts, such as a SAR Bill or SAR Presidential Decree. Other corrective actions, however, require little financial investment and are simpler to address. For example, signing international SAR agreements, developing operational SAR procedures or organizing exercises without deployment of SAR units can be achieved without significant financial outlay and these shortcomings should be addressed by States as soon as practicable;
16. noted the success of the Project to date but highlighted the need to keep up the momentum of the Project as it neared conclusion. Furthermore, in order to build on the Project's achievements, the Conference felt there was now an urgent need to find a way to continue the SAR development activities of ICAO and AFCAC in the region;
17. highlighted the importance of the role of ICAO Regional Offices and, at the same time, the crucial need to reinforce regional SAR human resources. In particular, the Conference emphasised the importance of appointing a SAR expert in the AFI Regional Offices;

18. concluded that States, which have not yet done so, should, as a priority, establish permanent SAR structures within national civil aviation authorities;
19. suggested that key performance indicators be developed by ICAO and AFCAC in the SAR field which would support AFCAC and ICAO in their efforts to keep track of the progress made by States;
20. concluded that ICAO and AFCAC should seek new financial sources in order to fund technical assistance in the SAR field in the AFI Region;
21. recognized the crucial role of training in SAR. It acknowledged with appreciation the decision of some African aeronautical schools to include SAR in their regular training curricula. The Conference strongly recommended that States dedicate budgets to SAR training. It further recommends that States make use of African aeronautical schools to train their staff in the SAR field;
22. invited States to consider temporary secondment of high level SAR experts to ICAO or AFCAC to build on the achievements of the ICAO/AFCAC SAR Project;
23. noted that during APIRG ATS/AIS/SAR sub-group meetings, SAR issues appeared not to have progressed in line with developments in ATS and AIS. Therefore, the Conference recommended the establishment of a specific SAR sub-group;
24. recommended that similar meetings be regularly organized to follow up the evolution of SAR matters in the AFI Region;
25. recognized that Economic Regional Communities may play a positive role in facilitating regionally coordinated SAR organizations, harmonized SAR regulations and other cost-effective aspects that benefit from economies of scale;
26. noted with great interest the presentation of live SAR operations and recommended that these types of exchanges be regularly organized, with a view to facilitating the development and sharing of SAR Best Practise; and
27. expressed its gratitude to the Host State, France, and to the Regional Council of La Réunion for the excellence of the facilities and the outstanding hospitality extended to delegates.”

The chairman wished it to be recorded in this JWG report that the ICAO/AFCAC SAR project gave welcome opportunity for close cooperation in joint aeronautical/maritime activity. Many States were represented in various parts of its endeavours and robust support for the project resulted. It is apparent that many States inside and outside of Africa have embraced the need to assist in resolving African SAR needs and have extended themselves in willing cooperation in doing so. It is highly desirable that the improvements resulting from this project are not let atrophy.

Ms. Wallengren presented IP14/1 **“Presentation of on-going SAR work in Ghana”**.

This paper reported on the extended technical support being given to Ghana by Swedavia.

This technical support programme addresses SAR framework, staff knowledge and competence and general improvements to safety. Work programs include legal and institutional activities. At the outset of activity, basic needs are sought to be defined and work is commenced with existing resources. Activities are generally very low cost. Development is sought to be achieved through a step-by-step process. Case studies are used as learning tools. Draft SAR agreements have been forged with neighbouring countries. A Civil Aviation Act and National SAR Manual have been listed for attention. A basic SAR training course has been conducted, there have been SAR meetings with the military authorities and a SAR seminar has been convened. There was tentative agreement amongst stakeholders regarding respective SAR responsibilities. Efforts have been made to arrange shared use of resources. There is an inappropriate inclination for senior managers to become immediately involved in operational activities. Correction of this trend requires an education program in the need for delegation of duties to trained and competent staff. RCC check lists have been produced, as have a log formula, SRU index and Cospas-Sarsat procedures. As much work as possible has been assigned to the Ghanaians themselves. A table top exercise was recently conducted at a SAR meeting that, in general, stressed the need for training, commitment, procedural development and coordination with other organisations. Existing needs are for specialised equipment including a direction finder, and document revisions including an upgrade of the text in the AIP and the SAR Plan.

Mr. D. Edwards introduced WP14/14 **“SAR Coordination between Maritime and Aeronautical Authorities on a Regional Basis”**.

Mr. Edwards noted that ICAO and IMO, as well as certain regional forums conducts *ad hoc* and regular meetings that include SAR in their agendas. Mr. Edwards observed that better coordination between these forums could result in better cooperation between SAR agencies. Whereas the IMO has active cooperation projects around the world that are centrally administered, ICAO somewhat relies upon its regional offices to conduct SAR meetings; and, ICAO SAR Implementation Projects, while subject to ICAO Council approval, are also administered by regional offices.

Mr. Edwards reported that the Bangkok ICAO Office conducted a meeting of Directors General in July 2007 that prompted a conclusion that there should be increased communication and cooperation between itself and a parallel maritime SAR group meeting forums and the ICAOIMOJWG on SAR.

A new effort is about to be made by way of a SAR Workshop for Pacific Island States in November 2007. The Secretariat of the Pacific Community is funding the effort. Input is being made by a number of States, including Australia, France, New Zealand and the United States. It is intended that there be a SAR exercise during the workshop.

It was suggested that the JWG should continue to encourage ICAO and IMO to work together in such activities.

The ICAO secretary reported that a MoU has been ratified for cooperation between ICAO and IMO with respect to cooperation between the respective organisations in the conduct of technical cooperation projects.

Sweden mentioned that the Black Sea is another region in which cooperation and development is increasing, particularly in the aspect of harmonization of aeronautical and maritime SAR. IMO is involved in the activity and it was suggested that ICAO should be briefed with a view to its involvement.

The question was raised as to whether the JWG should be directly involved in regional SAR activities and, if so, on what basis, bearing in mind that the JWG remit has to do, particularly, with harmonization of aeronautical and maritime SAR.

It was agreed that Mr. Edwards, in his role as USCG SAR expert and frequent attendee at global SAR activities, is well placed to report back to JWG and recommend strategies for coordination. Further, it was suggested that those JWG members involved in technical assistance projects mounted by their own States and agencies should take it upon themselves to notify regional ICAO offices of such activities of which they become aware; and, in general, advocate good contact between maritime and aeronautical SAR authorities.

Australia noted that AMSA was presently not represented at APANPIRG but relied on the ATS members to address search and rescue issues, and spoke of the need for accredited States to be represented at ICAO and IMO SAR forums. Because States have historically been reluctant to send specialist SAR delegates to regular regional meetings, one ICAO regional office has found it advantageous to combine the SAR agenda with others such as ATS and AIS. States have been able to respond by sending delegates that are versed in all of ATS, AIS and SAR.

Attention was drawn to the formation of a Global SAR Advisory Group, a splinter of the JWG, that has as its chief task the facilitation of coordination of technical activity. A working lunch was held between the chairman, ICAO and IMO Secretariats, the COMSAR SAR Working Group Chairman and an IMRF JWG observer. It was agreed that members of the advisory group will continue to correspond about technical cooperation projects.

Recommendation 14/17:

1) that the JWG support the conclusion of APANPIRG regarding closer cooperation between SAR authorities by authorizing the JWG chairman to report back to the JWG on SAR forums and, particularly, upcoming SAR events that would benefit from both aeronautical and maritime representation; further that other JWG members, as able, attend meetings that are directed towards harmonization of aeronautical and maritime SAR and also report back on them to annual JWG meetings ;

2) that COMSAR encourage States to consider the SAR Workshop for Pacific Island States in November 2007 as an example of how linking various SAR initiatives within their regions and actively sharing SAR information is beneficial in advancing regional SAR capability and capacity. In this regard, the JWG seeks to offer its services by way of supporting appropriate attendance at meetings; and

3) that in view of the ICAO and IMO regional efforts already expended in Africa and the significant improvements that have resulted in a number of SAR services, COMSAR may wish to note the need for on-going planning and implementation activities within Africa to ensure continued strengthening of the SAR system.

Agenda Item 6: RCC/RSC equipment and facility designations and standards

Mr. van der Graaf presented WP 14/5 **“Equipment to be installed at RMRCCs and MRSCs in Africa.**

IMO is continuing its programme of response to a Resolution from the IMO Florence Conference (October 2000) by establishing regional maritime SAR centres in Morocco, Liberia, Nigeria, South Africa and Kenya. There is a modest quantum of funds available to assist in this work in the International SAR Fund.

At a meeting of the MSC a few years ago, approval was given for procurement of a list of equipment for the RMRCC at Mombasa. New equipment has, however, become available since and there is a need for the original list to be re-evaluated for optimal cost-effectiveness. The JWG discussed equipment to be placed in MRCCs in Africa, with particular focus on INMARSAT equipment and telephone switchboards.

Opinion was passed that a 100 line PABX system exceeded requirements; a smaller system would suffice.

It was noted that no provision had been made for connection to the internet; this is considered important, and a central server would be of added benefit.

It was suggested that an assumption had been made that the RCC would conduct its own radio communications. This, however, need not be the case. Further, it was noted that other RCCs can relay messages on behalf of any other RCC, so reducing the equipment needs of the latter RCC.

Other opinions were expressed that:

- voice radio communications with SAR units would be desirable though not essential;
- there may not be a need for a DSC system if other agencies are designated to receive alerts and immediately inform the responsible RCC;
- full coastal VHF coverage is expensive and likely unrealistic to expect but should be considered for local needs, especially around ports; if a State does not have maritime VHF coverage, a maritime A-3 area requiring satellite communication could be the solution especially for SOLAS ships;
- connections with mobile telephone systems and providers would seem to be beneficial as many incidents are reported through such a system; and
- INMARSAT C (data text message) with enhanced group calling ability could be used for monitoring other RCCs' EGC transmissions.

On a related matter, it was noted that an RCC library, as listed in the relevant IMO MSC Circular, would be beneficial. It was recalled that the matter of RCC equipment is addressed in COMSAR Circular 27, **Minimum Communication Needs for RCCs**. SAR.7.Circ of IMO Documents and Publications also refers.

The Group suggested that search planning software should be considered.

Opinion was passed that there is advantage in saving funds on hardware for the sake of making more funds available for training.

Agenda Item 6.1 – establishment of RCCs and, in particular, JRCCs

No papers submitted

Agenda item 6.2 – Status of AIS and related systems in aeronautical and maritime SAR

Agenda Item 7 – SAR Communications

Agenda Item 7.1 – Status of GMDSS

No papers submitted.

Agenda Item 7.2 – Status of aeronautical communication systems for distress and SAR, including:

- **Establishment of IBRD**
- **Suitability of PLBs for carriage by ships and aircraft**
- **Registration of PLBs**

Mr. Edwards introduced WP14/13: **“Report on Cospas-Sarsat System Status, Operations and Future Developments”**

Attention was drawn to the following:

- the number of beacons in use is up 15% over the last year recorded;
- PLBs made up 25 per cent of beacons produced in 2006;
- C-S will cease satellite processing of 121.5/243 MHz beacons on 1 February 2009. Some States are still unaware of this. States are encouraged to facilitate replacement of 121.5/243 MHz beacons with 406 MHz beacons as soon as possible;
- The status of the MEOSAR system development was updated;
- C-S is considering whether to require that each MCC should perform a monthly communication check with each of its SPOCS, including RCCs.

Personal Locator Beacons (PLBs)

The Group was concerned about how decisions can be made that a transmitted PLB signal relates to an aircraft or ship.

France reported that use of PLBs by aircraft would not increase the false alert factor because they need to be purposely activated. The problem is essentially one of coding. The only way for an RCC to differentiate between beacon signals is to go onto a database.

Opinion from the US Aeronautical SAR expert is that until it has been mandated that general aviation (GA) replace 121.5 MHz with digital 406 MHz ELT, the U.S. authorities will have to deal with the possibility that PLBs will probably be used in GA aircraft. It is important that all PLB owners register/re-register in the database to allow determination of the craft from which a signal is transmitted. The main issues regarding use of PLBs being in GA aircraft is that they are not automatic and someone has to remember and be able to activate the beacon if it survives an accident.

The Canadian Air Force (CAF) does not consider a PLB to be sufficiently robust to survive an aircraft crash. The CAF is in the process of equipping its air crew with a 406 MHZ beacon with GPS to be carried by crew in their flying vests, survival packs or life rafts. These beacons are to augment on-board equipment and are portable, so can be carried away from the crash and activated manually. These beacons are referred to as Survival Emergency Locator Transmitters (ELT[S]).

France is authorising PLB carriage for ultra-lights and gliders and has the owner responsible for registering and re-registering.

Sweden requires PLBs for the same types of craft and that it is difficult to differentiate between an “aviation PLB” and a generic PLB. New Zealand only allows PLBs for use on gliders. The proliferation of PLB in New Zealand is occurring at double the ELT rate.

It was noted that PLBs are becoming readily available even for rent and on “e-bay” over the Internet; this suggests that the requirement to register and re-register PLBs could be very difficult to impose.

Agenda item 7.3 - Future trends in SAR communication including cell phones

WP14/17 was introduced by Mr. Jardine-Smith: **“Internet Relay Chat programmes in SAR Operations”**

The paper contained a report on the use of internet relay chat in an international SAR exercise and invited the JWG to consider the efficacy of this means of communication for SAR operations. This is a flexible and simple network as a supplementary means of communication. It can help overcome misunderstandings, chiefly with respect to language difficulties. This is because messages are written and translated rather than spoken and interpreted. Images may be attached. A chat room could be developed for SAR providers and SAR Unit operators. Pros and cons for the system are listed in the paper. There may be some IT security concerns.

Support was given to the concept by the United States, Sweden, IMRF and other delegates who considered that its use should be encouraged internationally.

Agenda item 7.4 – Minimum communication needs for RCCs

No papers submitted.

Agenda Item 7.5: Non-GMDSS communication systems which may be used for distress alerting

Mr. C. Waldegren and Mr. S. Solbeig introduced the joint Norwegian and Swedish WP14/16: **Non-GMDSS Communication Systems which may be used for distress alerting.**

Great advances have been made since the development of the GMDSS system. Satellite communication is a widespread reality. These improvements re-introduce the question as to how best to contact vessels and aircraft in the event of an emergency. Maritime Safety Information (MSI) is transmitted in new ways beyond GMDSS. Internet and mobile phones could be better utilised.

There are limitations in the use of DSC so it is not used for distress alerting. A number of newly introduced systems could be used for communication between vessels, with RCCs and with an on-scene coordinator, though not as a means of distress alerting.

SMS messages, Very Small Aperture Terminal (VSAT) and video conferencing are cases in point. Some systems could be tailor made for certain ships or ship owners. Some shipping lines are already using these types of systems.

Some of these communication systems could be of use in aeronautical communication networks.

It was remarked that it is vital that SAR services have access to all communication systems available within the aeronautical and maritime domains. It is not acceptable for there to be an unnecessary time lag in communication for SAR alerting and response activities.

The view was expressed that both aircraft and vessels should share communications networks; it is inevitable that they eventually will.

It was suggested that two important, related aspects to the future communications agenda are:

- industry will use many forms of communication, but
- there is no need to necessarily equip or regulate SAR services to actively use them all; access will be sufficient in some cases.

It was agreed that the SAR system should encourage all types of communication and specify the method(s) of formal communications, particularly distress communications. Ship owners should register all communications networks that are operative on their vessel(s).

The meeting considered the proposed draft amendment at Appendix Q.

Recommendation 14/18:

- 1) that the proposed amendment text at Appendix Q be incorporated in the IAMSAR manual;**
- 2) that the issue of the development of GMDSS communication in combination with new technology used by ships should be further discussed with the NAV Sub-Committee and the Coordinator of the Correspondence Group on E-navigation for future work; and**
- 3) that Administrations should include in their SAR Data provider (SDP) databases additional information regarding ships' communication equipment used for public communication, and advise ship owners to submit such data.**

The Chairman drew the attention of the meeting to IP14/2: “**SAR operations by merchant ships**” submitted by the United States. It was provided to give an appreciation of the perspective of persons rescued from the sea. It points towards the need for improvement in rescue equipment and procedures.

The meeting wished it to be recorded that the JWG continues to support the work done to improve equipment and procedures in the recovery of survivors at sea.

Agenda Item 8 - SAR personnel staffing and training

Agenda Item 8.1- Development of RCC Staff Certificates

No papers submitted.

Agenda Item 8.2 - Development of joint SAR courses

The Singapore representative reported that the Singapore Aviation Academy (SAA) is in the process of correspondence with respect to development of a TRAINAIR Standardised Training Package (STP) that was, at last report, due for completion mid-2007. It was reported that the Singapore STP project manager has advised his intention to complete the STP as soon as possible. The Singapore delegate apologised for the further delay.

Agenda Item 9 - Any other business

Mr. Wakabayashi advised that the Japan Coast Guard and Ocean and Policy Research Foundation (OPRF) is to conduct a SAR workshop from 4 – 6 December 2007 at Tokyo. The agenda will be directed towards effective and economic mechanisms for regional cooperation and will include topics on:

- Variety of regional SAR cooperation initiatives;
 - African coast (Kenya)
 - Baltic Sea (Swedish Maritime Administration)
 - Black Sea (Russia);
 - Caribbean (USCG);
 - North Atlantic (UKMCA);
 - North West Pacific (JCG)
- SAR Cooperation within South East Asia;
- IMO initiatives for regional SAR system establishment.

Mr. van der Graaf presented WP14/6: **“Terms of reference and provisional agenda for the next meeting”**.

This is attached at Appendix R.

The representative of Australia (Mr. D. Cole) advised the meeting that the Australian Maritime Safety Authority wished to issue an invitation to members to convene JWG 15 in Canberra, Australia. The likely period will be late September. This is to be confirmed. The chairman expressed thanks to the Australian Authorities for this invitation.

The chairman expressed his thanks on behalf of the Group to the French aeronautical member, Mr. P. Raphanaud, for his efforts and those of his associates and staff in arranging the present meeting at La Reunion. The organisation had been highly efficient thus making the completion of the JWG's responsibilities both pleasant and productive.

APPENDIX A

LIST OF PARTICIPANTS

Name, First Name	E-mail	Phone	Country
AMOKRANE, Mustapha Kamel		+213 74 68 48 04	Algeria
AOUMER, Mohamed	Mohaoum2002@yahoo.fr	+213 41 44 13 68	Algeria
BABKINE, Michel*	Michel.babkine@pm.gouv.fr	+33 1 53 63 41 59	France
BANEL , Eric	Eric.banel@equipement.gouv.fr	+262 262 71 15 90	France (La Réunion)
CHAN, Kwok Wai*	kw_chan@mardep.gov.hk	+852 22337868	Hong Kong China
BRACEFIELD, Rodney	Rodney.bracefield@maritimenz.govt.nz	+644 577 80 33	New Zealand
CLARK, Graham**	Smgsarf-xo@stmawgan.raf.mod.uk	+44 16 37 85 71 75	UK
COLE, Dave**	Dave.cole@amsa.gov.au	+61 26 27 95 720	Australia
DAY, Brian	bday@icao.int ; brianday@brianday.aero	+ 1 514 677 3072	ICAO Canada
EDWARDS, Dave*	David.L.Edwards@uscg.mil	+ 1 202 372 2087	United States
FOX, Udo Helge	fox@seenotretter.de	+49 421 53 707 400	Germany/IMRF
HUDSON, Jed**	Jed.hudson@tyndall.af.mil	+1 850 283 5084	United States
JARDIN-SMITH, David*	Dave.jardine-smith@ncga.gov.uk	+44 23 80 32 91 08	UK
KALPADAKIS, Evangelos	Ev.kalpadakis@mfa.gr	+30 69 36 46 39 07	Greece
KEELING, Gerry	g.keeling@international-maritime-rescue.org	+353 87 60 73 529 and +44 12 02 66 33 98	UK/IMRF
KIRIGA, Jackson	jkiriga@kcaa.or.ke	+254 20 82 74 70	Kenya
KIT, Tai**	Tai-kit@caas.gov.sg	+65 654 126 68	Singapore
LE MENTEC, Arnaud	Arnaud.le-mantec@equipement.gouv.fr	+262 262 71 15 90	France (La Réunion)
LEPPANEN, Petteri	Petteri.leppanen@raja.fi	+358 40 51 77 892	Finland
LIÉVRE, Grégory	Glievre@icao.int	+1 514 954 82 19	ICAO
M'BODJ, Bachir	ouaalombodj@hotmail.com	+221 554 08 10	Sénégal
MULI, Dave	nguimuli@hotmail.com	+254 41 231 83 98	Kenya
NACHTEGAAL, Anja*	Anja.nachtegaal@kustwacht.nl	+31 223 65 83 09	Netherlands
PACHA, Esteban	Esteban-pacha@imso.org	+44 207 728 12 49	IMSO
POULIMENOS, Ioannis	dan@yen.gr	+30 21 04 19 11 89 /11 83	Greece

Name, First Name	E-mail	Phone	Country
RAINEY, Clarence**	Rainey.cr@forces.go.ca	+1 613 995 59 20	Canada
RAPHANAUD, Philippe**	Philippe.raphanaud@aviation-civile.gouv.fr	+33 1 49 54 67 50	France
ROCUET, Jean-Christophe	jcroc@wanadoo.fr	+262 692 26 72 57	France (La Réunion)
RUTO, William K.	wruto@kpa.co.ke	+254 41 22 24 064	Kenya
SOLBERG, Stein*	Stein.solberg@jrcc-stavanger.no	+47 516 46 00 / +47 982 522 70	Norway
THOMPSON, Des	Des.thompson@ukno.gov.uk	+44 18 23 33 79 00, ext. 4224	UK
VAAGE, Ola	Ola.vaage@jtu-stavanger.no	+47 51 64 60 00	Norway
WALLENGREN, Annika**	Annika.wallengren@luftfartsstyrelsen.se	+46 31 84 80 02 / +46 708 648 228	Sweden
VAN DER GRAAF, Hans	hvander@imo.org	+44 207 587 31 11	IMO Secretariat
WAKABAYASHI, Kuniyoshi*	jamsldn@jais.co.uk	+44 20 74 88 31 68	Japan
WALDEGREN, Christer*	Christer.waldegren@sjofartsverket.se	+46 31 89 77 86	Sweden
WANG, Chuantao	wangt@sdmsa.gov.cn	+86 532 89 07 82 38	China
WATEL, Anne	Anne.watel@aviation-civile.gouv.fr	+262 262 72 88 32	France (La Réunion)
ZHUO, Li	zhuoli@msa.gov.cn	+86 10 65 29 22 15	China

APPENDIX B

AGENDA

- 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 11 and MSC 82; 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
- 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 sub-regional SAR organization;
 - .3 quality assurance, improvement, needs assessment, risk management (including sub-regional 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 cooperation 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;
 - .4 minimum communications needs for RCCs; and
 - .5 non-GMDSS Communications systems which may be used for distress alerting.
- 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
-

APPENDIX C

TERMS OF REFERENCE

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.

APPENDIX D

PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

STANDARD MARINE AND AERONAUTICAL PHRASES

Volume I

Chapter 4 – Communications

Replace the existing paragraph 4.2.3 with the following:

4.2.3 “Publications which can be used to assist in overcoming language barriers and communication difficulties between vessel and aircraft crews, survivors and SAR personnel include the International Code of Signals, the IMO Standard Marine Communication Phrases (Assembly Resolution 918 [22]), Annex 10 to the Convention on International Civil Aviation, and PANS ATM (ICAO Document 4444). These documents should be included in RCC libraries and be understood by the staff who should be able to comprehend and transmit messages using these phrases. Ships should carry these documents. SRUs should carry the International Code of Signals.”

Volume II

Chapter 2 – Communications

Replace the existing paragraph 2.24.1 with the following:

2.24.1 “Publications which can be used to assist in overcoming language barriers and communication difficulties between vessel and aircraft crews, survivors and SAR personnel include the International Code of Signals, International Regulations for Preventing Collisions at Sea, the IMO Standard Marine Communication Phrases (SMCP) (Assembly Resolution 918 [22]), Annex 10 to the Convention on International Civil Aviation and PANS-ATM (ICAO Document 4444). These documents should be included in RCC libraries and be understood by the staff who should be able to comprehend and transmit messages using these phrases. Ships should carry these documents. SRUs should carry the International Code of Signals. The Code of Standard Phrases for Use between (Maritime) RCCs and RSCs is provided in Appendix I.) ”

Replace the existing paragraph 2.24.6 with the following:

2.24.6 “With the decreasing use of Morse Code, the International Code of Signals and the IMO Standard Marine Communication Phrases (SMCP) (Assembly Resolution 918 [22]) will become increasingly important. It may be of assistance to refer to these documents in international SAR agreements as provisions for use during operations, training and exercises when SAR facilities of more than one country are cooperating in response to a distress incident.”

Volume III

Section 3: On-Scene Coordination, page 3-15

Replace the existing second bullet paragraph with the following:

“In case of language difficulties, the International Code of Signals, the IMO Standard Marine Communication Phrases (SMCP) and standard ICAO phraseology contained in Annex 10 to the Convention on International Civil Aviation and PANS-ATM (ICAO Document 4444) should be used.”

— — — — —

APPENDIX E

IAMSAR CONTENT, AMENDMENT AND AVAILABILITY

MAIN POINTS OF FORMER JWG SPLINTER GROUP DISCUSSION REGARDING IAMSAR CONTENT, AMENDMENT AND AVAILABILITY:

- Suggested that IAMSAR should be made freely available, or produced in a cheaper form, for training etc. But cost of translating operational documents is high: ICAO is dependent on income from document sales.
- In view of a common misperception that all users require all three volumes, it is suggested to use titles other than Volumes I, II and III that are more self explanatory.
- Proposed that ICAO and IMO should develop a website showing SRRs.
- Recommended that three key concepts for updating, supplementing, deleting and amending IAMSAR text should be *Modernise, Minimalise, and Internationalise*.
- The manual, with an amendment service, should be web-based and accessed by a password, perhaps on a subscription basis. Users should be notified at the time of amendment issue. Amendments should be done as whole pages, dated and annotated with an amendment reference number. The ICAO methodology was seen as a good system.
- Benefit is seen in reducing to two volumes; there are numerous repetitions in Volumes 1 and 2. On the other hand, once web-based, sections will be readily available for downloading regardless of the number of volumes and users will be able to differentiate material on the basis of individual States' needs.
- Text should be simplified and generalised, with out-of-date and superfluous data deleted. Comprehensive indices should be developed that are electronically hyperlinked. Updating is required to accommodate developments in e.g. security, AIS, carriage of dangerous goods and aeronautical SAR operations over land.
- A mechanism needed for regular review of material.
- There is scope for expansion of volume III re SRU training, especially OSC training. An organisational link is needed between the JWG and training facilities. A system is required for automatic incorporation of IMO COMSAR and MSC Circulars into IAMSAR.
- More emphasis is needed on preventive SAR. This would involve inclusion of some quasi-regulatory material.
- Added value would be derived from inclusion of human factors material, particularly with respect to the performance of SAR service providers.
- References to various subjects are scattered; subject matter needs to be consolidated. There should be sequential treatment of subject matter in accord with the chronology of actual prosecution of SAR events. IAMSAR-based training material would benefit.
- There is distinct benefit in soliciting feedback from the user community. A mechanism for this should be found.

Conclusion: The JWG considered that the objective of ensuring that the IAMSAR manual is straightforward in style, concise, robust and a consistent guide for all SAR administrators and operators would be greatly assisted by establishing a process of regular review that would give opportunity for continual improvement.

— — — — —

APPENDIX F

LIST OF SUGGESTIONS FROM JWG 14

IAMSAR MANUAL AMENDMENT PROCESS

- Publish updated edition of IAMSAR regularly – every [5] years
- Make urgent amendments in the meantime
- Task JWG with keeping IAMSAR under continuing review
- Establish JWG editorial group to correspond intersessionally, comprising two aviation and two maritime SAR experts
- Task editorial group with working through IAMSAR on the cyclic ‘Forth Bridge’ principle, developing recommendations as appropriate
- Include cross-referencing of subject matter within and between volumes to enable updates by subject matter
- Parties submitting amendment proposals to prioritise submissions as e.g. ‘urgent’ (requiring an interim amendment to be made), ‘significant’, and ‘editorial’ and report to JWG accordingly
- JWG to recommend urgent, interim amendments to COMSAR and ICAO as required
- Other amendments to accumulate and, as coordinated by the JWG, to be passed to COMSAR and ICAO for inclusion in the next edition according to the regular update schedule
- Publish interim, urgent amendments on the IMO and ICAO websites for free download.

— — — — —

APPENDIX G

PROPOSED AMENDMENTS TO THE *INTERNATIONAL AERONAUTICAL AND MARITIME SEARCH AND RESCUE (IAMSAR) MANUAL (DOC 9731)*

SAR COORDINATING COMMITTEES

Volume I

Replace existing paragraph 6.3.3 from “Using SAR Committees to Improve SAR Services” to “...by efforts such as the following:” with the following:

“Using SAR Coordinating Committees to Improve SAR Services

6.3.3 An effective process for SAR coordination is the establishment and use of SAR Co-ordinating Committees (SCCs) comprising SAR system stakeholders. These can be established at SAR agency, national, or regional level and, ideally, at all three levels. SAR agency SCCs should deal with local operational SAR issues and have the ability to refer matters higher if required. Committees established at a national level may consider strategic SAR policy matters and should have the ability to take matters to their respective governments for consideration. Regional SCCs should be able to refer SAR matters of a regional nature to their incorporated national committees for consideration. The establishment of these SAR committees can improve and support the SAR system in a number of ways, including:

- develop and recommend national strategic policy to their respective governments;”

— — — — —

APPENDIX H
PROPOSED AMENDMENTS TO THE IAMSAR MANUAL
SAR COORDINATING COMMITTEES

Volume I

Appendix J

2. OBJECTIVES - Add new paragraph a) as follows:

- a) “Provide a standing national forum that can develop and recommend national strategic SAR policy for government consideration.”

Then renumber subsequent sub paragraphs.

— — — — —

APPENDIX I

DRAFT AMENDMENT TO ICAO ANNEX 12 — *SEARCH AND RESCUE*

SAR COORDINATING COMMITTEES

Chapter 3. Cooperation

Insert the following paragraph after 3.2.2

“3.2.3 Recommendation.. - Contracting States, whenever practical, should establish SAR Coordinating Committees of SAR system stakeholders to ensure the closest possible coordination between relevant aeronautical and maritime authorities to provide for the most effective and efficient search and rescue services.”

— — — — —

APPENDIX J

EMERGENCY RESPONSE OLR FORM

TEMPLATE FROM UKMCA



EMERGENCY RESPONSE OLR FORM



INTRODUCTION

Do not be constrained by the size of the OLR form. Expand the form fields as required (this will happen automatically when completing the form on-line) or use continuation sheets.

MRCC / Location Branch name

The official name of your MRCC, CRT, office or branch (not required for anonymous reports).

Global Incident Number (MRCC only)

If the review is of an incident, MRCC should append the GIN (not required for anonymous reports).

Date and time of Incident / Event

Select a date from the drop down calendar and enter the time in HH.MM format using the 24 hour clock (not required for anonymous reports).

What Happened

A brief story or description of the incident, event, exercise or training session (Who, What, Where, When, Why).

General Comments

An explanation of any learning, observations or viewpoints from analysing and reflecting on the event. In particular, comments and feedback from other participants and, importantly, casualty feedback comments or views should be recorded.

Where possible, and relevant, include feedback from:

- MRCC team members
- SMC
- RCCM
- CRT(s)
- Helicopter(s)
- Lifeboat(s)
- Casualty
- Salvors
- Tugs / ETV
- CP & S responders / units / teams
- Others involved (please specify)

Human Element

An explanation of any specific human performance lapses or good or exceptional practice(s) that you, the team or others observed or considered had occurred during the incident or event. This might include influences which made it harder or easier for you or others to work effectively, either individually or as a team. Identification of persons is not required, just what happened, why and how.

Technical issues

An explanation of any help or hindrance caused by equipment, technical procedures or processes that you, the team or others observed or considered had occurred during the incident and why and how it happened.

Recommendations

Any actions, changes, ideas or suggestions that you, your team or others consider might be necessary. Note: local issues may have national application so do not withhold these from the reports

Where possible, e-mail the completed form to OLR@mcga.gov.uk by clicking on the email button at the bottom of the form.

OR fax to: 023 8032 9488

OR post to: OLR Coordinator
SAR HQ
Bay 1 / 07
105 Commercial Road
Southampton
SO15 1EG

MRCC / CRT and Name of Reporting Officer	Global Incident No.	Incident / Event Date Time	
<div></div>	<div></div>	<div></div>	<div></div>
What Happened <div></div>			
WHAT DID YOU OR YOUR TEAM AND / OR OTHERS LEARN? <div></div>			
General Comments <div></div>			
Human Elements <div></div>			
Technical Issues <div></div>			
Recommendations or Follow Up Actions <div></div>			

APPENDIX K

PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

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

Volume 1

Insert new **Appendix []**

Insert the following text:

Appendix []

“SAMPLE CONTRACT BETWEEN RCC AND TMAS FOR THE PROVISION OF MEDICAL ADVICE AND ASSISTANCE TO MASTERS OF SHIPS AT SEA

- 1. Roles and functions of the Telemedical Assistance Service (TMAS) Provider and the Rescue Coordination Centre (RCC)**
- 1.1. General**
 - 1.1.1 The International Convention on Maritime Search and Rescue 1979 gives the ability 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 organisation of medical advice and assistance. The RCC has designated one or more providers of this service (*Organization*) at (*Location*) is one of 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 radio communications can be found in IMO MSC Circular 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 Coordination Centre

1.2.4.1 The RCC is responsible for the following functions:

- c. Ensuring that ships' Masters have the necessary information available to be able to contact the TMAS;
- d. Coordinating any MEDEVAC when requested, assisted by medical advice provided from the TMAS;
- e. Arranging of surface (water and land) or air assets necessary to conduct a MEDEVAC to achieve delivery to the medical facility recommended by the TMAS. As an integral part of the evacuation, the RCC will, where possible, organize to have paramedics on board the recovery platform;
- f. Where evacuation is required and requested, coordinating with the ships' Masters for meeting or receiving the rescue platform and patient transfer arrangements;
- g. 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;
- h. 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 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, and need of it is supported by 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 information which may include:
- Patients name and nationality
 - patients condition;
 - Masters name and nationality
 - vessel name, flag and IMO number;
 - callsign;
 - ship's position;
 - ship owner/operator and his country
 - 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 TMAS and 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 coordinate 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.

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;
 - 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:
 - Radiotelephony (RTF);
 - Radio telex;
 - Fax/phone;
 - Inmarsat;
 - Email; or
 - c. via the RCC.
- 3.2.2 Requests for medical assistance 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.
- 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 or the most appropriate and reliable telecommunication system.

TMAS contact details: Telephone Medical line
 General line
 Facsimile
 (Check with TMAS prior to transmission)
 Email

RCC contact details: 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 attached MSC/Circ 1218.
- 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:
- 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”;
 - 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;
 - the RCC will be advised appropriately by its designated national TMAS of the medical constraints affecting the SAR operation;
 - 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.”
- _____

APPENDIX L

PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

MEDICAL SERVICES

Volume I

Page viii

Abbreviations and Acronyms

Add “**TMAS**... Telemedical Assistance Service”

Page xi

Glossary

Add “**Telemedical Assistance Service (TMAS)** A medical service permanently staffed by doctors qualified in conducting remote consultations and well versed in the particular nature of treatment on board ship.”

Paragraph 1.4 Basic System Functions

Replace existing paragraph 1.4.1 with the following:

“Any SAR system should be structured to provide all SAR services:

- Receive, acknowledge, and relay notifications of distress from alerting posts,
- Coordinate search response,
- Coordinate rescue response and delivery of survivors to a place of safety
- Provide medical advice, initial medical assistance or medical evacuation.”

Delete paragraph 1.4.3

Paragraph 2.1.2

Under “...The primary system components are:” and after “- SAR facilities, including SRUs with specialized equipment and trained personnel, as well as other resources which can be used to conduct SAR operations;”

add the following:

“- medical advice and medical assistance and evacuation services”.

Paragraph 2.3.7

Add to **Required** column as the last two bullet points:

“ability to coordinate provision of medical advice, and

ability to coordinate provision of medical assistance or evacuation.”

Section 2.5 **SAR Facilities**

Add new section 2.5.6

Add new heading ***Medical Advice and Medical Assistance***

Add the following text:

“The International Convention on Maritime Search and Rescue provides for parties to the Convention to provide, on request from Masters of ships, medical advice and initial medical assistance and, as required, to make arrangements for medical evacuations for patients.

An RCC should establish a relationship with a maritime Telemedical Assistance Service (TMAS) to ensure that medical advice can be provided to Masters at sea within its SRR 24 hours a day. The RCC should have the means to coordinate medical assistance and evacuation in consultation with a TMAS. It is desirable to have a doctor or paramedic who has been briefed by the TMAS on board the evacuation craft.

The RCC may establish contractual arrangements with a suitably recognized medical authority to provide this Telemedical Assistance Service.

A sample text of a contractual arrangement between an RCC and a TMAS is at Appendix N.”

Paragraph 2.7.1

Amend ‘Medical assistance’ to read ‘Medical facilities’

Paragraph 4.7.1

At end of paragraph, add new sentence:

“RCCs should be able to communicate 24 hours a day with a designated Telemedical Assistance Service (TMAS) to coordinate the provision of medical advice and medical assistance and to arrange for medical evacuations from vessels at sea.”

Appendix C **Sources for SAR Assistance**

C.1.1 (g)

Amend to read: “*Health Departments*. Hospital and first aid facilities, ambulances and medical stations in remote areas, Telemedical Assistance Services (TMAS).”

Volume II

Page xiii

Abbreviations and Acronyms,

Add “**TMAS**... Telemedical Assistance Service”

Page xxiii

Glossary,

Add “**Telemedical Assistance Service (TMAS)** A medical service permanently staffed by doctors qualified in conducting remote consultations and well versed in the particular nature of treatment on board ship.”

Chapter 1, page 1-5, paragraph 1.4

Medical Assistance to vessels

Paragraph 1.4.2,

First sentence:

Delete: ‘doctors outside the SAR organization’ and replace with ‘a Telemedical Assistance Service (TMAS).’

Paragraph 1.4.2,

Third last sentence,

Delete: ‘medical advisory service’ and replace with ‘TMAS’.

Paragraph 2.27.22.

First sentence,

Delete: ‘arrangements with doctors outside the SAR organization’ and replace with: ‘a TMAS’.

Paragraph 2.27.23.

Second sentence,

Delete: ‘medical advisory service’ and replace with: ‘TMAS’.

Paragraphs 2.27.24. to 2.27.30.

Add new paragraphs as follows:

“2.27.24. Good communications are essential for an effective telemedical assistance service. Telemedical communications are considered to be safety or urgency communications and as such should have priority over routine traffic and normally be free of charge to the mariner.

2.27.25. The ship’s captain, who is responsible for treatment on board, must be able to access the TMAS of his choice. Choice may be based on his nationality, the ship’s flag and, especially, the language spoken.

2.27.26. Recording of the date and time of all TMAS communications and archiving of secure tape will enable essential data to be preserved should they be required in the event of legal proceedings. All recorded information is subject to medical privacy in the same way as the content of a medical file.

2.27.27. Voice communication is the basis of telemedical advice. It allows free dialogue and contributes to the human relationship, which is crucial to any medical consultation. Text messages are a useful complement to the voice telemedical advice and add the reliability of writing. Facsimile allows the exchange of pictures or diagrams, which help to identify a symptom, describe a lesion or the method of treatment. Digital data transmissions (photographs or electrocardiogram) provide an objective and potentially crucial addition to descriptive and subjective clinical data.

2.27.28. Given the international dimension of maritime navigation, a medical problem may occur on board a ship far from its country of origin. In such a case, the master will normally call his national TMAS, which can perform a telemedical consultation in his language. Should there be a need, following the consultation, for an evacuation to the nearest shore, the master will normally contact the MRCC responsible for the search and rescue region involved.

2.27.29. In order to facilitate and enhance planning of the medical aspects of the evacuation, all available medical information collected by the first-contacted TMAS should be transferred to the TMAS attached to the responsible MRCC. This is to avoid any additional tele-consultation by the second TMAS. A “Medical Assistance at Sea, TMAS – TMAS Medical Information Exchange Form” can be used for this purpose. See Appendix R.

2.27.30. Communication between the ship and TMAS can be established via coast radio stations using VHF, MF or HF radio. Inmarsat satellite communications can be accessed by use of special access codes (SAC) 32 for medical advice and 38 for medical assistance or MEDEVAC. Inmarsat Land Earth Stations (LES) normally route SAC 32 direct to a TMAS and SAC 38 to the associated RCC. Inmarsat can support voice and telex (telex only for Inmarsat-C).”

Appendix D**MEDICO or MEDEVAC Checklist**

Amend 10 to read:

“10 Assistance desired, or as recommended by a telemedical assistance service.

Note: If required, refer to ‘TMAS –TMAS Medical Information Exchange Form’. See Appendix R.”

Insert new **Appendix R** as follows:

Appendix**IDENTIFICATION OF THE REQUIRING TMAS:**

Name: Tel:
 Address: 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 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 REQUIREDMedical 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:

Volume III

Page x **Abbreviations and Acronyms**,

Add “**TMAS**... Telemedical Assistance Service”

Page xv **Glossary**,

Add: “**Telemedical Assistance Service (TMAS)** A medical service permanently staffed by doctors qualified in conducting remote consultations and well versed in the particular nature of treatment on board ship.”

Section 4 – **On Board Emergencies**

Page 4-8 & 4-9

Before **MEDICO** section, add new heading and text as follows:

“MEDICAL ASSISTANCE TO VESSELS

Medical assistance is available using Telemedical Assistance Services (TMAS). A TMAS is a medical service permanently staffed by doctors experienced in conducting remote consultations and aware of the particular nature of treatment on board ship. The system provides for direct communication between ships and the TMAS.

The ship will normally contact the TMAS associated with the RCC within whose SAR Region the ship is located.

Alternatively, the ship may contact another TMAS, usually to overcome language difficulties. All medical information collected by this TMAS should be transferred to the TMAS associated with the RCC responsible for coordinating any further action required, to avoid duplication.

Satellite Communications

Inmarsat systems offer two Special Access Codes (SAC) which can be used for medical advice or medical assistance at sea:

- **SAC 32** is used to obtain medical advice. The Land Earth Station will provide a link with the TMAS 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.”

MEDICO

Amend the first dot point to read as follows:

- “MEDICO messages request or transmit medical advice ~~from and to~~ between vessels at sea and a TMAS.”

Amend the fourth dot point to read as follows:

- “These messages are normally delivered only to TMAS, hospitals, or other facilities with which SAR authorities or the communications facilities have made prior arrangements.”

Amend the fifth dot point to read as follows:

- “SAR services may also provide medical advice either from their own doctors or via arrangements with TMAS.”

Amend the sixth dot point to read as follows:

- “In addition to the many Telemedical Assistance Services provided free of charge, there are several commercial enterprises which provide international subscriptions and pay-per-use medical advice to vessels at sea.”

Add seventh dot point as follows:

- Vessels fitted with Broadband services, Fleet Broadband (F77) and VSAT (Very Small Aperture Terminal) will permit the easy transfer of photographs and videos.

Medical Evacuation (MEDEVAC)

Second dot point.

Amend the first three points of the required information as follows:

- ☐ name of the vessel, flag, IMO number, radio call sign and telephone number
- ☐ master’s name and nationality
- ☐ ship owner / operator, nationality and contact details

APPENDIX M

LIST OF QUESTIONS ON SAR-RELATED LRIT ISSUES

The following is a list of questions on SAR-related LRIT issues that need to be addressed (with amplifying text proposed by the ICAO / IMO JWG in **bold**):

- a) How will Rescue Co-ordination Centres (RCCs) access LRIT data?

All RCCs must have rapid access to, and delivery of, LRIT data free of charge. The current architecture of the LRIT system shows RCCs go through the “associated” LRIT Data Centre to access LRIT information.

- b) What is the procedure for on-demand LRIT information?

RCCs require an automated system, with appropriate redundancy, which does not involve any real time approval process. The information will be required in ‘SURPIC’ format; e.g., a position and radius to be determined by the RCC.

- c) What audit recordkeeping and restrictions might be required of SAR authorities who obtain LRIT data for SAR?

SAR Authorities must be able to document after the event, (for LRIT audit purposes), that the LRIT data sought was required for efficient conduct of SAR operations.

- d) Will there be provisions for collecting LRIT data from ships beyond 1000 miles offshore for SAR?

Each ship will report 4 times each day regardless of where it is. RCCs may require any of this data at any time. All reports should therefore be retained by the LRIT data centre.

- e) Will Governments limit LRIT data for SAR purposes, and if so, by what mechanism?

The LRIT system includes a provision for a country to specify which other countries can not receive LRIT info on its ships. However, there should be no limitation for SAR purposes.

- f) What SAR-related guidance needs to be provided to those responsible for the operation of LRIT and to SAR authorities?

SAR Authorities should recognize that the cost of SAR reports will be borne by the system and should therefore exercise restraint in requesting LRIT information. SAR Authorities must only use information derived from LRIT for immediate SAR purposes. Those responsible for the operation of LRIT should be aware of the urgency with which SAR information is sought.

- g) Will some Governments incorrectly or prematurely assume, as some did when GMDSS was introduced, that LRIT will reduce or eliminate the need for other SRSs for SAR?

There is such a danger, but Governments must understand that there is a need for other Ship Reporting Systems to continue operating, at least for the time being. It will take time for LRIT to become fully operational. There may be scope for review of other reporting systems thereafter.

- h) What is the process for ICAO access to LRIT information for aeronautical RCCs with maritime SAR regions?

All RCCs – including Aeronautical RCCs – must have rapid access to, and delivery of, LRIT data free of charge. This may be achieved, if desired, by cooperation between maritime and aeronautical RCCs.

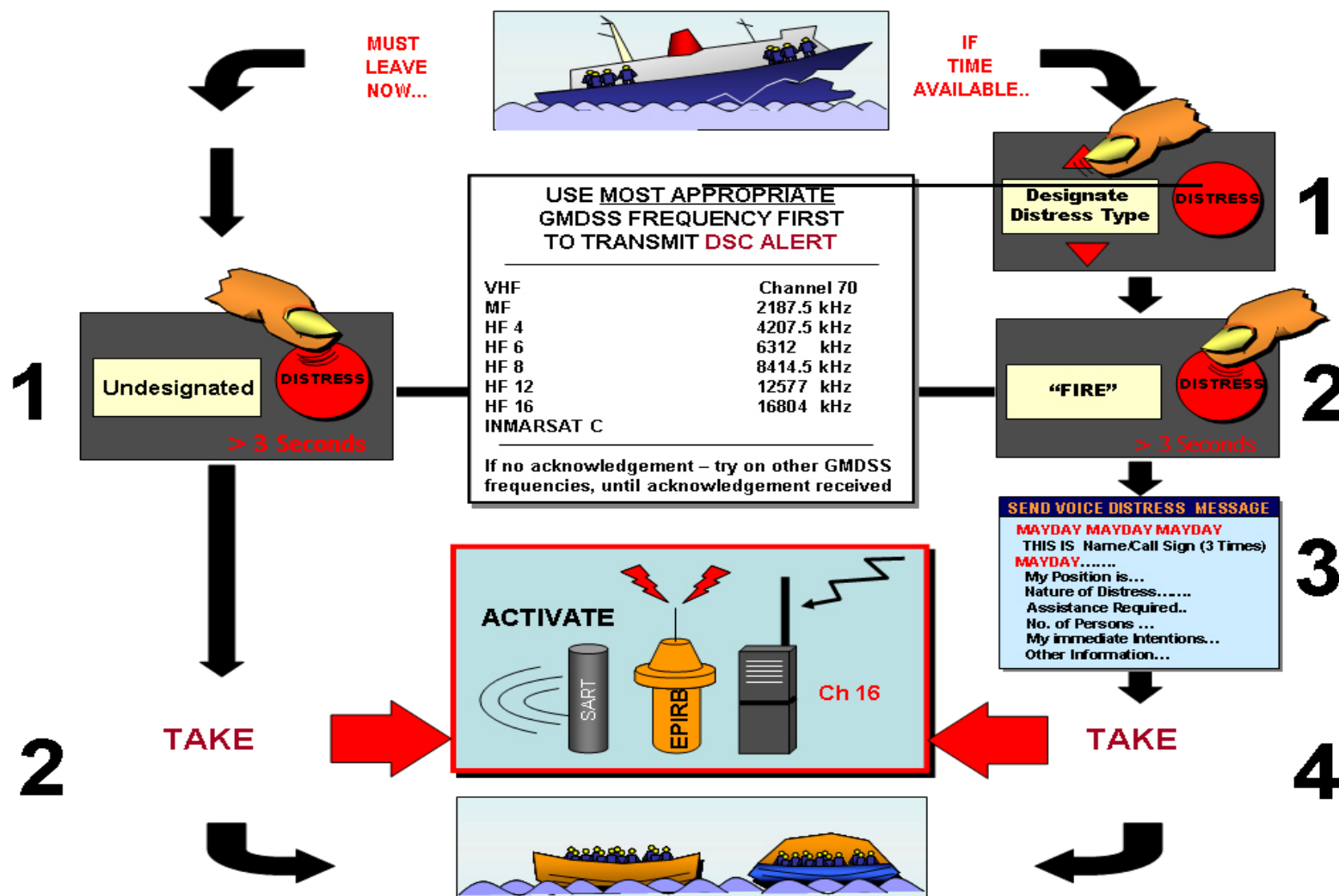
- i) Should development of SAR guidance, e.g., IAMSAR Manual or MSC circular, await experience gained after LRIT has been in operation?

An MSC Circular will be needed prior to introduction of LRIT, dealing with, inter alia, SAR requirements. Once the LRIT system is established the IAMSAR Manual should be amended.

— — — — —

APPENDIX N

PROPOSED NEW GRAPHIC BASED ON DRAFT FLOW CHART REFERRED BY COMSAR 11



APPENDIX O

PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

TRANSFERRING DATA BETWEEN RCCs AND RSCs

Volume II, Chapter 3

Incorporate the following text *in italics* and the subsequent text in Volume II, paragraph 3.6.1.

3.6 Designation of the RCC or RSC Responsible for Initiating SAR Action

“3.6.1 Typically, an RCC will receive a distress alert and assume responsibility for SAR operations for that incident. However, there may be times when the first RCC to receive the distress alert will not be the responsible RCC, such as when the distress is in another SRR. *When an RCC or RSC receives information indicating a distress outside of its SRR, it should immediately notify the appropriate RCC or RSC and take all necessary action to coordinate the response until the appropriate RCC or RSC has assumed responsibility.*”

Figure 3-1 depicts the recommended actions of the “First RCC” to receive the distress alert. There should be no undue delay in initiating action while determining the responsible RCC.”

Volume II, Chapter 3

Remove existing 3.6.5

Renumber 3.6.6 to be 3.6.5 and 3.6.7 to be 3.6.6

Insert new paragraph 3.6.7 as follows:

New subtitle:

Transferring Responsibilities Between RCCs and RSCs

3.6.7 When transferring the coordination of a SAR operation to another RCC or RSC, the transfer should be documented in the RCC or RSC log. The initiating RCC may invite the other RCC to take over responsibility or the other RCC may offer to take over responsibility. The responsibility is retained by the initiating RCC until the other RCC formally accepts responsibility. All participating SAR units are to be advised of the transfer. Procedures to transfer SMC responsibility to another RCC should include:

- Personal discussion between the SMCs of both RCCs concerned;
- Exchange of data using SITREP form including full details of action taken.

Details to be included in the process of transfer between RCCs should be as follows:

- Date and time of transfer:
- From (RCC):

- To (RCC):
 - Identity of casualty
 - Position
 - Number of persons in distress
 - Description of casualty
 - Weather on scene
 - Initial actions taken
 - Areas already searched (including POD)
 - Alerted units
 - Current/ present search in sub areas
 - Endurance of existing SAR units on scene
 - Sustainability SAR units on scene (hours/days of availability)
 - Communication plan
 - Confirmation that all participating SAR units have been advised of the transfer of the responsibility.

— — — — —

APPENDIX P
PROPOSED AMENDMENTS TO THE IAMSAR MANUAL
NATIONAL SELF-ASSESSMENT

Volume I

Appendix H

Replace the existing text with the following:

“National Self-Assessment on Search and Rescue

IAMSAR VOLUME ONE – Organisation and Management

Chapter 1 - GENERAL SYSTEM CONCEPT

1. Is the Government party to the following Conventions:
 - i) Convention on International Civil Aviation, 1944?
 - ii) International Convention on Maritime Search and Rescue, 1979?
 - iii) Safety of Life at Sea (SOLAS) Convention, 1974?
 - iv) Convention on the High Seas, 1958?
 - v) Law of the Sea Convention, 1982?
2. Has the State established an entity, which provides on a 24-hour basis, search and rescue (SAR) services within its territories to ensure that assistance is rendered to persons in distress?
 - a) If no, has the State arranged with another State or group of States to provide SAR services?
3. Which government agencies have authority and responsibility for coordination of aeronautical SAR?
4. Where is this authority and responsibility described (law, regulation, agreement, etc.)?
5. Is the same agency responsible for coordinating aeronautical SAR over both land and sea?
6. Which government agencies have authority and responsibility for coordination of maritime SAR?
7. Where is this authority and responsibility described? (law, regulation, agreement, etc.)?
8. Has the State established a joint RCC to coordinate aeronautical and maritime SAR operations?
9. Does the State ensure the closest practicable coordination between the centres where separate aeronautical and maritime rescue coordination centers (RCCs) serve the same area?
10. Has the State ensured the closest practicable coordination between the relevant aeronautical and maritime authorities to provide for the most effective and efficient SAR services?

11. Does the State have a national SAR Plan, which describes the roles of all government and non-government organizations which have resources that can support SAR?
12. Have there been any problems encountered when working with RCCs outside your region?
If so, have steps been taken to solve these problems?
13. Have ICAO and IMO been provided with up-to-date information on your RCCs, RSCs, SAR resources and areas of responsibility?

Chapter 2 - SYSTEM COMPONENTS

14. Does your State have both aeronautical and maritime SAR regions (SRRs) or SAR sub-regions (SRSs) established?
15. Do the geographical limits of your State's aeronautical and maritime SRRs or SRSs coincide?
16. If your State has an aeronautical Flight Information Region (FIR), does your aeronautical SRR have the same limits?
17. Have the aeronautical SRR or SRS limits been formally agreed to by neighbouring countries or jurisdictions?
18. Have the maritime SRR or SRS limits been formally agreed to by neighbouring countries or jurisdictions?
19. Are there any gaps, overlaps, or size or shape problems with national SRRs or SRSs?
20. Has the State established a RCC in each search and rescue region (SRR)?
21. Do your RCCs regularly work with other RCCs outside your region?
22. Do provisions exist to keep maritime SAR authorities informed of aeronautical distress situations, and to coordinate SAR responsibility to them when an aircraft has an actual or potential ditching at sea?
23. Has the State made arrangements for the use of SAR units and other available facilities to assist any aircraft or vessels or their occupants that are, or appear to be, in a state of emergency?
24. Are RCC(s) or RSC(s) assigned to perform other tasks which might detract from their ability to handle SAR responsibilities?
25. Are emergency plans and recovery resources in place at all airports located near water for rescue of survivors in the water?
26. Do facilities that serve as alerting posts for receiving aeronautical and maritime distress information operate on a 24-hour basis?
27. Does each RCC and RSC have full information about the capabilities (range, number of persons they could rescue, alert status, launch authority point of contact, etc.) for all the primary rescue units in their area of responsibility?

28. Does each RCC or RSC have an operations manual which provides procedures and guidance material for handling all foreseeable SAR situations?
29. Do your RCC(s) and RSC(s) use international systems that assist SAR, e.g. AMVER, Cospas-Sarsat, computer assisted search planning?
30. Can your RCC(s) monitor progress of a SAR response and adjust search planning if necessary?
31. Can the RCC(s) or RSC(s) order the deployment of all primary SAR units?
 - a) If not, does the coordination for use of SAR resources take place in a timely manner?
32. To what extent have voluntary SAR resources, including privately-owned aircraft and boats, fishing vessels, industry-owned helicopters and boats and professional organizations been organized?
33. Do the RCCs and RSCs operation manuals include guidance on use of voluntary SAR resources?
34. Do SAR units in your State have special equipment for medical evacuations?

Chapter 3 - TRAINING, QUALIFICATION, CERTIFICATION and EXERCISES

35. Has the State ensured that each RCC and RSC has a sufficient workforce skilled in SAR coordination and operational functions?
36. Have written job descriptions been developed for all staff?
37. Has the State ensured that each RCC and, if appropriate, RSC established a training policy and programme for its staff?
38. Is each RCC or RSC staff fully trained to do the following:
 - i) Recognize the stages and phases of a SAR mission?
 - ii) Determine search datum, search areas, and probability of success?
 - iii) Account for aerospace and ocean drift?
 - iv) Develop search action plans and rescue action plans?
 - v) Allocate resources?
 - vi) Arrange air escorts, ships and other assistance for aircraft situations involving potential ditching?
 - vii) Carry out international SAR obligations?
39. Does the State provide for regular training of its SAR personnel and arrange appropriate SAR exercises?

40. Do crews of primary rescue units participate in regular SAR-related training or exercises?
41. Is there a formal planning and evaluation process for these exercises?
42. Do your RCCs or RSCs carry out exercises involving other RCCs and RSCs and rescue units on a regular basis?
43. Does each element in the SAR organization regularly evaluate its staff training status and take steps to correct all identified training needs?
44. Are training records or files maintained for the RCC staff?
45. Are complete records (sufficient to reconstruct the incident) maintained of all SAR events?
46. Are SAR case records used to analyse and improve the SAR system?
47. Do SAR case records satisfy legal requirements?

Chapter 4 - COMMUNICATIONS

48. Are there rapid, reliable means for communications between RCCs and between RCCs and RSCs?
49. Does your national landline communications system provide full coverage of your State and rapid, reliable service?
50. Do your RCC(s) and RSC(s) have reliable radio communications capabilities covering their entire area(s) of responsibility for working with ships, aircraft and SAR units?
51. Do your RCC(s) or RSC(s) use satellite communications?
52. Do the RCC(s) have continuous and capable English language capabilities?
53. Are RCC personnel involved in the conduct of radiotelephony communications proficient in the use of the English language?
54. Which categories of aircraft and ships registered in your State are required to carry 121.5 MHz radio distress beacons, 406 MHz beacons, or EPIRBs?
55. Are 406 MHz beacon registrations maintained in a database?
56. Is the database maintained for ELT, EPIRB and PLB 406 MHz distress beacons?
57. Is that database available on a 24-hour basis to SAR authorities?
58. Has the State designated an H24 SAR point of contact (SPOC) for the receipt of Cospas-Sarsat distress data?
59. Has the State made arrangements for further distribution from the SPOC to the proper authorities of the ELT, EPIRB and personal locator beacon (PLB) distress beacon alerts?

60. Is the Aeronautical Fixed Telecommunication Network (AFTN) or Aeronautical Fixed Network (AFN) co-located or readily accessible to your RCC(s) and RSC(s)?
61. Is your State implementing the provisions of the IMO Global Maritime Distress and Safety System (GMDSS)?
62. Do the RCC and RSC operations manuals include procedures for establishing communications with civil ships and aircraft?
63. Do ships and aircraft that are used for SAR have communications and electronic direction-finding capabilities covering all frequencies likely to be used?
64. Do ships and aircraft that are used for SAR have accurate navigation systems?
65. What means are most often used to notify your RCC(s) or RSC(s) of a distress?
66. What means are used to alert and inform rescue units of a distress, and to direct them?
67. Do all SAR units have mutually compatible communications?
68. Is your State planning to change communications or direction-finding capabilities in any of the following areas?
 - i) Medium frequency (MF)
 - ii) High frequency (HF)
 - iii) VHF-FM
 - iv) VHF-AM
 - v) UHF
 - vi) Telephone
 - vii) Telex
 - viii) Satellite communications
69. Do your RCC(s) and RSC(s) have procedures for providing timely and competent medical assistance and advice to ships?

Chapter 5 - SYSTEM MANAGEMENT

70. Which national agencies or organizations are responsible for:
 - i) Aircraft registration and safety?
 - ii) Air traffic safety?
 - iii) Investigation of aviation accidents and incidents?

- iv) Maritime vessel registration and safety?
 - v) Investigation of maritime accidents and incidents?
 - vi) Regulation and enforcement of radio frequency usage?
 - vii) Serving as the national SAR point of contact for receipt of Cospas–Sarsat alert data?
 - viii) Personal Locator Beacon usage,
 - ix) SAR on the ground?
 - x) Managing national civil emergencies?
 - xi) National defence?
 - xii) Providing paid SAR resources?
 - xiii) Providing volunteer SAR resources?
 - xiv) State law enforcement?
 - xv) Emergency medical advice and care?
 - xvi) Medical evacuations?
 - xvii) Supporting participation by ships in reporting systems, such as the Automated Mutual-assistance Vessel Rescue (AMVER) system?
71. Is there a formal national SAR Co-ordinating Committee to coordinate the actions of the organizations indicated in answers to question 70?
72. Has the State designated as SAR units elements of public or private services suitably located and equipped for SAR operations?
73. Does the State coordinate its SAR organization with those of neighbouring States?
74. Has each RCC in the State prepared detailed plans of operation for the conduct of SAR operations within its SRR?
75. Does your State have formal SAR agreements for inter-agency coordination and for cooperation with neighbouring countries?
76. Do the RCC(s) and RSC(s) coordinate with hospitals to receive all personnel evacuated due to medical emergencies?
77. Have formal procedures been developed for providing medical assistance and advice and for making medical evacuation decisions?
78. Does your State maintain a statistical database on SAR events?

Chapter 6 - IMPROVING SERVICES

79. Does the State permit, subject to such conditions as may be prescribed by its own authorities, entry into its territory of SAR units of other States for the purpose of searching for, and the rescue of, survivors of aviation and maritime incidents and accidents?
 80. Does the State authorize its RCCs to provide, when requested, assistance to other RCCs, including assistance in the form of aircraft, vessels, or equipment?
 81. Has the State arranged for all aircraft, vessels and local services and facilities which do not form part of the SAR organization to cooperate fully with the latter in SAR and to extend any possible assistance to the survivors of aviation and maritime accidents?
 82. Does your State send delegates to participate directly in meetings of IMO and ICAO that deal with SAR issues?
 83. How do your SAR managers stay informed on decisions, and outcomes of meetings conducted by ICAO and IMO?
- — — — —

APPENDIX Q

PROPOSED AMENDMENTS TO THE IAMSAR MANUAL

NON-GMDSS COMMUNICATIONS

VOLUME I

Appendix G

G.7 Satellite Communications

Delete existing 7.1 and replace with :

“G 7.1 The primary systems now used for SOLAS compliance are Cospas-Sarsat and Inmarsat.”

After G 7.4, add new paragraph G.7.5 as follows:

“**G.7.5** New satellite system are emerging which can relay distress alerts. Many vessels are equipped with systems that provide comprehensive online connections to Internet, voice, facsimile and data communications for such functions as online E-mail, Short Message System (SMS), video conferencing and medical examination and reporting. These commercial satellite systems are not primarily designed for alerting but may be used for subsequent SAR communications between ships or aircraft and RCCs or RSCs, or as a link to the On Scene Co-ordinator.”

VOLUME II

Chapter 2 - Communications

2.7 Satellite Communication.

After paragraph 2.7.6 add new paragraph 2.7.7 as follows:

“**2.7.7** New satellite system are emerging which can relay distress alerts. Many vessels are equipped with systems that provide comprehensive online such connections to Internet, voice, facsimile and data communications for functions as online E-mail, Short Message System (SMS), video conferencing and medical examination and reporting. These commercial satellite systems are not primarily designed for alerting, but may be used for subsequent SAR communications between ships or aircraft and RCCs or RSCs, or as a link to the On Scene Co-ordinator.”

APPENDIX R

DRAFT TERMS OF REFERENCE AND PROVISIONAL AGENDA FOR THE FIFTEENTH SESSION OF THE ICAO/IMO JOINT WORKING GROUP ON THE HARMONIZATION OF AERONAUTICAL AND MARITIME SEARCH AND RESCUE (JWG-15)

TERMS OF REFERENCE

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 supported by IMO and ICAO on an alternating basis.
3. Invitations to participate in the JWG will be submitted to respective Member and contracting States by both IMO and ICAO respectively.
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.

DRAFT PROVISIONAL AGENDA JWG/15 [SEPTEMBER 2008]

- 1 Adoption of the agenda
- 2 Decisions of ICAO and IMO bodies related to the Joint Working Group work:
 - .1 briefing on the outcome of COMSAR 12 and MSC 83 and 84; and
 - .2 briefing on outcome of ICAO activities.
- 3 Provisions of conventions, plans, manuals and other documents affecting SAR:
 - .1 status of the Maritime SAR Convention and Annex 12 to the Convention on International Civil Aviation;
 - .2 alignment of the IMO Area SAR Plans, GMDSS Master Plan and ICAO Regional Air Navigation Plans;
 - .3 Progress report on work by the ANC and advancing provisions pertained to carriage of airborne equipment for civil aviation search and rescue alerting systems; and
 - .4 amendments to the IAMSAR Manual, including making more usable by training – institutions.
- 4 SAR operational principles, procedures and techniques:
 - .1 development of operational guidelines for safe and effective rescue operations, taking account of previous experiences;
 - .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, including the implementation of the Long-range Identification and Tracking (LRIT) system; 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 sub-regional SAR organization;
 - .3 quality assurance, improvement, needs assessment, risk management (including sub-regional organizations), safety management and resource allocation;
 - .4 implementation and operation of the “International SAR Fund”; and

- .5 evaluating the effect of various technical co-operation projects in cooperation 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;
 - .3 status of the COSPAS-SARSAT System;
 - .4 future trends in SAR communications; and
 - .5 non-GMDSS Communications systems which may be used for distress alerting.
- 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 Draft terms of reference and provisional agenda for JWG/16
- 11 Report to ICAO and the COMSAR Sub-Committee

— END —