



SUB-COMMITTEE ON  
RADIOCOMMUNICATIONS AND SEARCH  
AND RESCUE  
14th session  
Agenda item 17

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## REPORT TO THE MARITIME SAFETY COMMITTEE

### Table of contents

Section	Page No.
1 GENERAL	4
2 DECISIONS OF OTHER IMO BODIES	6
3 GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)	7
4 ITU MARITIME RADIOCOMMUNICATION MATTERS	12
5 SATELLITE SERVICES (Inmarsat and Cospas-Sarsat)	21
6 MATTERS CONCERNING SEARCH AND RESCUE, INCLUDING THOSE RELATED TO THE 1979 SAR CONFERENCE AND IMPLEMENTATION OF THE GMDSS	23
7 DEVELOPMENTS IN MARITIME RADIOCOMMUNICATION SYSTEMS AND TECHNOLOGY	30
8 REVISION OF THE IAMSAR MANUAL	34
9 DEVELOPMENT OF PROCEDURES FOR UPDATING SHIPBORNE NAVIGATION AND COMMUNICATION EQUIPMENT	35
10 MEASURES TO PROTECT THE SAFETY OF PERSONS RESCUED AT SEA	36
11 SAFETY PROVISIONS APPLICABLE TO TENDERS OPERATING FROM PASSENGER SHIPS	40
12 DEVELOPMENT OF AN E-NAVIGATION STRATEGY IMPLEMENTATION PLAN	42
13 REVISION OF PERFORMANCE STANDARDS FOR FLOAT-FREE SATELLITE EPIRBs OPERATING ON 406 MHz (RESOLUTION A.810(19))	46

14	WORK PROGRAMME AND AGENDA FOR COMSAR 15	48
15	ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2011	51
16	ANY OTHER BUSINESS	51
17	ACTION REQUESTED OF THE COMMITTEE	53

#### LIST OF ANNEXES

ANNEX 1	DRAFT MSC CIRCULAR – REVISED INTERNATIONAL SAFETYNET MANUAL
ANNEX 2	DRAFT MSC RESOLUTION – GUIDELINE ON OPERATIONAL PROCEDURES FOR THE PROMULGATION OF MARITIME SAFETY INFORMATION CONCERNING ACTS OF PIRACY AND PIRACY COUNTER-MEASURE OPERATIONS
ANNEX 3	DRAFT MSC CIRCULAR – QUESTIONNAIRE ON SHORE-BASED FACILITIES FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)
ANNEX 4	DRAFT MSC RESOLUTION – REVISED PERFORMANCE STANDARDS FOR ENHANCED GROUP CALL (EGC) EQUIPMENT
ANNEX 5	DRAFT IMO POSITION ON WRC-12 AGENDA ITEMS CONCERNING MATTERS RELATING TO MARITIME SERVICES
ANNEX 6	LIAISON STATEMENT TO ITU-R WORKING PARTY 5B – RECOMMENDATION ITU-R M.493-13 ON DIGITAL SELECTIVE CALLING SYSTEM FOR USE IN THE MARITIME MOBILE SERVICE AND MMSI NUMBERING SYSTEMS FOR HAND HELD VHF DSC RADIOS
ANNEX 7	LIAISON STATEMENT TO ITU-R WORKING PARTY 5B – IMPLEMENTATION OF RESOLUTION 355 (WRC-07)
ANNEX 8	LIAISON STATEMENT TO ITU-R WORKING PARTY 5B – SPECIFICATIONS OF "MAN OVERBOARD" DEVICES
ANNEX 9	TERMS OF REFERENCE FOR THE JOINT IMO/ITU EXPERTS GROUP ON MARITIME RADIOCOMMUNICATION MATTERS
ANNEX 10	DRAFT MSC CIRCULAR – COMMERCIALY AVAILABLE LOCATING, TRACKING AND EMERGENCY NOTIFICATION DEVICES
ANNEX 11	DRAFT MSC CIRCULAR – MEDICAL ASSISTANCE AT SEA – YACHT RACING
ANNEX 12	TERMS OF REFERENCE AND PROVISIONAL AGENDA FOR THE SEVENTEENTH SESSION OF THE ICAO/IMO JOINT WORKING GROUP

- 
- ANNEX 13 DRAFT MSC CIRCULAR – AMENDMENTS TO THE INTERNATIONAL AERONAUTICAL AND MARITIME SEARCH AND RESCUE (IAMSAR) MANUAL
- ANNEX 14 BIENNIAL AND POST-BIENNIAL AGENDAS OF THE COMSAR SUB-COMMITTEE
- ANNEX 15 DRAFT PROVISIONAL AGENDA FOR COMSAR 15
- ANNEX 16 REPORT ON THE STATUS OF PLANNED OUTPUTS FOR THE COMSAR SUB-COMMITTEE
- ANNEX 17 DRAFT MSC RESOLUTION – ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)
- ANNEX 18 DRAFT MSC CIRCULAR – UNIFIED INTERPRETATION OF THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)
- ANNEX 19 DRAFT MSC RESOLUTION – ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)

## 1 GENERAL

1.1 The Sub-Committee on Radiocommunications and Search and Rescue held its fourteenth session from 8 to 12 March 2010 under the Chairmanship of Mr. C. Salgado (Chile).

1.2 The session was attended by delegations from the following countries:

ALGERIA	LATVIA
ANGOLA	LIBERIA
ARGENTINA	LIBYAN ARAB JAMAHIRIYA
AUSTRALIA	MALAYSIA
AZERBAIJAN	MALTA
BAHAMAS	MARSHALL ISLANDS
BELGIUM	MEXICO
BOLIVIA (PLURINATIONAL STATE OF)	MOROCCO
BRAZIL	NETHERLANDS
BULGARIA	NEW ZEALAND
CANADA	NIGERIA
CHILE	NORWAY
CHINA	PANAMA
COLOMBIA	PERU
CÔTE D'IVOIRE	PHILIPPINES
CROATIA	POLAND
CYPRUS	PORTUGAL
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	REPUBLIC OF KOREA
DENMARK	ROMANIA
ECUADOR	RUSSIAN FEDERATION
EGYPT	SAUDI ARABIA
ESTONIA	SENEGAL
FINLAND	SINGAPORE
FRANCE	SOUTH AFRICA
GERMANY	SPAIN
GHANA	SWEDEN
GREECE	TRINIDAD AND TOBAGO
INDONESIA	TURKEY
IRAN (ISLAMIC REPUBLIC OF)	TUVALU
IRAQ	UKRAINE
IRELAND	UNITED ARAB EMIRATES
ITALY	UNITED KINGDOM
JAMAICA	UNITED STATES
JAPAN	URUGUAY
KENYA	VENEZUELA (BOLIVARIAN REPUBLIC OF)

and by the following Associate Member of IMO:

HONG KONG, CHINA

1.3 The following United Nations specialized agencies were also represented:

OFFICE OF THE UN HIGH COMMISSIONER FOR REFUGEES (UNHCR)  
INTERNATIONAL TELECOMMUNICATION UNION (ITU)  
WORLD METEOROLOGICAL ORGANIZATION (WMO)

1.4 The session was also attended by observers from the following intergovernmental organizations:

INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO)  
EUROPEAN COMMISSION (EC)  
MARITIME ORGANIZATION FOR WEST AND CENTRAL AFRICA (MOWCA)  
LEAGUE OF ARAB STATES  
INTERNATIONAL COSPAS-SARSAT PROGRAMME AGREEMENT  
(COSPAS-SARSAT)  
INTERNATIONAL MOBILE SATELLITE ORGANIZATION (IMSO)  
EUROPEAN CONFERENCE OF POSTAL AND TELECOMMUNICATIONS  
ADMINISTRATIONS (CEPT)

and by observers from the following non-governmental organizations in consultative status:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)  
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)  
INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND  
LIGHTHOUSE AUTHORITIES (IALA)  
COMITÉ INTERNATIONAL RADIO-MARITIME (CIRM)  
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)  
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)  
INTERNATIONAL COUNCIL OF MARINE INDUSTRY ASSOCIATIONS (ICOMIA)  
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)  
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS  
(INTERTANKO)  
INTERNATIONAL MARITIME RESCUE FEDERATION (IMRF)  
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA)  
INTERNATIONAL SAILING FEDERATION (ISAF)  
THE INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)  
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)  
THE NAUTICAL INSTITUTE

1.5 There was also representation from the World Maritime University (WMU).

### **Secretary-General's opening address**

1.6 The Secretary-General welcomed participants and delivered his opening address. The full text of the opening address is reproduced in document COMSAR 14/INF.12.

### **Chairman's remarks**

1.7 In responding, the Chairman thanked the Secretary-General for his words of guidance and encouragement and assured the Secretary-General that his advice and requests would be given every consideration in the deliberations of the Sub-Committee and its working groups, in particular:

- .1 to approach the agenda item "Measures to protect the safety of persons rescued at sea" with due diligence and on an urgent basis;
- .2 with regard to the consideration of the proposal for a draft MSC resolution on Promulgation of Navigational Warnings concerning counter-piracy operations, that the concern should, above all, be for the safety of life at sea and the well-being of the seafarers involved and their families, and that

there should be no rest unless and until all the necessary measures, to suppress and eradicate the unlawful acts, had been taken;

- .3 to make the best possible use of the Joint IMO/ITU Experts Group as it provided the opportunity to address the matter of a Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS, in detail, during the intersessional period; and
- .4 that the need for optimal cooperation of maritime and aeronautical rescue coordination centres, as well as of the competent authorities involved, could not be overstated as it played a crucial role in safeguarding life at sea.

### **Recent incident of a cruise ship hit by "abnormally high" waves**

1.8 The Sub-Committee noted the information provided by Malta on a recent incident with the Maltese flagged passenger (cruise) ship **Louis Majesty**, which was hit by three "abnormally high" waves ("freak waves") on its voyage from Barcelona to Genoa. Although it was not a matter directly related to the work of the Sub-Committee, it was noted that several questions related to the phenomena of "abnormally high" waves needed to be addressed and the involvement of IMO needed to be considered.

### **Adoption of the agenda and related matters**

1.9 The Sub-Committee adopted the agenda (COMSAR 14/1), and agreed, in general, that the work of the Sub-Committee should be guided by the annotations to the provisional agenda and timetable (COMSAR 14/1/1), as amended.

## **2 DECISIONS OF OTHER IMO BODIES**

2.1 The Sub-Committee noted the decisions and comments pertaining to its work made by MSC 86, DE 52, FSI 17, NAV 55 and DSC 14, as reported in document COMSAR 14/2, and took them into account in its deliberations under the relevant agenda items.

2.2 The Sub-Committee also noted the relevant decisions of DE 53, which took place two weeks before and had been reported orally by the Secretariat under agenda item 11.

### **Outcome of the twenty-sixth session of the Assembly**

- 2.3 The Sub-Committee noted that the twenty-sixth session of the Assembly adopted:
- .1 resolution A.1011(26) on the Strategic Plan for the Organization (for the six-year period 2010 to 2015);
  - .2 resolution A.1012(26) on the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium;
  - .3 resolution A.1013(26) on the Guidelines on the application of the Strategic Plan and the High-level Action Plan of the Organization; and
  - .4 resolution A.1029(26) on the Global Integrated Shipping Information System (GISIS), urging Member States and intergovernmental organizations to make ample use of the facilities for the reporting and transfer of data into the system.

2.4 The Sub-Committee considered the outcome of the twenty-sixth session of the Assembly, regarding the Strategic Plan and the High-level Action Plan of the Organization (subparagraphs .1 to .3 in the above paragraph), under agenda item 14 on the Work programme and agenda for COMSAR 15 (paragraphs 14.3 to 14.5 and 14.11 refer).

### **3 GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)**

#### **MATTERS RELATING TO THE GMDSS MASTER PLAN**

3.1 The Sub-Committee noted document COMSAR 14/3 (Secretariat) and, in particular, that:

- .1 in accordance with its instructions and using information provided by Governments after January 2009, the Secretariat had issued GMDSS.1/Circ.11 (GMDSS Master Plan) on 31 March 2009. Member Governments that provided information after COMSAR 13, which was included in GMDSS.1/Circ.11, were: Argentina, the Democratic People's Republic of Korea, Mexico, Poland, the Russian Federation and the United Kingdom;
- .2 since issuing GMDSS/Circ.11, up to the time of issuing document COMSAR 14/3, the Secretariat had received updated information from Argentina, Australia, Belgium, China (the People's Republic of), Denmark, Egypt, Iceland, Iran (the Islamic Republic of), Poland, the Republic of Korea, the Russian Federation, Sweden and Hong Kong, China; and
- .3 since issuing document COMSAR 14/3, the Secretariat had also received updates from Brazil, Bulgaria, Cyprus, Egypt, Estonia, Greece, Japan, Mauritius, the Russian Federation and Senegal. The Secretariat was planning to issue GMDSS.1/Circ.12 after completion of the fourteenth session of the Sub-Committee in April 2010.

3.2 Noting the above information, the Sub-Committee once again requested Member Governments to check their national data in GMDSS.1/Circ.11 for accuracy, and provide the Secretariat with any necessary amendments, as soon as possible, and to respond to MSC/Circ.684, if they had not already done so.

#### **Revision of MSC/Circ.684**

3.3 The Sub-Committee considered document COMSAR 14/3/3 (Secretariat), containing the proposed revision of MSC/Circ.684 regarding the Questionnaire on the availability of shore-based facilities in the GMDSS, which the Secretariat considered necessary due to changes in the provision of several services as well as the evolution of the database over the years.

3.4 The Sub-Committee decided to refer document COMSAR 14/3/3 to the Technical Working Group for further consideration.

#### **Operational and technical co-ordination provisions of Maritime Safety Information (MSI) services, including review of the related documents**

3.5 The Sub-Committee noted that MSC 86 had approved the revised joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI), for dissemination by means of MSC.1/Circ.1310 and decided that the amendments would come into force on 1 January 2011.

**Activities undertaken by the IHO World-Wide Navigational Warnings Service Sub-Committee (IHO WWNWS) and the NAVTEX Coordinating Panel**

3.6 In considering document COMSAR 14/3/1 (IHO), the Sub-Committee noted with appreciation the matters discussed and decisions taken at the first session of the IHO World-Wide Navigational Warnings Service Sub-Committee (WWNWS 1), which was held from 18 to 21 August 2009.

3.7 The Sub-Committee further noted the report of the Chairman of the International NAVTEX Co-ordinating Panel (COMSAR 14/3/6) providing a summary of the current issues being addressed by the Panel and its actions/activities since COMSAR 13. The Sub-Committee noted, in particular, the information provided in paragraph 2.2.2.1 of the document, that it might not be necessary to establish two International NAVTEX stations in NAVAREA II in close proximity to each other.

3.8 The Sub-Committee endorsed the view of the International NAVTEX Co-ordinating Panel that, taking into account the costs involved in the establishment and maintenance of NAVTEX stations, the coverage of a station already established or to be established and the limit on available timeslots for the promulgation of information via NAVTEX, neighbouring countries should consider to use each other's NAVTEX facilities, wherever practicable.

3.9 The Sub-Committee noted with appreciation the information provided by Côte d'Ivoire on their plans to install a NAVTEX station in their country, with the view of filling the existing gap between the service currently provided by Senegal and the future service to be provided by Nigeria. Côte d'Ivoire reassured the Sub-Committee that it would contact Ghana to avoid any duplication. The Sub-Committee further noted the appreciation expressed by Côte d'Ivoire to IHO for providing the MSI training course in Accra, Ghana, in which they had participated.

3.10 The Sub-Committee noted the information provided by the delegation of Japan on their efforts in trying to reduce the power output of their NAVTEX stations from 5 to 2 kW, for the purpose of optimizing their broadcasting area. The International NAVTEX Co-ordinating Panel would be informed as and when studies on this issue were finalized.

3.11 The delegation of Italy informed the Sub-Committee that the Italian NAVTEX reorganization was initially planned based on the following three stations, all fitted with duplicated systems in order to provide the highest value for NAVTEX service:

- Mondolfo (middle Adriatic Sea);
- La Maddalena (North of Sardinia); and
- Lampedusa (Sicily channel).

All stations had been installed and successfully tested by the end of 2007.

At a later stage, Italy had been requested by the NAVAREA coordinator to shift the Lampedusa station due to its close vicinity to the Maltese one. A new site was now located in Sellia Marina (South of Italy – continental side), where a non-duplicated NAVTEX system had been installed during the second half of 2008. In July 2009, the Italian Coast Guard signed a new contract for installing a second system in Sellia Marina (antenna plus transmitter) able to provide the requested availability for the NAVTEX service. Installation of the new system was planned to be accomplished within the first half of 2010. After completion of installation, the Italian Coast Guard would conduct provisional transmissions for a few months with a view to verifying the overall network performance. The new NAVTEX service was planned to be fully operational in the first half of January 2011.



3.12 The Sub-Committee noted the view expressed by Turkey with regard to the NAVTEX service areas in the Eastern Mediterranean: that this region was not the only region in which it was not possible to reach a consensus on the delimitation of the service areas.

3.13 The Sub-Committee noted that for the Aegean Sea and the Eastern Mediterranean, Greece reiterated its positions and rejected any modification of the established NAVTEX Service Areas and the respective Greek NAVTEX stations, that had been in full operation for more than 20 years, without encountering any problems and fully covering the needs for the safety of navigation within their limits, in accordance with the IMO and IHO specified features, regulations and principles.

3.14 The Sub-Committee further noted the statement of Turkey that the NAVTEX service areas in the Aegean Sea remained to be determined between the relevant coastal States. In this framework, Turkey would continue to broadcast NAVTEX messages in the region, as communicated to NAVAREA-III with a view to contributing to the safety of navigation, protection of human life and property at sea, as well as the marine environment. In the meantime, Turkey stood ready to cooperate with Greece in good spirit to find a practical solution to this technical issue.

#### **Review and revision of resolutions A.664(16) and A.701(17) and Review of the International SafetyNET Manual**

3.15 The Sub-Committee briefly considered documents COMSAR 14/3/4 (IHO, WMO and IMSO), proposing revised texts for resolutions A.664(16) and A.701(17); and COMSAR 14/3/5 (IHO, WMO and IMSO), proposing a revised text for the International SafetyNET Manual, and decided to refer the documents to the Technical Working Group for further consideration.

#### **Promulgation of Arctic MSI services**

3.16 The Sub-Committee recalled that COMSAR 13 had re-established the Joint IMO/IHO/WMO Correspondence Group on Arctic MSI services.

3.17 The Sub-Committee considered the report of the Chairman of the Joint IMO/IHO/WMO Correspondence Group (CG) on Arctic MSI Services (COMSAR 14/3/7), addressing the expansion of the World-Wide Navigational Warning Service (WWNWS) into the Arctic waters. The Sub-Committee:

- .1 noted the active participation, through national delegations, in the CG and the continued coordination with IHO WWNWS throughout its work;
- .2 noted the assistance for training and technical support given to the new Arctic NAVAREA Coordinators and the METAREA Issuing Services from the IHO WWNWS Sub-Committee and WMO respectively;
- .3 invited IHO and WMO, through the IHO WWNWS Sub-Committee, to monitor the Initial Operational Capability (IOC) testing and transition to Full Operational Capability (FOC) and to provide guidance and assistance, as appropriate; and
- .4 invited IHO and WMO to report on the progress made to COMSAR 15.

**Promulgation of maritime safety information concerning counter-piracy measures**

3.18 The Sub-Committee, recalling the Secretary-General's opening remarks on this issue, considered document COMSAR 14/3/8 (IMSO) and noted that the recent increase in acts of piracy in the northeast Indian Ocean and off the Horn of Africa had brought into focus the need for a high level of cooperation between naval forces engaged in counter-piracy operations and merchant shipping in the region. In particular, experience in the present operations had shown that there was the potential for some difficulty in arranging the broadcast of navigational safety information originated by naval forces to merchant ships. Accordingly, the Sub-Committee briefly considered the proposed draft MSC resolution on Guideline on Operational Procedures for the promulgation of Maritime Safety Information concerning acts of Piracy and counter-Piracy operations.

3.19 The Sub-Committee noted concerns expressed by several delegations; that the proposed procedure would turn out to be ineffective since it seemed not to bring the information quickly to the ships in the area and that it also might cause an information overload on board the ships.

3.20 IMSO responded by explaining that there was a need to put a short delay in the process, in order to overcome political and operational issues. It was noted that the proposed procedure was designed to accept a wide range of messages, assess them, and draft the warnings in the required format and using the appropriate language to overcome overload.

3.21 The Sub-Committee decided to refer document COMSAR 14/3/8 to the Technical Working Group for further consideration.

**List of NAVAREA Coordinators**

3.22 Having briefly considered document COMSAR 14/3/2 (IHO), concerning a draft COMSAR circular containing a revised list of NAVAREA Coordinators, the Sub-Committee decided to refer this document to the Technical Working Group.

**Designation of a NAVAREA III Sub-Area Coordinator**

3.23 The Sub-Committee noted the information provided by the Islamic Republic of Iran (COMSAR 14/INF.10) on the existence of capacities and infrastructures which would allow them, in their view, to be a capable and an appropriate candidate to be designated as a NAVAREA III Sub-Area Coordinator for the Caspian Sea region.

3.24 The Sub-Committee noted the information provided by the Russian Federation that the legal status on the application of the SOLAS Convention for the Caspian Sea was not defined. In this regard there was a need for an agreement among the coastal States concerned. The Russian Federation was, furthermore, of the view that there was no need to establish a NAVAREA III Sub-Area Coordinator, but that it might be desirable to establish a coordinator for NAVTEX services. Every State could provide such a coordinator, and the Russian Federation would be prepared to accept that role.

3.25 The Islamic Republic of Iran took note of the intervention by the Russian Federation and advised that they would take it into account when preparing for further discussions on this matter at the second meeting of the IHO World-Wide Navigational Warnings Service Sub-Committee, to take place in August 2010.

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**REPORT OF THE 19<sup>TH</sup> SESSION OF THE BALTIC/BARENTS SEA REGIONAL CO-OPERATION ON MATTERS RELATING TO THE COMSAR SUB-COMMITTEE (BBRC/COMSAR-19)**

3.26 The Sub-Committee noted the information provided by Germany (COMSAR 14/INF.4) on the report of the 19<sup>th</sup> session of the Baltic/Barents Sea Regional Co-operation Conference on matters relating to the COMSAR Sub-Committee (BBRC/COMSAR-19).

**Terms of Reference for the Technical Working Group**

3.27 The Sub-Committee instructed the Technical Working Group to consider documents COMSAR 14/3/2, COMSAR 14/3/3, COMSAR 14/3/4, COMSAR 14/3/5 and COMSAR 14/3/8, taking into account decisions of, and comments and proposals made in Plenary and, in particular, to consider:

- .1 as an urgent matter, the proposed revised texts for the International SafetyNET Manual, as given in document COMSAR 14/3/5, and prepare an associated draft MSC circular for approval by the Committee;
- .2 as an urgent matter, the proposals given in document COMSAR 14/3/8, in particular the draft guidelines, as provided at annex to the document, and develop a draft MSC resolution on the Promulgation of Navigational Warnings concerning counter-piracy operations, for adoption by the Committee;
- .3 the updated list of NAVAREA Coordinators given in document COMSAR 14/3/2, and finalize a draft COMSAR circular on the list of NAVAREA Coordinators;
- .4 the proposed revision of MSC/Circ.684 on the Questionnaire on the availability of shore-based facilities in the GMDSS, given in document COMSAR 14/3/3, and prepare an associated draft MSC circular for approval by the Committee; and
- .5 the proposed revised texts for resolutions A.664(16) and A.701(17), as given in document COMSAR 14/3/4, and prepare associated draft revised Assembly resolutions for approval by the Committee with a view to adoption by the Assembly,

and report back to Plenary.

**Report of the Technical Working Group**

3.28 On receipt of the report of the Technical Working Group (COMSAR 14/WP.5, section 3), the Sub-Committee took action as summarized in the ensuing paragraphs.

3.29 The Sub-Committee endorsed:

- .1 amendments to the revised edition of the International SafetyNET Manual, and instructed the Secretariat to prepare the associated draft MSC circular on the revised International SafetyNET Manual and to submit it, as an annex to the report of the Sub-Committee for consideration and approval by the Committee, at its eighty-seventh session (annex 1);
- .2 the draft MSC resolution on Guideline on operational procedures for the promulgation of maritime safety information concerning acts of piracy and piracy counter-measure operations with a view to adoption by the Committee, at its eighty-seventh session (annex 2);

- .3 the MSC circular on the Questionnaire on the availability of shore-based facilities in the GMDSS, superseding MSC/Circ.684, for approval by the Committee (annex 3);
- .4 the view that resolution A.701(17) had become obsolete and instructed the Secretariat to take action as appropriate; and
- .5 the draft MSC resolution on the revised performance standards for enhanced group call (EGC) equipment amending resolution A.664(16), with a view to adoption by the Committee (annex 4).

3.30 The Sub-Committee approved COMSAR.1/Circ.51 on the list of NAVAREA Coordinators and instructed the Secretariat to circulate it, and invited the Committee to endorse this action.

## **4 ITU MARITIME RADIOCOMMUNICATION MATTERS**

### **RADIOCOMMUNICATION ITU-R STUDY GROUP 8 MATTERS**

- 4.1 The Sub-Committee recalled that COMSAR 13 had approved a liaison statement to:
- .1 ITU and CIRM on Proposed new "DSC Class H" of DSC portable radio intended primarily for distress alerting and communication;
  - .2 ITU, IALA, IEC and CIRM on Automatic Identification System (AIS) Search and Rescue Transmitter (AIS-SART); and
  - .3 ITU on the Implementation of Resolution 355 (WRC-07) concerning the Maritime Manual,

and agreed to the re-establishment of the Joint IMO/ITU Experts Group.

- 4.2 The Sub-Committee noted that:
- .1 the meeting of the Joint IMO/ITU Experts Group had been held at IMO Headquarters from 23 to 25 June 2009; and
  - .2 ITU-R Working Party 5B (ITU-R WP 5B) had held its last meeting from 23 November to 4 December 2009.

### **Outcome of the fifth meeting of the Joint IMO/ITU Experts Group on Maritime radiocommunication matters**

4.3 In considering document COMSAR 14/4 (Secretariat) on the outcome of the fifth meeting of the Joint IMO/ITU Experts Group on Maritime radiocommunication matters, the Sub-Committee:

- .1 noted that the Group had drafted a draft liaison statement on satellite detection of AIS, which was forwarded to NAV 55 (document NAV 55/INF.13 refers);
- .2 noted the outcome of the brainstorm session on the "Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS";

- 
- .3 noted the updated draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services;
  - .4 noted that the Group had encouraged interested parties to submit relevant proposal to COMSAR 14 with regard to:
    - .1 the use of Unmanned Aircraft Systems (UAS) for maritime purposes in relation to WRC-12 Agenda item 1.3; and
    - .2 the interest in WRC-12 Agenda item 1.17;
  - .5 noted that the Group had encouraged careful watching of the developments with regard to WRC-12 Agenda item 1.15;
  - .6 noted that the Group had encouraged interested parties to submit relevant contributions to the next meeting of ITU-R WP 5B with regard to:
    - .1 the Maritime Manual, taking into account that it was intended to finalize the text for the Maritime Manual at that meeting; and
    - .2 the new list IV, taking into account that experts views on this issue were needed to move the matter forward;
  - .7 endorsed the action taken by the Group in providing information to the relevant ITU-R Working Parties on non-controversial issues which needed to be brought quickly to the attention of ITU; and
  - .8 noted the proposal for the holding of a meeting of the Group from 14 to 16 September 2010, at IMO Headquarters in London.

#### **Report of the meeting of ITU-R WP 5B**

4.4 The Sub-Committee noted the information provided in document COMSAR 14/4/1 (Secretariat) containing the report of the meeting of ITU-R WP 5B and, in particular, that ITU-R WP 5B had sent six liaison statements to IMO on:

- .1 implementation of Resolution 355 (WRC-07) concerning the maritime publications (COMSAR 14/4/2);
- .2 identification for proposed new handheld VHF radio with DSC and GNSS intended primarily for distress alerting and communication (COMSAR 14/4/3);
- .3 specifications of "man overboard" devices (COMSAR 14/4/4);
- .4 a working document towards a draft new report on near real-time exchange of maritime domain information (COMSAR 14/4/5);
- .5 the regulatory status of the AIS frequencies for WRC-12 (COMSAR 14/4/6); and
- .6 a draft revision of Recommendation ITU-R M.1371-3 (to be considered by NAV 56 in July 2010).

The Sub-Committee further noted that the liaison statements of relevance to the work of the Sub-Committee would be introduced later on under this agenda item.

4.5 The Sub-Committee also noted that ITU-R WP 5B had appreciated the presence of the IMO Secretariat at that meeting and the advice given with regard to the work undertaken by IMO. The Sub-Committee further noted that, in ITU-R WP 5B, views were expressed that the meetings of the Joint IMO/ITU Experts Group in between two sessions of the COMSAR Sub-Committee were providing valuable information needed to progress studies in ITU-R.

4.6 Referring to paragraph 7 of document COMSAR 14/4/1, the delegation of the United Kingdom invited the Sub-Committee to note that they had submitted information which they believed identified inconsistencies in the revised ITU-R Recommendation 493-13. Under the new version of the recommendation, the option of transmitting urgency calls at MF/HF to "all ships" was not available any more, and DSC urgency announcements were forced to a geographic area call only. It was noted that existing DSC radios in service currently did permit an "all ships" call. Thus an "all ships" call, transmitted by an existing radio, would not be received by a radio adopting this new recommendation. Furthermore, current training provided to operators of GMDSS stations provided for an option by the operator to make a decision on whether to restrict the call to a geographic area or send the call to "all ships".

The absence of the "all ships" facility in ITU-R Recommendation 493, version 13, therefore created, in the view of the United Kingdom, an incompatibility with existing ships. This would cause confusion to operators and might well result in urgency calls not being received. The United Kingdom invited the Sub-Committee to pass the matter to the Technical Working Group for further discussion, with a view to developing a request to ITU-R to address this issue.

4.7 Noting that there was support for the proposal by the United Kingdom, the Sub-Committee decided to refer the matter to the Technical Working Group for further discussion and the development of a liaison statement to ITU-R WP 5B, as appropriate.

#### **Implementation of Resolution 355 (WRC-07) (Revision of ITU Service Publications)**

4.8 The Sub-Committee noted document COMSAR 14/4/2 (Secretariat), containing a liaison statement from ITU-R WP 5B with regard to the implementation of Resolution 355 (WRC-07) concerning the maritime publications. The Sub-Committee noted that ITU-R WP 5B had completed its studies on the integration of the existing List V and List VIIA into a new List V "List of ship stations and maritime mobile service identity assignments", the integration of the existing List IV and List VI into a new List IV "List of coast stations and special service stations" including the finalization of the draft text for the new Volume 1 of the practice-oriented and user-friendly Manual for use by the maritime mobile and maritime mobile-satellite services (Maritime Manual). It was further noted that Volume 2 would contain mainly all the information of the current Maritime Manual, which had been published in early 2009.

#### **Identification for proposed new handheld VHF radio with DSC and GNSS intended primarily for distress alerting and communication**

4.9 The Sub-Committee briefly considered document COMSAR 14/4/3 (Secretariat), containing a liaison statement from ITU-R WP 5B with regard to the identification for proposed new handheld VHF radio with DSC and GNSS intended primarily for distress alerting and communication. ITU-R WP 5B had discussed a proposal by Norway, for a new MMSI format for these proposed new handheld VHF radios. It was noted that the proposal was initiated by the liaison statement sent by COMSAR 13 (COMSAR 13/14, annex 3) on Proposed new "DSC Class H" of DSC portable radio intended primarily for distress alerting and communication. In the liaison statement, COMSAR 13 had informed ITU-R WP 5B that it had noted that since these handheld DSC radios could be moved from vessel to vessel, further consideration should be given to the issuance of MMSIs to indicate that it was a handheld device.

4.10 The Sub-Committee decided to refer document COMSAR 14/4/3 to the Technical Working Group for further consideration.

4.11 At the request of ITU-R WP 5B, the Sub-Committee invited Member Governments to forward proposals on this matter to the next meeting of ITU-R WP 5B to be held from 10 to 21 May 2010.

#### **Near real-time exchange of maritime domain information**

4.12 The Sub-Committee briefly considered document COMSAR 14/4/5 (Secretariat), containing a liaison statement from ITU-R WP 5B with regard to near real-time exchange of maritime domain information. The Sub-Committee noted that ITU-R WP 5B was studying the technology and characteristics of various radiocommunication-based systems which provide near real-time exchange of maritime domain information. The Sub-Committee decided to refer document COMSAR 14/4/5 to the Technical Working Group for further consideration.

#### **Specifications of man overboard devices**

4.13 The Sub-Committee considered document COMSAR 14/4/4 (Secretariat), containing a liaison statement from ITU-R WP 5B with regard to the development of Specifications of man overboard devices. The Sub-Committee noted that in ITU-R WP 5B, when considering the growing number and types of devices for use in man overboard situations that were coming on to the market, concerns had been raised regarding the compatibility of these devices with the operation of the GMDSS distress and safety frequencies and the aeronautical emergency frequency of 121.5 MHz. Therefore, ITU-R WP 5B was considering the need for the development of a new ITU-R Recommendation that would evaluate and provide guidance on the specifications of man overboard devices.

4.14 In the same context, the Sub-Committee noted document COMSAR 14/INF.9 (Australia), providing information on the use of VHF DSC for man overboard alerting, in light of Australia's experiences and the recent ITU-R WP 5B liaison statement to IMO on man overboard systems.

4.15 The Sub-Committee was of the view that this issue needed to be considered from a technical point of view, taking into account advice from the SAR experts. Accordingly, the Sub-Committee decided to refer documents COMSAR 14/4/4 and COMSAR 14/INF.9 to the Technical Working Group, as well as to the SAR Working Group, for detailed consideration.

#### **Terms of Reference for the SAR Working Group**

4.16 The Sub-Committee instructed the SAR Working Group, taking into account decisions of, and comments and proposals made in, Plenary, to consider document COMSAR 14/4/4, taking into account document COMSAR 14/INF.9 and provide the Technical Working Group with relevant advice from the SAR point of view.

#### **Report of the SAR Working Group**

4.17 On receipt of the report of the SAR Working Group (COMSAR 14/WP.4, section 3 and annex 1), the Sub-Committee noted the advice given to the Technical Working Group on the issue of Specifications of man overboard devices (paragraph 4.38.4 refers).

#### **ITU WORLD RADIOCOMMUNICATION CONFERENCE MATTERS**

4.18 The Sub-Committee recalled that COMSAR 13 had:

- .1 approved a liaison statement to ITU on the Regulatory status of AIS frequencies for WRC-12;

- .2 invited the NAV Sub-Committee to consider issues related to the status of the current AIS frequencies and advise COMSAR 14 accordingly;
- .3 invited the DSC Sub-Committee to consider the issue of tracking and identification of cargo containers and advise COMSAR 14 accordingly; and
- .4 invited the NAV Sub-Committee to consider future spectrum requirements with respect to e-navigation and advise COMSAR 14 accordingly.

4.19 The Sub-Committee noted that the next World Radiocommunication Conference, which was provisionally scheduled to take place in the fourth quarter of 2011, had been rescheduled to take place from 23 January to 17 February 2012. It was further noted that the second session of the Conference Preparatory Meeting was scheduled to take place from 14 to 25 February 2011.

4.20 The Sub-Committee also noted that MSC 86 had authorized the Secretariat to forward the draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services, directly after COMSAR 14 and prior to approval by MSC 87, to ITU-R WP 5B in order to inform ITU in time on the status of the IMO position regarding WRC-12.

4.21 The Sub-Committee further noted that NAV 55 had:

- .1 following a decision by MSC 86, approved a liaison statement to ITU-R WP 5B on satellite detection of AIS, informing ITU-R WP 5B on the outcome of discussions on this matter at MSC 86, outlining the following points:
  - .1 considerable concerns had been raised, which should be conveyed to relevant bodies in ITU, to be taken into account in their further studies, namely:
    - .1 the relationship with the implementation of the long-range identification and tracking of ships (LRIT) system;
    - .2 integrity and confidentiality issues;
    - .3 security issues;
    - .4 collection and dissemination of data;
    - .5 technical issues, such as the risk of interference to critical existing maritime radiocommunication services and the need for changes to the current AIS Class A equipment; and
    - .6 global policy issues, including the view that all countries should benefit from the development and implementation of this system;
  - .2 there was general support for the continuation of studies under the framework of ITU; and
  - .3 IMO should not make any commitment at this stage, awaiting the outcome of studies; and



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- .2 in relation to the implementation of e-navigation had agreed that:
- .1 e-navigation would require a stable broadband VHF, HF and satellite data communications system;
  - .2 maritime frequency spectrum should not be given up;
  - .3 e-navigation would probably require additional frequency allocation which would be communicated to COMSAR in due course for onward transmission to ITU; and
  - .4 ITU should be informed accordingly (NAV 55/21, paragraphs 8.29 to 8.34).

4.22 The Sub-Committee also noted that DSC 14 had considered the issue of tracking and identification of cargo containers (paragraphs 4.26 to 4.28 refer).

### **Regulatory status of the AIS frequencies for WRC-12**

4.23 The Sub-Committee noted that NAV 55 had agreed with the liaison statement from COMSAR 13 to ITU-R WP 5B, that the safety functions of AIS should be recognized by ITU in the Radio Regulations which currently limit the safety functions only to the AIS-SART. However, NAV 55 had noted that the initial consideration by ITU-R had concluded that any regulatory change to the status of the AIS frequencies would be very difficult to achieve.

4.24 The Sub-Committee considered document COMSAR 14/4/6 (Secretariat), containing a liaison statement from ITU-R WP 5B with regard to the regulatory status of the AIS frequencies for WRC-12. It was noted that ITU-R WP 5B had initially considered the issue of the status of AIS frequencies in Appendix 15 at its meeting in May 2009. Since ITU-R WP 5B did not conclude on the issue at its meeting in November/December 2009, ITU-R WP 5B had agreed to send an interim liaison statement to IMO. The Sub-Committee decided to refer document COMSAR 14/4/6 to the Technical Working Group for further consideration of the issue in relation to the further development of the draft IMO position for WRC-12.

### **Standards for the carriage of goods by sea and subsequent land transport**

4.25 The Sub-Committee recalled that COMSAR 12 had noted that Resolution 357 (WRC-07) recognized that there was an increasing need, on a global basis, to enhance ship and cargo identification, tracking and surveillance for ship and port security purposes. Accordingly, COMSAR 12 had requested ISO to inform IMO on radio spectrum requirements for radio frequency identification devices used on cargo containers for the enhancement of ship and cargo identification, tracking and surveillance for ship and port security purposes.

4.26 The Sub-Committee further recalled that ISO had informed COMSAR 13 on radio spectrum requirements for radio frequency identification devices (RFID) used on cargo containers and that COMSAR 13 had decided to invite the DSC Sub-Committee to consider the issue and advise COMSAR 14 accordingly.

4.27 The Sub-Committee noted that DSC 14, in relation to the issue of tracking and identification of cargo containers, had noted that, in the near future, RFID might be required on cargo containers to enhance ship and cargo identification, tracking and surveillance for ship and port security purposes, and that it would be important for IMO to support initiatives to obtain a common frequency band that could be used economically on a worldwide basis for this purpose. However, DSC 14 had further noted that the support for the allocation of a common frequency band for the harmonized use of RFID devices would not prejudge implementation of such a system in the framework of IMO.

4.28 The Sub-Committee briefly considered document COMSAR 14/4/7 (ISO), containing a statement from the ISO, reflecting efforts with regard to the identification and security of cargo containers entering and leaving international ports and ships and decided to refer the document to the Technical Working Group for further consideration.

#### **Draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services**

4.29 The Sub-Committee recalled that it was expected to finalize the draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services at the current session, in order to inform ITU in time on the status of the IMO position regarding WRC-12.

4.30 The Sub-Committee further recalled that more work with regard to the IMO position was anticipated at COMSAR 15 and intersessionally by the Joint IMO/ITU Experts Group in order to:

- .1 review the position, as approved by MSC 87, and propose necessary updates to the document in the light of developments in IMO and ITU; and
- .2 formulate substantive material to support the development of proposals, by Member Governments of ITU, for Agenda items for the next Conference (WRC-[16]).

4.31 The Sub-Committee briefly considered document COMSAR 14/WP.2 (Chairman), containing the amended draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services, and noted that the document was prepared by the Chairman, in cooperation with the Secretariat, in order to facilitate the work of the Sub-Committee in finalizing the draft IMO position on relevant WRC-12 Agenda items at this session. It was further noted that the document basically contained the outcome of the fifth meeting of the Joint IMO/ITU Experts Group on Maritime radiocommunication matters (COMSAR 14/4, annex 4).

4.32 The Sub-Committee noted that in document COMSAR 14/WP.2, in general, changes had been proposed due to developments in the framework of ITU-R, as well as editorial changes identified in the process of updating the document.

4.33 The Sub-Committee further noted that with regard to WRC-12, Agenda item 1.7, new text had been proposed as background text, to clearly describe the aim of ITU-R studies in this regard. An amendment had also been proposed to the IMO position, to clearly state the interest of the maritime community in L-band spectrum, taking into account the possible review of the elements and procedures of the GMDSS. The amended text of the IMO position was further intended to clarify that requirements of the aeronautical mobile satellite (R) service for communications with priority categories 1 to 6 of Article 44, shall not be satisfied by changing the allocation or regulatory and operational provisions of the bands 1 530-1 544 MHz (space-to-Earth) and 1 626.5-1 645.5 MHz (Earth-to-space), in which bands GMDSS distress, urgency and safety communications have priority.

4.34 The Sub-Committee also noted that with regard to WRC-12, Agenda item 1.10:

- .1 amendments had been proposed to the background text, highlighting all the issues currently under study in ITU-R;
- .2 text had been proposed to provide clear information on the status of the development of an e-navigation strategy implementation plan and the fact that no clear requirements had been identified by IMO at this stage.

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However, as advised by NAV 55, initial consideration showed the expectation that e-navigation would require a stable broadband VHF, HF and satellite data communications system;

- .3 amendments had been proposed to the text of the IMO position on the Agenda item, at least giving a view on all the issues under study in ITU-R at this stage;
- .4 a decision still needed to be taken whether or not to support a secondary allocation to the mobile satellite service (Earth-to-space) with regard to the frequencies of Channels 75 and 76 of the Appendix 18. If an allocation was supported, a decision was needed with regard to the incorporation by reference of Recommendation ITU-R M.1371-4. The Sub-Committee was invited to consider the fact that incorporation by reference of Recommendation ITU-R M.1371-4 would provide better safeguards for the stability of the recommendation. This would guarantee that a change to the recommendation could only be done by a future World Radiocommunication Conference. If the Radio Regulations would only make a reference to the most recent version of Recommendation ITU-R M.1371, there was a risk that rapid changes in future were made, affecting possibly IMO carriage requirements and/or performance standards;
- .5 on the issue of identification and security of cargo containers, it had been proposed that IMO reflected its support for studies on spectrum and standardization requirements for electronic seals used on freight containers to provide a more secure international transportation system. At this stage, the Sub-Committee was requested to note, as clearly reflected in document COMSAR 14/4/1, paragraph 23, that IMO was not the initiator of discussions on spectrum requirements for identification and security of cargo containers entering and leaving international ports and ships. Taking into account the outcome of DSC 14, it was clear that IMO itself had not defined any requirements in this respect and would only be able to consider supporting acceptable initiatives on this matter. However, there were currently no clear proposals, based on well balanced requirements, brought to the attention of IMO. Therefore, support for further studies seemed the most appropriate IMO position at this stage; and
- .6 a decision still needed to be taken whether or not to support the identification of more channels in Appendix 18 to be available both as single-frequency and two-frequency channels.

4.35 The Sub-Committee referred document COMSAR 14/WP.2 to the Technical Working Group, to serve as the basic document for further developing the draft IMO position for WRC-12.

#### **ESTABLISHING THE TECHNICAL WORKING GROUP**

4.36 The Sub-Committee instructed the Technical Working Group to consider documents COMSAR 14/4, COMSAR 14/4/1, COMSAR 14/4/3, COMSAR 14/4/4, COMSAR 14/4/5, COMSAR 14/4/6, COMSAR 14/4/7 and COMSAR 14/WP.2, taking into account document COMSAR 14/INF.9, decisions of, and comments and proposals made at Plenary and, in particular, to consider:

- .1 as an urgent matter, document COMSAR 14/WP.2, taking into account documents COMSAR 14/4, COMSAR 14/4/1, COMSAR 14/4/6 and COMSAR 14/4/7, and further develop the draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services, using the annex to document COMSAR 14/WP.2 as the basic document with the view to forward the draft IMO position directly after COMSAR 14 to ITU-R WP 5B and for approval by MSC 87;
- .2 as an urgent matter, the need for the continuation of the Joint IMO/ITU Experts Group and, if so, prepare the draft terms of reference for this Group (in consultation with the ITU Secretariat it has been agreed that a meeting of the Experts Group be scheduled from 14 to 16 September 2010 at IMO Headquarters);
- .3 consider the absence of the "all ships" facility and the restriction to a geographic area call only, in ITU-R Recommendation 493-13 and prepare a liaison statement to ITU-R WP 5B, as appropriate;
- .4 document COMSAR 14/4/3 on the identification for proposed new handheld VHF radio with DSC and GNSS intended primarily for distress alerting and communication and prepare a liaison statement back to ITU-R WP 5B, as appropriate;
- .5 document COMSAR 14/4/4, taking into account document COMSAR 14/INF.9 on specifications of man overboard devices and prepare a liaison statement back to ITU-R WP 5B, as appropriate, taking into account the information provided by the SAR Working Group; and
- .6 document COMSAR 14/4/5 on near real-time exchange of maritime domain information and prepare comments and recommendations, as appropriate, with the aim to further discuss the issue at COMSAR 15,

and report back to Plenary.

### **Report of the Technical Working Group**

4.37 On receipt of the report of the Technical Working Group (COMSAR 14/WP.5, section 4), the Sub-Committee took action as summarized in the ensuing paragraphs.

4.38 The Sub-Committee approved:

- .1 the draft IMO position, and as authorized by MSC 86, instructed the Secretariat to forward it, directly after COMSAR 14 and prior to endorsement by MSC 87, to ITU-R WP 5B in order to inform ITU in time on the status of the IMO position regarding WRC-12, and invited the Committee to endorse the draft IMO position on WRC-12 agenda items concerning matters relating to Maritime Service (annex 5);
- .2 the liaison statement to ITU-R WP 5B "Recommendation ITU-R M.493-13 on Digital Selective Calling System for use in the Maritime Mobile Service and MMSI Numbering Systems for Hand Held VHF DSC Radios", instructed the Secretariat to send it to ITU, and invited the Committee to endorse this action (annex 6);

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- .3 the liaison statement on the implementation of Resolution 355 (WRC-07), instructed the Secretariat to send it to ITU, and invited the Committee to endorse this action (annex 7); and
  - .4 the liaison statement to ITU-R WP 5B "Specifications of Man Overboard Devices", taking into account the advice provided by the SAR Working Group (paragraph 4.17 refers), instructed the Secretariat to send it to ITU, and invited the Committee to endorse this action (annex 8).

4.39 The Sub-Committee noted the view, expressed by Sweden and supported by others, stating its reluctance to support operation of "Man Overboard Devices" inside the GMDSS. The concerns, to some level, had been taken into account in the preparation of the liaison statement, but they were still concerned with negative implications.

4.40 It was further noted that there had been an intensive debate in the Technical Working Group, with the primary concern being to ensure that the use of distress and safety frequencies by "Man Overboard Devices" should not compromise the integrity of GMDSS.

4.41 The Sub-Committee invited interested Member Governments and organizations to submit comments and suitable proposals with regard to near real-time exchange of maritime domain information, for consideration by COMSAR 15.

4.42 The Sub-Committee endorsed the need for the continuation of the Joint IMO/ITU Experts Group on maritime radiocommunication matters, along with the terms of reference (annex 9), and the holding of a meeting from 14 to 16 September 2010 at IMO Headquarters, for approval by the Committee.

4.43 The Sub-Committee noted that the Joint IMO/ITU Experts Group was, among others, instructed to prepare a Supplementary advice on the IMO position, as appropriate, for approval by MSC 88 (1 to 10 December 2010), with a view to merge it with the IMO position approved by COMSAR 14 and endorsed by MSC 87 for submission to the second session of ITU's Conference Preparatory Meeting (CPM), scheduled to take place from 14 to 25 February 2011.

4.44 The Sub-Committee invited MSC 87 to authorize the Secretariat to send the Supplementary advice on the IMO position, as prepared by the IMO/ITU Experts Group at its meeting from 14 to 16 September 2010, to MSC 88 for approval.

## **5 SATELLITE SERVICES (Inmarsat and Cospas-Sarsat)**

5.1 The Sub-Committee noted that MSC 86 had noted that the information contained in COMSAR.1/Circ.47 on the List of rescue coordination centres (RCCs) associated with Inmarsat land earth stations (LESSs) was a routine update of information provided by Inmarsat. Accordingly, the Committee had authorized the Secretariat to revise and issue this COMSAR circular on an annual basis, without bringing it first to the attention of the Sub-Committee for approval.

5.2 The Sub-Committee further noted that the Secretariat, in consultation with Inmarsat, had consequently issued COMSAR.1/Circ.50 on 1 February 2010, containing the updated List of rescue coordination centres (RCCs) associated with Inmarsat land earth stations (LESSs), revoking COMSAR.1/Circ.47.

**COSPAS-SARSAT SERVICES**

5.3 The Sub-Committee noted that the Secretariat had issued SAR.7/Circ.9 on 7 April 2009, containing the updated list of documents and publications which should be held by a Maritime Rescue Coordination Centre (MRCC), including reference to the Cospas-Sarsat document C/S G.007 "Handbook on Distress Alert Messages for RCCs, SPOCs and IMO Ship Security Competent Authorities", as instructed by COMSAR 13.

5.4 The Sub-Committee further noted with appreciation the information contained in document COMSAR 14/5 (Cospas-Sarsat), providing a status report on the Cospas-Sarsat System, including System operations, space and ground segments, beacons, false alerts and the preliminary results of MCC/SPOC communication tests.

**INMARSAT SERVICES**

5.5 The Sub-Committee noted that the Secretariat, in consultation with IMSO, had issued COMSAR.1/Circ.49 on 25 January 2010, containing the updated List of Land Earth Station (LES) Operation Coordinators in the Inmarsat system, revoking COMSAR.1/Circ.48.

5.6 The Sub-Committee further noted with appreciation the information contained in document COMSAR 14/5/1 (IMSO), providing analysis and assessment of the performance by Inmarsat Global Ltd. of the company's obligations for the provision of maritime services within the GMDSS, as overseen by IMSO for the period 1 November 2008 to 31 October 2009. IMSO had assessed that Inmarsat had continued to provide a sufficient quality of service to meet its obligations under the GMDSS during this period.

5.7 The Sub-Committee thanked IMSO for the excellent work it was undertaking to oversee the GMDSS performance of Inmarsat, and the detailed information and analysis it had provided.

5.8 The Sub-Committee considered document COMSAR 14/5/2 (United States), inviting it to request IMSO to work with Inmarsat and Administrations to implement a practical and simplified means for MRCCs to initiate distress-priority shore-to-ship calls when appropriate, and report back to COMSAR 15 on its recommendations for resolution.

5.9 The delegation of France, supported by others, expressed their support for the proposal. The Sub-Committee accepted with appreciation the offer from the United Kingdom, to assist IMSO and Inmarsat in the work they were requested to undertake, with the experience gained by the United Kingdom in this matter.

5.10 The delegation of IMSO informed the Sub-Committee that it was prepared to work with Inmarsat, the United Kingdom and other interested parties, to implement practical and simplified means for MRCCs to initiate distress-priority shore-to-ship calls when appropriate. IMSO highlighted that solving the problem would need active participation from Member States involved, since the terrestrial networks normally did not provide a priority.

5.11 IMSO agreed to report its findings to COMSAR 15.

**Proposed closure of Inmarsat-B**

5.12 The Sub-Committee noted document COMSAR 14/INF.6 (IMSO), providing information concerning the intention of Inmarsat to cease the provision of Inmarsat "B" services from 31 December 2014. The Sub-Committee further noted that by informing IMSO at this time, Inmarsat had also provided five years' notice of the intended closure of

Inmarsat-B. This lead time should provide ample opportunity for shipowners and others to plan an orderly and cost-efficient replacement of the reducing numbers of Inmarsat-B terminals that are currently in use.

## **6 MATTERS CONCERNING SEARCH AND RESCUE, INCLUDING THOSE RELATED TO THE 1979 SAR CONFERENCE AND IMPLEMENTATION OF THE GMDSS**

### **HARMONIZATION OF AERONAUTICAL AND MARITIME SEARCH AND RESCUE PROCEDURES, INCLUDING SAR TRAINING MATTERS**

6.1 The Sub-Committee noted that, as requested by COMSAR 13, MSC 86 had extended the target completion date for the work programme agenda item "Harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters" to 2010.

### **16<sup>th</sup> Meeting of the ICAO/IMO Joint Working Group on the Harmonization of Aeronautical and Maritime SAR**

6.2 The Sub-Committee noted that, as agreed by COMSAR 13 and endorsed by MSC 86, the 16<sup>th</sup> 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 at RAF Valley, Anglesey, Wales, United Kingdom, from 28 September to 2 October 2009.

6.3 In considering document COMSAR 14/6 (Secretariat), containing the report of the sixteenth session of ICAO/IMO Joint Working Group on the Harmonization of Aeronautical and Maritime Search and Rescue, the Sub-Committee noted the information provided and, in particular, that:

- .1 a considerable debate had taken place on the updating and restructuring of the IAMSAR Manual, as reflected in paragraphs 3.12 to 3.42 of the report, and that Appendix F provided the outline structure for the updated and restructured IAMSAR Manual; the Joint Working Group had developed recommendations 16/4 and 16/5 on this issue; it had been invited to endorse the proposed outline structure for the updated and restructured IAMSAR Manual as given in Appendix F and to instruct the JWG and in particular its Editorial Group to conduct the work, giving early attention to Volume III;
- .2 paragraphs 4.23 to 4.45 reflected the Joint Working Group's consideration of recent aircraft accidents resulting in recommendation 16/7; and it was further recommended that the Editorial Group should give priority to a review of IAMSAR Volume II, chapter 3, in order to introduce more structure to the guidance material with respect to SAR alerting procedures;
- .3 it had been invited to develop a draft circular on commercially available locating, tracking and emergency notification devices, on the basis of a draft text provided in Appendix H of the report;
- .4 the next meeting of the Joint Working Group (JWG-17) had been provisionally scheduled to take place from 27 September to 1 October 2010 in Bremen, Germany with the draft terms of reference and provisional agenda for JWG-17 as set out in Appendix I of the report.

6.4 The Sub-Committee decided to refer document COMSAR 14/6 to the SAR Working Group for detailed consideration of the issues reported on in general, and the relevant recommendations, in particular.

#### **PLAN FOR THE PROVISION OF MARITIME SAR SERVICES, INCLUDING PROCEDURES FOR ROUTEING DISTRESS INFORMATION IN THE GMDSS**

##### **Global SAR Plan**

6.5 The Sub-Committee noted the information provided in document COMSAR 14/6/1 (Secretariat) advising that, as instructed by COMSAR 13 and based on information provided by Member Governments, the Secretariat had issued SAR.8/Circ.1/Corr.7 (Global SAR Plan) on 31 March 2009 which included information provided by Latvia, Lithuania, New Zealand, South Africa and Ukraine.

6.6 The Sub-Committee noted further that, since the issuance of SAR.8/Circ.1/Corr.7, the Secretariat had received information from Algeria, Argentina, Australia, Belgium, Bermuda, China (the People's Republic of), Denmark (on Greenland), Finland, Iran (the Islamic Republic of), Ireland, Jamaica, Lithuania, Montenegro, the Russian Federation, Singapore, South Africa, Ukraine and the United Republic of Tanzania.

6.7 The Sub-Committee noted also that, since issuing document COMSAR 14/6/1, the Secretariat had received further updates from Brazil, Bulgaria, Cyprus, Egypt, the Russian Federation, Saudi Arabia, Spain and Sweden. The Secretariat was planning to issue SAR.8/Circ.2 in April 2010 after completion of the present session of the Sub-Committee.

6.8 The Sub-Committee once again reiterated its invitation to Member Governments to respond to COMSAR/Circ.27, as soon as possible, if they had not already done so.

6.9 The delegation of Ghana expressed sincere thanks to the Government of Germany for funding the provision of equipment for their SAR services. They invited other Member States to follow the good example in providing assistance to developing countries.

##### **Revision of COMSAR/Circ.27**

6.10 The Sub-Committee considered document COMSAR 14/6/2 (Secretariat) containing the proposed revision of COMSAR/Circ.27 regarding the Questionnaire on the availability of SAR Services. It was noted that the proposed revision included an update of the general information of the circular, but that no changes were proposed to the data format itself. It was further noted that the data format was in line with the information distributed in the SAR.8 circular and still considered to be sufficient.

6.11 The Sub-Committee decided to refer document COMSAR 14/6/2 to the SAR Working Group for further consideration.

##### **Agreements on Search and Rescue Regions**

6.12 The Sub-Committee noted the information provided in document COMSAR 14/INF.3 (Secretariat) advising that, in accordance with instructions and using information provided by Governments, the Secretariat had circulated Notifications of Agreements on Search and Rescue Regions in accordance with paragraph 2.1.4 of the Annex to the International Convention on Maritime Search and Rescue, 1979, as amended (1979 SAR Convention) as SAR.6 circulars since 1994.



6.13 The Sub-Committee emphasized the importance of cooperation with neighbouring States in general, and of Agreements on Search and Rescue Regions in accordance with paragraph 2.1.4 of the 1979 SAR Convention in particular. Member States were encouraged to become Parties to the SAR Convention, if they had not already done so; cooperate in search and rescue with neighbouring States; conclude bilateral or multilateral agreements with neighbouring States on Search and Rescue Regions; and notify such agreements to the Secretary-General.

#### **RODELTA 2009**

6.14 The Sub-Committee noted document COMSAR 14/INF.2 (Romania) containing a short report of the Regional simulation exercise for intervention in cases of marine oil pollution, search and rescue at the Black Sea – RODELTA 2009.

#### **Report on the World Maritime University (WMU) Project on Search and Rescue Research related to Passenger Ships**

6.15 The Sub-Committee recalled that COMSAR 13 had:

- .1 considered the report on the progress made during Phase II of the WMU project on SAR research related to passenger ships. The report dealt mainly with the workshop on SAR research organized at WMU in May 2008. The workshop was used to gather information on current SAR research activities in the different Member Governments and to find out if there was a general interest to expand the scope of the WMU SAR Information Platform into a global SAR knowledge base;
- .2 welcomed the progress made during the Phase II of WMU project and was of the opinion that issues specifically related to passenger ships in remote areas were of great interest, for example, lessons learned from exercises or incidents, allowing the sharing of best practice as widely as possible; and
- .3 in this context noted the information provided by the delegation of France that its Administration was prepared to provide reports in the French language to WMU. The delegation of the Bahamas and the observer from CLIA expressed their willingness to work with WMU on this project, especially with respect to sharing lessons learnt and best practice.

6.16 The Sub-Committee considered document COMSAR 14/6/3 (Secretariat), providing the Final report on the World Maritime University (WMU) Project on Search and Rescue Research related to Passenger Ships and, in particular, Phase II of the project. The Sub-Committee noted that:

- .1 the report presented the combined findings of all three project phases carried out (Phase I, intermediate phase and Phase II);
- .2 Phase II of the project had focused on expanding the information services of the SAR Information Platform and further population of reports into the Platform. In addition, the 3<sup>rd</sup> SAR workshop had been organized in June 2009;
- .3 this workshop had focused on SAR and passenger ships in general. Furthermore, based on a request by COMSAR 13, the issue of passenger ships in areas remote from SAR services and, in particular, in polar waters, had become a major focus of this workshop;

- .4 the annex to document COMSAR 14/6/3 provided detailed information on the project, including an overview of the information collected, the difficulties encountered in collecting information, activities undertaken, findings and recommendations and an overview of the WMU SAR Information Platform; and
- .5 it was invited to:
  - .1 agree on the finalization of the WMU Project on Search and Rescue Research related to Passenger Ships; and
  - .2 comment on and endorse the findings and recommendations of the project as stated in paragraph 4 of the annex to the report.

6.17 The Sub-Committee noted document COMSAR 14/INF.5 containing the report of the 3<sup>rd</sup> SAR workshop, held on 10 and 11 June 2009 at WMU in Malmö, Sweden.

6.18 The Sub-Committee decided to refer document COMSAR 14/6/3 to the SAR Working Group for further consideration.

#### **Medical assistance in the framework of search and rescue services – Recommendations on medical assistance for offshore racing**

6.19 The Sub-Committee briefly considered document COMSAR 14/6/4 (France), presenting recommendations concerning the organization of medical assistance for offshore racing, in particular the use of a standard file containing various data that could help the Telemedical Assistance Service (TMAS) to provide the best possible assistance together with the MRCC in charge of a SAR operation.

6.20 The ISAF observer informed the Sub-Committee of their support of the proposal and further expressed appreciation to the International SAR services for their ever-present support.

6.21 The Sub-Committee decided to refer document COMSAR 14/6/4 to the SAR Working Group for further consideration.

#### **Use of Vessel Tracking Systems for Search and Rescue**

6.22 The Sub-Committee considered document COMSAR 14/6/5 (United States), proposing to gain and then share operational experience so as to develop best practices for the use of LRIT information for SAR purposes. Since LRIT was one of several ship tracking/reporting systems which made their data available for SAR, and once there was a clearer understanding of the impact of LRIT information available for SAR purposes, it might be appropriate to consider a holistic review of the international instruments which provided for such systems so as to ensure a common understanding and usage for the benefit of efficient SAR operations.

6.23 The Sub-Committee noted that, in accordance with MSC.1/Circ.1308, SAR services acting through their SOLAS Contracting Government(s) were invited to bring to the attention of the Committee, at the earliest opportunity, the results of experience gained from the use of the Guidance to Search and Rescue services in relation to requesting and receiving LRIT information.

6.24 The delegation of Spain, supported by others, was of the view that the use of LRIT information could add value in the fight against piracy. The delegation of Panama supported the use of LRIT information for SAR, but expressed concerns as to how this could be taken ahead. They were of the view that careful consideration should be given to this issue, keeping in mind the original aim of the system.

6.25 The Sub-Committee decided to refer document COMSAR 14/6/5 to the SAR Working Group for further consideration.

#### **Improved Methods to Detect and Locate 406 MHz Distress Beacon**

6.26 The Sub-Committee briefly considered document COMSAR 14/6/6 (Republic of Korea) proposing, in the light of the growing use of 406 MHz DF and implications for homing and direction finding, in general, to instruct the ICAO/IMO Joint Working Group to conduct a comprehensive review of text in the IAMSAR Manual regarding homing, direction and location finding, and to propose, as needed, any amendment to that text.

6.27 The Sub-Committee decided to refer document COMSAR 14/6/6 to the SAR Working Group for further consideration.

#### **Evaluation report of LIVEX'09, a live evacuation exercise**

6.28 The Sub-Committee noted document COMSAR 14/INF.7 (Netherlands), providing a brief description of a live evacuation exercise held on the North Sea near the coast of the Netherlands and the aims and results achieved.

#### **Catastrophic incident search and rescue**

6.29 The Sub-Committee noted document COMSAR 14/INF.8 (United States), introducing the concept of catastrophic incident search and rescue and the need for guidance on the conduct of SAR operations during the overall response to a catastrophic incident. The guidance information, in the form of an Addendum to be used by SAR responders in the United States in the conduct of catastrophic incident SAR operations, was offered as an example for other States to consider.

#### **ESTABLISHING THE SAR WORKING GROUP**

6.30 The Sub-Committee instructed the SAR Working Group to consider documents COMSAR 14/6, COMSAR 14/6/2, COMSAR 14/6/3, COMSAR 14/6/4, COMSAR 14/6/5 and COMSAR 14/6/6, taking into account decisions of, and comments and proposals made in Plenary and, in particular, to:

- .1 consider the report of the sixteenth session of ICAO/IMO Joint Working Group on the Harmonization of Aeronautical and Maritime Search and Rescue and provide comments and proposals on the report and, in particular, regarding recommendations 16/3, 16/4, 16/5, 16/6.1, 16/7, 16/8, 16/9, 16/10 and 16/11, as appropriate, and finalize the draft MSC circular on commercially available locating, tracking and emergency notification devices on the basis of Appendix H;
- .2 prepare a revised draft MSC circular on the Questionnaire on the availability of SAR Services for approval by the Committee;

- .3 consider the final report on the World Maritime University (WMU) Project on Search and Rescue Research related to Passenger Ships and provide comments and proposals regarding the findings and recommendations of the Project, as stated in paragraph 4 of the annex of the report;
- .4 provide comments and proposals regarding the recommendations concerning the organization of medical assistance for offshore racing and, in particular, on the proposed standard form outlining information of use to a Telemedical Assistance Service (TMAS) in providing medical advice;
- .5 in particular, provide comments and recommendations regarding the proposal to invite SOLAS Contracting Governments to submit to COMSAR 15 their views, operational experience gained and best practices for making use of LRIT information for SAR purposes;
- .6 in particular, provide comments and recommendations regarding the proposal to instruct the ICAO/IMO Joint Working Group to conduct a comprehensive review of text in the IAMSAR Manual regarding homing and direction finding;
- .7 provide proper justification, if there is a need for extension of the target completion date of the work programme item "Harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters" to 2011; and
- .8 provide proper justification for the holding of a next session of the ICAO/IMO Joint Working Group, prepare the draft provisional agenda and also review its terms of reference, taking into account Appendix I of document COMSAR 14/6,

and report back to Plenary.

### **Report of the SAR Working Group**

6.31 On receipt of the report of the SAR Working Group (COMSAR 14/WP.4, section 5), the Sub-Committee took action as summarized in the ensuing paragraphs.

6.32 The Sub-Committee endorsed:

- .1 the Group's view that MSC/Circ.751 should be revoked and instructed the Secretariat to take action, as appropriate;
- .2 the draft MSC circular on commercially available locating, tracking and emergency notification devices with the view to approval by the Committee (annex 10);
- .3 the Group's view on the WMU Information Platform and to urge Member States to submit SAR service reports to the WMU for further analysis; and
- .4 the draft MSC circular on Medical assistance at sea – yacht racing, with the view of approval by the Committee (annex 11).

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6.33 The Sub-Committee approved:

- .1 COMSAR.1/Circ.52 on the Questionnaire on the availability of SAR Services, instructed the Secretariat to circulate it, and invited the Committee to endorse this action; and
- .2 continuation of the ICAO/IMO Joint Working Group for the next session planned to be held in Bremen, Germany from 27 September to 1 October 2010 and the associated terms of reference and provisional agenda, and invited the Committee to endorse this action (annex 12).

6.34 The Sub-Committee agreed:

- .1 on the proposed outline structure for the updated and restructured IAMSAR Manual, as given in Appendix F of document COMSAR 14/6;
- .2 to instruct the JWG and, in particular, its Editorial Group to conduct the drafting coordination, giving early attention to Volume III and taking into account proposals for amendments submitted by IMO Member States and ICAO Contracting States;
- .3 to invite Member Governments' SAR experts to assist with the development and updating of the IAMSAR Manual on the issues referred to in Appendix F of document COMSAR 14/6 and contact the coordinator\* of the JWG's Editorial Group, as appropriate;
- .4 to request the Secretariat to make the three Volumes of the IAMSAR Manual available as a matter of course and free of charge to petitioning States at the time of SAR technical cooperation missions to developing States;
- .5 to instruct the JWG to give priority to a review of IAMSAR Volume II, chapter 3, in order to introduce more structure to the guidance material with respect to SAR alerting procedures;
- .6 to request the Secretariat to invite, as appropriate, ICAO experts to participate in future relevant meetings;
- .7 to instruct the JWG to consider the inclusion, in the IAMSAR Manual, of further guidance material on procedures for the exploitation of cell phone signals for both aeronautical and maritime SAR situations on an international scale;
- .8 on the finalization of the WMU Project on Search and Rescue Research related to Passenger Ships and invited WMU to report relevant findings generated from the Information Platform to future COMSAR meetings;

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\*

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- .9 to instruct the JWG to develop a list of data that yacht race organizers, when appropriate, should consider when advising SAR services about a forthcoming race;
- .10 to invite SOLAS Contracting Governments to submit their views, operational experience gained and best practices for making use of LRIT information for SAR purposes to COMSAR 15;
- .11 to instruct the JWG to conduct a comprehensive review of the text in the IAMSAR Manual regarding homing, direction and location finding, and to propose, as necessary, any amendment to that text; and
- .12 to invite the Committee to extend the target completion date for the work programme item "Harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters" to 2011.

6.35 The Sub-Committee further noted:

- .1 that the Cospas-Sarsat system had ceased satellite processing of 121.5/243 MHz beacon transmission on 1 February 2009 and invited the Committee to urge Member Governments to advise their national SAR authorities to give due regard to this change in SAR alerting capability;
- .2 the Group's view on English language training for RCC personnel; and
- .3 that 19 African countries, including Ghana, had been offered full scholarships to attend SAR Mission Coordinator and On Scene Coordinator courses to be held in Malta later on in the year. Such scholarships were being sponsored by United States' Authorities and training would be provided by Maltese SAR instructors. Since 2006, over 60 officials from 22 countries had received SAR training in Malta, including officers from the regional MRCCs of Kenya and Nigeria. Most of these had been sponsored by the United States Authorities; the Organization had sponsored two officials from Nigeria in 2009.

## **7 DEVELOPMENTS IN MARITIME RADIOCOMMUNICATION SYSTEMS AND TECHNOLOGY**

### **Proposal for simplification of VHF DSC radiocommunication and increasing DSC efficiency**

7.1 The Sub-Committee considered document COMSAR 14/7 (Ukraine), containing a proposal for simplification of VHF DSC radiocommunication for navigators, and for increasing DSC efficiency by integration of the DSC VHF radio equipment and the AIS – ECDIS vessel's system. The proposed measures were to contribute to further developments in maritime radiocommunication systems and technology, and progress the e-navigation strategy.

7.2 In considering that the issue needed consideration from a technical point of view, as well as from the viewpoint of the development of e-navigation, the Sub-Committee decided to refer document COMSAR 14/7 to the Technical Working Group for further consideration (paragraphs 12.10, 12.11 and 12.15.3 refer).

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**Proposal to amend the Performance standards for shipborne VHF radiotelephone facilities**

7.3 The Sub-Committee considered document COMSAR 14/7/5 (Republic of Korea), containing a proposal to amend the Performance standards for shipborne VHF radiotelephone facilities (resolution A.803(19)) on the inclusion of an Automatic Transmission Cut-off Device and an automatic alarming system for solving problems when the Push-button-to-Transit (PTT) on a VHF radio was not returning to its original position after using the phone by releasing the button due to mistakes or any other causes.

7.4 The delegation of the United Kingdom, supported by some other delegations, expressed the view that there were already existing performance standards on this matter and they did not see how amendments to the existing performance standards could be justified. In their opinion there might be other solutions than amending the performance standards.

7.5 The delegation of China, supported by some other delegations, expressed support for the proposed amendments.

7.6 The Sub-Committee decided to refer document COMSAR 14/7/5 to the Technical Working Group for further consideration.

**Data communication system in the maritime HF bands for LRIT**

7.7 The Sub-Committee considered document COMSAR 14/7/6 (Republic of Korea), recalling that COMSAR 11 had agreed that there might be a need to develop Performance Standards for a communication system to be used as an equivalent of HF-NBDP in the GMDSS, proposing to consider the inclusion of data communications in the HF maritime mobile service for LRIT communications for the improvement of LRIT communications.

7.8 The delegation of Spain stressed that many questions needed to be answered, such as the need for additional frequency allocation for LRIT, how the use of HF could be included in the LRIT system, possible consequences for the IDE and data centres and costs involved.

7.9 The Sub-Committee decided to refer document COMSAR 14/7/6 to the Technical Working Group for further consideration.

**GMDSS, Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS – Scoping Exercise proposal**

7.10 The Sub-Committee recalled that COMSAR 13 had considered document COMSAR 13/7/2 (United States), presenting the view that a systematic process was needed for the continuous review of the GMDSS to ensure it remained modern and fully responsive to changes in requirements and evolutions of technology. While recognizing that there was a need to consider a possible modernization of the GMDSS, which, if it went ahead, was likely to lead to a future overall review of SOLAS chapter IV, the Sub-Committee had decided that, in accordance with the Committees' Guidelines, inclusion of a new work programme item was needed before such a discussion could be started. In that respect, the Sub-Committee had noted that the delegation of the United Kingdom intended to submit a proposal for a new work programme item to MSC 86.

7.11 The Sub-Committee noted that, following consideration of document MSC 86/23/11 (Chile, France, Norway, United Kingdom and United States) proposing to undertake a scoping exercise on how any review of the elements and procedures of the GMDSS may be implemented and further advise on the shape, size and structure of this review, MSC 86,

having noted COMSAR 13's recommendation, agreed to include, in the work programme of the COMSAR Sub-Committee, a subitem on "Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS" under the work programme item on "Global Maritime Distress and Safety Systems (GMDSS)", with two sessions needed to complete the subitem. In this context, the Committee requested the Secretariat to liaise with ITU with a view to utilizing the resources of the Joint IMO/ITU Experts Group in the cause of this exercise.

7.12 The Sub-Committee further noted that the Joint IMO/ITU Experts Group, at its fifth meeting, had noted that it was invited to participate in the discussions on the scoping exercise and decided on the holding of a brainstorm session at that meeting, in order to develop an initial list of issues of interest in this regard for consideration by Member Governments intending to submit documents on this issue to the Sub-Committee. The outcome of the brainstorm session is set out at annex 3 to document COMSAR 14/4.

7.13 The Sub-Committee also noted that, although MSC 86 did not include the item on the agenda of COMSAR 14, interested parties had submitted documents on the issue under agenda item 7, mostly commenting on the report of the fifth meeting of the Joint IMO/ITU Experts Group.

7.14 The Sub-Committee considered document COMSAR 14/7/1 (Australia, Chile, France, United Kingdom and United States), commenting on related issues (COMSAR 14/4, paragraphs 6 to 8 and annex 3) and offering a suggested format for the scoping exercise. The Sub-Committee recognized that it was being invited to consider and adopt the document as a strategic document and framework, thus forming a solid foundation for how the Review on elements and procedures should take place, developing its shape, size and structure.

7.15 The Sub-Committee further considered document COMSAR 14/7/2 (IMSO), providing some questions which, in the view of IMSO, should be taken into account when considering the need for a review of the elements and procedures of the GMDSS.

7.16 The Sub-Committee also considered document COMSAR 14/7/3 (United States), providing information regarding experience gained and lessons learned in the operation of existing maritime distress systems.

7.17 The Sub-Committee further considered document COMSAR 14/7/4 (Republic of Korea), proposing the modernization of the sea area concept as described in SOLAS chapter IV.

7.18 The Sub-Committee noted document COMSAR 14/WP.3, prepared by the Chairman, in cooperation with the Secretariat, containing as a draft all relevant information available in documents COMSAR 13/7/2, COMSAR 13/14, MSC 86/23/11, MSC 86/26, COMSAR 14/4, COMSAR 14/7/1, COMSAR 14/7/2, COMSAR 14/7/3 and COMSAR 14/7/4.

7.19 The Sub-Committee agreed to generate, as an outcome of the current session, a document reflecting the available information on this issue to date and providing guidance for further discussions at the sixth meeting of the Joint IMO/ITU Experts Group, provisionally scheduled for 14 to 16 September 2010, as well as the development of submissions by interested Member Governments and organizations to COMSAR 15. It further agreed to refer documents COMSAR 14/7/1, COMSAR 14/7/2, COMSAR 14/7/3, COMSAR 14/7/4 and COMSAR 14/WP.3 to the Technical Working Group for the development of an annex to their report reflecting the available information to date, using the annex to document COMSAR 14/WP.3 as the basic text. The SAR Working Group was further instructed to consider the issue and provide the Technical Working Group with comments and recommendations, as appropriate.



### **Terms of Reference for the SAR Working Group**

7.20 The Sub-Committee instructed the SAR Working Group, taking into account decisions of, and comments and proposals made in, Plenary, to consider document COMSAR 14/WP.3 as the basic document, taking into account documents COMSAR 14/4, paragraphs 6 to 8 and annex 3, COMSAR 14/7/1, COMSAR 14/7/2, COMSAR 14/7/3 and COMSAR 14/7/4, and provide comments and recommendations to the Technical Working Group, in order to allow the Technical Working Group to take them into account when finalizing the annex on this matter to their Working Group's report.

### **Report of the SAR Working Group**

7.21 On receipt of the report of the SAR Working Group (COMSAR 14/WP.4, section 6), the Sub-Committee noted the Group's view on the need for SAR experts to participate in future discussions on the issue of a "scoping exercise to establish the need for a review of the elements and procedures of the GMDSS", as well as the other items noted under paragraph 6.1 of COMSAR 14/WP.4.

### **Terms of Reference for the Technical Working Group**

7.22 The Sub-Committee instructed the Technical Working Group, taking into account decisions of, and comments and proposals made in Plenary, to consider:

- .1 document COMSAR 14/7 on a proposal for simplification of VHF DSC radiocommunication and increasing DSC efficiency and provide comments and recommendations;
- .2 document COMSAR 14/7/5 on a proposal to amend the Performance standards for shipborne VHF radiotelephone facilities (resolution A.803(19)) and provide comments and recommendations, and prepare an associated draft MSC circular on amendments to resolution A.803(19) for adoption by the Committee, as appropriate;
- .3 document COMSAR 14/7/6, proposing to consider the inclusion of data communications in the HF maritime mobile service for LRIT communications and provide comments and recommendations; and
- .4 document COMSAR 14/WP.3, as the basic document taking into account documents COMSAR 14/4, paragraphs 6 to 8 and annex 3, COMSAR 14/7/1, COMSAR 14/7/2, COMSAR 14/7/3, and COMSAR 14/7/4, and the advice provided by the SAR Working Group, and develop as an annex to the Working Group's report the available information to date with regard to the work programme item on a Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS, providing guidance for further discussions at the sixth meeting of the Joint IMO/ITU Experts Group and the development of submissions by interested Member Governments and organizations to COMSAR 15,

and report back to Plenary.

### **Report of the Technical Working Group**

7.23 On receipt of the report of the Technical Working Group (COMSAR 14/WP.5, section 5), the Sub-Committee took action as summarized in the ensuing paragraphs.

7.24 The Sub-Committee noted that:

- .1 there were no technical constraints on implementing the proposal for simplification of VHF DSC radiocommunication and increasing DSC efficiency, but that it might require a revision of the ECDIS performance standards;
- .2 with regard to the proposal to amend the Performance standards for shipborne VHF radiotelephone facilities (resolution A.803(19)), the technical issues surrounding the push-to-talk hand set switch were already covered by IEC standards and that the number of incidents experienced did not warrant amendments to resolution A.803(19);
- .3 there were a number of considerations involved with integrating data communications in the HF maritime mobile service, into the existing LRIT infrastructure, particularly as regards costs and the impact on data centres. The issue could be further considered in the context of e-navigation and modernization of GMDSS; and
- .4 that the first phase of this Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS should be directed towards establishing the need for review of the GMDSS and defining what issues should be included.

7.25 The Sub-Committee instructed the Joint IMO/ITU Experts Group to use, at its next meeting, document COMSAR 14/WP.5/Add.1 as guidance for further discussions on the issue of a Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS.

7.26 The Sub-Committee invited:

- .1 interested Member Governments and organizations to submit proposals related to the Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS to COMSAR 15, among others, focussing on specific issues on how well the GMDSS performed and whether there were deficiencies; and
- .2 the Committee to extend the target completion date for the item "Developments in maritime radiocommunication systems and technology" to 2011, when discussing its work programme under agenda item 14 (paragraph 14.5.2.3 refers).

## **8 REVISION OF THE IAMSAR MANUAL**

8.1 The Sub-Committee noted that, in accordance with the procedures prescribed in the annex to resolution A.894(21) and, being advised of ICAO's concurrence to the inclusion of the proposed amendments into the IAMSAR Manual, MSC 86 had approved them for dissemination by means of MSC.1/Circ.1311 and decided that the amendments should become applicable on 1 June 2010.

### **Terms of reference for the SAR Working Group**

8.2 The Sub-Committee briefly discussed the proposed amendments to the IAMSAR Manual as outlined in the report of the 16<sup>th</sup> Meeting of the ICAO/IMO Joint Working Group on the Harmonization of Aeronautical and Maritime SAR (COMSAR 14/6, appendixes D, E and G) and instructed the SAR Working Group to consider them in detail and prepare a draft MSC circular on amendments to the IAMSAR Manual.

8.3 The Sub-Committee further noted that ICAO had advised IMO of ICAO's concurrence with the inclusion of the aforementioned proposed amendments to the IAMSAR Manual.

### **Report of the SAR Working Group**

8.4 On receipt of the report of the SAR Working Group (COMSAR 14/WP.4, section 7), the Sub-Committee endorsed the draft MSC circular, given in annex 13, on amendments to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, for approval by the Committee.

## **9 DEVELOPMENT OF PROCEDURES FOR UPDATING SHIPBORNE NAVIGATION AND COMMUNICATION EQUIPMENT**

9.1 The Sub-Committee recalled that, since no substantial documents had been submitted on this issue, COMSAR 13 had decided to defer further consideration of this item to COMSAR 14 when the outcome of NAV 55 would also be available.

9.2 The Sub-Committee noted that NAV 55 had developed a draft MSC circular on Guidance on procedures for updating shipborne navigation and communication equipment.

9.3 The Sub-Committee considered document COMSAR 14/9 (Secretariat), containing the draft MSC circular prepared by NAV 55, and decided to refer the document to the Technical Working Group for further consideration.

9.4 The Sub-Committee further considered document COMSAR 14/9/1 (United States), containing comments on the draft MSC circular prepared by NAV 55. The United States was of the view that, unless the recommendations were incorporated into relevant equipment certification standards or were otherwise mandated, the suggested solutions might be ineffective and, therefore, invited the Sub-Committee to consider recommending to the NAV Sub-Committee that:

- .1 a liaison statement be developed to IEC, inviting them to implement these requirements in their certification standards, where relevant and, in particular, IEC 60945; and
- .2 a corresponding draft amendment to SOLAS regulations IV/14 and V/18 should be prepared.

9.5 The delegation of the United Kingdom, supported by others, expressed the view that most issues, as pointed out in the document by the United States, were already covered by existing IEC standards. In their view there might be no need for a liaison statement to IEC and for amendments to the SOLAS Convention.

9.6 The delegation of Australia, supported by others, expressed support for the proposal submitted by the United States.

9.7 The delegation of the IEC informed the Sub-Committee that it had already addressed means to maintain equipment.

9.8 The Sub-Committee decided to refer document COMSAR 14/9/1 to the Technical Working Group for further consideration.

### **Terms of Reference for the Technical Working Group**

9.9 The Sub-Committee instructed the Technical Working Group to consider documents COMSAR 14/9 and COMSAR 14/9/1, taking into account decisions of, and comments and proposals made at, Plenary and provide comments and recommendations on the draft MSC circular, a proposed liaison statement to IEC and the proposed draft amendments to SOLAS regulations IV/14 and V/18, for consideration by NAV 56.

### **Report of the Technical Working Group**

9.10 On receipt of the report of the Technical Working Group (COMSAR 14/WP.5, section 6), the Sub-Committee took action as summarized in the ensuing paragraphs.

9.11 The Sub-Committee endorsed:

- .1 the minor amendment to insert the following words "and firmware" after the word "software" in the second line of paragraph 1 of the draft circular on Guidance on procedures for updating shipborne navigation and communication equipment, and instructed the Secretariat to inform NAV 56 accordingly; and
- .2 the footnotes to be included in SOLAS chapter IV, regulation 15.5 and chapter V, regulation 16, given below:
  - .1 in chapter IV, regulation 15.5, add footnote: "Refer to Guidance on Procedures for Updating Shipborne Navigation and Communication Equipment (MSC.1/Circ.[...])"; and
  - .2 in chapter V, regulation 16, add footnote: "Refer to Maintenance of Electronic Chart Display and Information System (ECDIS) Software (SN.1/Circ.266), and Guidance on Procedures for Updating Shipborne Navigation and Communication Equipment (MSC.1/Circ.[...])",

and instructed the Secretariat to forward it to the NAV Sub-Committee for consideration and action, as appropriate.

9.12 The Sub-Committee further instructed the Secretariat to maintain a list of those Performance Standards which require retrospective action.

## **10 MEASURES TO PROTECT THE SAFETY OF PERSONS RESCUED AT SEA**

10.1 The Sub-Committee recalled that the Assembly, at its twenty-second session in 2001, had adopted resolution A.920(22) on the Review of safety measures and procedures for the treatment of persons rescued at sea.

10.2 The Sub-Committee further recalled that COMSAR 7, in February 2003, after initial consideration by COMSAR 6, had agreed to submit proposed draft amendments to the SOLAS and SAR Conventions to MSC 77 for consideration and approval.

10.3 The Sub-Committee also recalled that COMSAR 8, in February 2004, had approved a draft MSC resolution on Guidance on the treatment of persons rescued at sea.

- 10.4 The Sub-Committee further recalled that MSC 78, in May 2004, had adopted:
- .1 resolution MSC.153(78), containing amendments to SOLAS regulations V/2, V/33 and V/34;
  - .2 resolution MSC.155(78), containing amendments to the Annex of the SAR Convention, paragraphs 2.1, 3.1 and 4.8; and
  - .3 resolution MSC.167(78), containing Guidelines on the treatment of persons rescued at sea.

10.5 The Sub-Committee also recalled that MSC 83, on the basis of a submission from Spain, and MSC 84, on the basis of a submission from Italy and Spain, had considered the issue of "Measures to protect the safety of persons rescued at sea", and that MSC 84 had decided to include the matter in the work programmes and provisional agendas of the COMSAR and FSI Sub-Committees, with a target completion date of 2010.

10.6 The Sub-Committee further recalled that MSC 84 had also decided to request the COMSAR Sub-Committee to consider the new item first and, thereafter, in cooperation with the FSI Sub-Committee, progress it in time for completion within the agreed time frame, taking into account the work being carried out by the FAL Committee, as appropriate.

10.7 The Sub-Committee also recalled that FAL 35 had agreed that its involvement with issues in relation to persons rescued at sea should be limited to those matters which fall either within the area of its competency or the scope of the FAL Convention, which could be broadly summarized as issues relating to the arrival and disembarkation of such persons. FAL 35 had subsequently approved FAL.3/Circ.194 on Principles relating to administrative procedures for disembarking persons rescued at sea.

10.8 The Sub-Committee further recalled that, following extensive debate, COMSAR 13 had agreed that it was premature to refer the issue to the SAR Working Group due to the lack of substantive submissions and had:

- .1 taken note of the outcome of FAL 35;
- .2 reported the outcome of its discussions to FSI 17 and MSC 86 for consideration; and
- .3 invited interested parties to submit proposals for consideration by FSI 17, MSC 86 and COMSAR 14, as appropriate, in order to further facilitate the debate on this issue.

10.9 The Sub-Committee considered document COMSAR 14/10 (Secretariat), containing information on the outcome of MSC 86 and FSI 17. It was noted that, as recommended by FSI 17, MSC 86 had agreed to refer the proposals contained in documents FSI 17/15/1 and FSI 17/15/2 to COMSAR 14 for detailed consideration in the context of its ongoing work on this matter.

10.10 The Sub-Committee considered document COMSAR 14/10/1 (Italy and Spain), proposing to consider new measures that guarantee a rapid disembarkation of persons rescued at sea. It was proposed that paragraph 1-1 of SOLAS regulation V/33 should be amended, as well as paragraph 3.1.9 of the Annex to the SAR Convention, as amended. The amendments proposed that "all parties involved shall cooperate and collaborate to guarantee the rapid disembarkation of persons rescued at sea and to ensure that masters of

ships, when involved in search and rescue operations by embarking persons in distress at sea, are released from their obligations with minimum further deviation from the ships' intended voyage, provided that releasing the master of the ship from their obligations under the current regulation does not further endanger the safety of life at sea". They further proposed that "The Contracting Government responsible for the SAR region where the rescue operation takes place, shall exercise primary responsibility for ensuring that such coordination and cooperation occur, so that rescued survivors are disembarked from the vessel involved in the rescued operation and moved to a place of safety under its control, where these persons can have timely access to post rescue support".

10.11 The Sub-Committee noted that the proposals outlined in document COMSAR 14/10/1 (Italy and Spain) were slightly different compared to the proposals in document FSI 17/15/1 (Spain and Italy) and that the proposals contained in document COMSAR 14/10/1 superseded the proposals contained in document FSI 17/15/1.

10.12 The Sub-Committee further considered document FSI 17/15/2 (Malta), commenting on document FSI 17/15/1 (Spain and Italy). Malta was of the opinion that the proposed amendments did not contribute adequately to further clarify the issue of disembarkation to "a place of safety"; on the contrary, by spreading the responsibility for disembarkation on a number of further actors, the identification of a place of disembarkation became even more complex. Malta reiterated that they had consistently declared their objection and persistently held the position that they could not accept the 2004 amendments to the SOLAS and SAR Conventions, mainly because the provisions of resolutions MSC.153(78), MSC.155(78) and MSC.167(78) could conceivably result in a situation where merchant ships were constrained to divert a considerable distance from their current location and spend extended periods with rescued persons aboard in order to reach a place of safety in the land territory of the Contracting State responsible for that SRR, despite being within a few hours' steaming of an equally appropriate place of disembarkation within the land territory of a third Contracting State. Therefore, Malta proposed in paragraph 16 of document FSI 17/15/2 that a model, taking into account geographic realities, be implemented. This alone, in their opinion, could provide a sufficiently clear and responsive solution to the challenge of disembarkation. The central concept of such a model was that disembarkation should occur in the nearest safe haven, namely that port closest to the location of the rescue which might be deemed as a place of safety.

10.13 The Sub-Committee noted the support of Turkey for the proposed amendments to the SOLAS and SAR Conventions submitted by Spain and Italy, and the support of Singapore for the proposed amendments to the Conventions submitted by Malta.

10.14 The Sub-Committee also noted the view expressed by Greece that it did not support the amendments to the SOLAS and SAR Conventions and that there might be a need to review and amend the guidelines, as appropriate.

10.15 The Sub-Committee further noted that Argentina, Australia, Chile, Denmark, Nigeria, Norway, the United Kingdom and the United States did not support the proposed amendments to the SOLAS and SAR Conventions.

10.16 The United States, supported by the majority of those who took the floor, stressed that it was committed to implement measures to ensure persons, who were in distress at sea, were swiftly rescued and disembarked to a place of safety. They also recognized the critical role played by masters of ships in providing assistance by embarking persons in distress at sea, in accordance with their obligations under international law.

They furthermore recalled that the 2004 amendments to the SOLAS and SAR Conventions were adopted after considerable debate and represented a delicate balance of interests among the Contracting Parties/Governments. They also expressed the view that these Conventions already adequately defined the responsibilities of Contracting Parties/Governments for the SAR region where a rescue occurred, which was to take the lead in ensuring coordination and cooperation among Contracting Parties/Governments, so that mariners who had provided assistance might be promptly relieved. The Conventions consequently placed an obligation on all Contracting Parties/Governments to coordinate and cooperate to ensure that masters of ships providing assistance were released from their obligations with a minimum of deviation from the ship's intended voyage.

Spain and Italy, as well as other nations experiencing similar problems, were encouraged to enter into regional, bi-lateral or multi-lateral agreements such as, for instance, the United States had done with several of its neighbouring countries.

10.17 Australia stressed that there was a need for flexibility and that the proposed amendments were too prescriptive. They were not even sure whether the amendments would be effective for that particular region. In their view there was no real logic to the proposed changes, there was room for ambiguity and they might even put people's lives at risk.

10.18 The delegations of Italy, Malta and Spain extensively explained the impact of the disembarkation procedures on the national migratory and security policies of the receiving countries. In the case of Italy, the number of persons rescued at sea was 20,652 in 2006, 19,848 in 2007, 34,827 in 2008 and 16,250 in 2009. In the case of Spain, the number of persons rescued at sea both by SAR units and other vessels was 30,493 in 2006, 12,970 in 2007, 10,581 in 2008 and 5,323 in 2009. Malta, like Italy and Spain, due to its geographical location, faced a similar problem and has taken part in numerous rescue operations. In 2006, 1,780 rescued persons were disembarked in Malta and 1,702 in 2007. In 2008 alone, no less than 2,800 rescued persons were disembarked in Malta. Considering the size of the country and that of the Maltese population this had become an issue of national concern.

10.19 The delegations of Italy, Malta and Spain expressed their disappointment that other countries seemingly did not recognize that the problem was much wider than simply a problem between the three of them. It was also not only a problem for the Mediterranean region, since not only were other parts of the world confronted with similar difficulties but, more importantly, ships of all flags were currently involved in the resulting rescue operations.

10.20 The delegation of Italy, supported by Malta, suggested to revitalize the mechanism of the United Nations inter-agency group on the treatment of persons rescued at sea.

10.21 The Sub-Committee noted the offer expressed by the representative of UNHCR, to assist in finding a solution to solve this matter.

10.22 Following a suggestion from the floor that the Secretary-General should be asked to offer his good offices to take the matter forward, the Secretary-General responded that he would be pleased if he could assist in the devising of a satisfactory arrangement that would enable Members to make progress on a delicate and sensitive issue, which, among others, had humanitarian connotations, especially affecting the safety of life at sea – IMO's primary concern.

He added that if it was the wish of the delegations concerned, he would offer his good offices to broker an agreement at consultations, outside the Sub-Committee, which should be conducted on the basis of clear terms of reference agreed among participating delegations involving all regional countries, e.g., those bordering the Mediterranean Sea and, as may be necessary and appropriate, observers from other interested entities.

10.23 Following discussion, during which it was stated that the issue in hand went beyond regional considerations, and after it was clarified that the informal consultations would not aim at drafting amendments to the SOLAS and SAR Conventions, the Sub-Committee thanked all those who had contributed to the debate; wished success to those who would participate in the consultations referred to above; and stated that it would look forward to being advised on their outcome at its next session.

10.24 The Sub-Committee noted that, on the basis of the sense of the debate, Italy was ready to give up its original position to amend the two Conventions, provided that an alternative solution could be found; Italy was finally aiming for an initial pilot model to solve the issue, which could be used globally and, in particular, in other areas of the world experiencing the same or similar situations.

10.25 The Sub-Committee expressed its appreciation to the Secretary-General for his positive response and commitment to make his good offices available to take the matter forward with a group of interested parties for informal consultations, in the consideration of the primary concern of IMO for the integrity of the search and rescue and, consequentially, the safety of life at sea regime. It was concluded that the IMO Secretariat would conduct urgent consultations among interested parties in order to:

- .1 confirm the availability of all interested Parties to participate in the development of regional arrangements;
- .2 establish the terms of reference for a group involving all the interested parties, relevant agencies and the regional institutions to draft regional arrangements; and
- .3 convene such a group at the earliest opportunity.

10.26 Accordingly, the Sub-Committee invited the Committee to extend the target completion date for this item to 2011, when discussing its work programme under agenda item 14.

## **11 SAFETY PROVISIONS APPLICABLE TO TENDERS OPERATING FROM PASSENGER SHIPS**

11.1 The Sub-Committee recalled that MSC 84 had considered document MSC 84/22/8 (United Kingdom), proposing to develop provisions for the design, equipment and operation of tenders carrying passengers and crew from passenger ships to shore, to ensure that a consistent approach was adopted, together with document MSC 84/22/24 (CLIA), in which CLIA pointed out that its members had conducted, without serious incidents, numerous tender vessel operations each year involving tens of thousands of passengers and, therefore, CLIA could not support the proposal by the United Kingdom without details of tender vessel casualties and more specific guidance as to the scope of the work to be undertaken, bearing in mind that the above proposal might result in over-regulation of an already safe operation.

11.2 The Sub-Committee further recalled that, following discussion, MSC 84 had agreed to include, in the work programmes of the DE, FP, COMSAR, NAV, SLF and STW Sub-Committees, a high-priority item on "Safety provisions applicable to tenders operating from passenger ships", with three sessions needed to complete the item, assigning the DE Sub-Committee as coordinator.

11.3 The Sub-Committee noted that DE 53 (22 to 26 February 2010) had discussed the matter for the first time and considered documents:



- .1 DE 53/14 (CLIA), providing draft Guidelines for passenger ship tenders and advising the DE Sub-Committee of their intention to submit to DE 54 draft operator guidelines consistent with the STCW format concerning operator Knowledge, Understanding and Proficiency (KUPs) for review and further transmission to the STW Sub-Committee, as appropriate; and
- .2 DE 53/14/1 (United Kingdom), providing draft Guidelines for passenger ship tenders, taking into account discussions with the cruise industry on best practices and national regulatory frameworks applied to tender operations.

11.4 The Sub-Committee further noted that DE 53 had established a drafting group which had prepared consolidated draft Guidelines for passenger ship tenders, as set out in annex 1 to document DE 53/WP.3.

11.5 The Sub-Committee also noted that DE 53 had requested the Secretariat to forward document DE 53/WP.3 to all cooperating sub-committees for their consideration and comments, to be taken into account in the finalization of the draft Guidelines.

11.6 The Sub-Committee briefly considered document COMSAR 14/11 (United States), providing specific items for consideration when developing COMSAR's views regarding internationally agreed communication requirements and guidelines on safety provisions applicable to tenders operating from passenger ships, and decided to refer the document to the SAR Working Group for further consideration.

11.7 The delegation of the United Kingdom, supported by others, was of the view that the Sub-Committee should take the outcome of DE 53 into account and, in particular, that the Guidelines were intended for ship-carried tenders used for transferring more than 12 passengers from a stationary passenger ship to shore and back. Other types of voyages, for example, coastal sightseeing excursions, were not considered appropriate for such tenders, and should be undertaken by vessels that meet the requirements for passenger ships of the coastal State. Taking into account that the tender operation was continuously monitored by the parent ship there was, in their view, no need for a requirement for fitting an EPIRB and AIS, as proposed in paragraphs 4.2 and 4.3 of the document.

11.8 The delegation of France expressed the view that other circumstances should be taken into account, such as operation in bad weather conditions, accidents and operation in remote areas. Furthermore, there might also be a need to have the possibility to communicate with other ships, installations and also, for instance, port authorities.

11.9 The representative of IFSMA suggested that the carriage of a satellite telephone on board those tenders might be worth considering, as well.

#### **Terms of Reference for the SAR Working Group**

11.10 The Sub-Committee instructed the SAR Working Group to consider document COMSAR 14/11, taking into account the draft Guidelines for passenger ship tenders, as set out in annex 1 to document DE 53/WP.3, and decisions of, and comments and proposals made at, Plenary and prepare comments and proposals with the view to forwarding them to DE 54.

#### **Report of the SAR Working Group**

11.11 On receipt of the report of the SAR Working Group (COMSAR 14/WP.4, section 8), the Sub-Committee endorsed the Group's view on safety provisions applicable to tenders operating from passenger ships, that there was no need for a requirement for fitting an EPIRB and an AIS and instructed the Secretariat to inform the DE Sub-Committee accordingly.

**12 DEVELOPMENT OF AN E-NAVIGATION STRATEGY IMPLEMENTATION PLAN**

12.1 The Sub-Committee noted that MSC 86:

- .1 having considered document MSC 86/23/4 (Secretariat), proposing a joint plan of work for the COMSAR, NAV and STW Sub-Committees for the period 2009-2012 for the implementation of the e-navigation strategy, had approved the joint plan for NAV 55 to set in motion the coordinated and planned development of an e-navigation strategy implementation plan, in cooperation with the COMSAR and STW Sub-Committees; and
- .2 instructed NAV 55 to consider future spectrum requirements with respect to e-navigation, and advise COMSAR 14 accordingly.

12.2 The Sub-Committee further noted that NAV 55 had:

- .1 in order to maintain the proposed time schedule approved by MSC 86, established a Correspondence Group to progress the work on the development of an e-navigation strategy implementation plan intersessionally, under the coordination of Norway, with the terms of reference as set out in annex 2 to document NAV 55/WP.5;
- .2 recalled that the Strategy for the development and implementation of e-navigation approved by MSC 85 provided for specific high-level needs for robust communication and data and system integrity. Although the details of these requirements had yet to be defined, it was anticipated that these requirements would be applied to VHF, HF and satellite technologies, as well as onboard networks capable of effectively integrating onboard e-navigation systems. Hence, there was a need for resiliency and integrity of such capacities. Furthermore, the work of COMSAR, ITU working party 5B, and the IEC TC 80 and its continuous work on onboard digital interface networks to develop such communication capabilities, was relevant. In light of the foregoing, NAV 55, amongst other actions, noted that the Group had agreed that:
  - .1 e-navigation would require a stable broadband VHF, HF and satellite data communications system;
  - .2 maritime frequency spectrum should not be given up;
  - .3 e-navigation would probably require additional frequency allocation which would be communicated to COMSAR 14 in due course for onward transmission to ITU; and
  - .4 ITU should be informed accordingly.

12.3 The Sub-Committee considered document COMSAR 14/12 (Norway), containing a progress report of the Correspondence Group on e-navigation including specific questions to COMSAR 14.

12.4 The Sub-Committee noted that document MSC 86/23/4, on a coordinated approach to the implementation of the e-navigation strategy, was providing guidance on the matters to be considered at the current session.

12.5 Some delegations expressed concern that no terrestrial electronic position-fixing system was foreseen to GNSS, and expressed the view that there was a continuous need for a terrestrial electronic position-fixing system as a back up in the foreseeable future.

12.6 It was further noted that the future review of the GMDSS would have an impact on the development of e-navigation. It was also noted that the Sub-Committee should focus its efforts on communication and SAR issues.

12.7 The delegation of the Bahamas was of the view that user needs for security and the need for a terrestrial electronic position fixing back-up system were interlinked. Complete reliance on satellite systems was undesirable as these systems had recognized vulnerabilities to interference from natural and man-made sources.

12.8 The Netherlands, supported by the United Kingdom, urged the Sub-Committee to focus on functionalities.

12.9 The Sub-Committee referred document COMSAR 14/12 to the e-navigation Working Group for further consideration.

12.10 The Sub-Committee considered document COMSAR 14/7 (Ukraine), containing a proposal for simplification of VHF DSC radiocommunication for navigators and increasing DSC efficiency by integration of the DSC VHF radio equipment and the AIS – ECDIS vessel's system. It was noted that the proposed measures would contribute to further developments in maritime radiocommunication systems and technology and progress the e-navigation strategy.

12.11 Recognizing that the issue needed consideration from a technical point of view, as well as from the viewpoint of the development of e-navigation, the Sub-Committee decided to also refer document COMSAR 14/7 to the e-navigation Working Group for further consideration (paragraphs 7.1, 7.2 and 7.24.1 refer).

#### **ESTABLISHING THE E-NAVIGATION WORKING GROUP**

12.12 The Sub-Committee instructed the e-navigation Working Group to consider documents COMSAR 14/7 and COMSAR 14/12, taking into account decisions of, and comments and proposals made at Plenary and, in particular:

- .1 with regard to the consideration of document COMSAR 14/12, to provide comments and recommendations regarding the following:
  - .1 identification of an initial system architecture, as set out in paragraphs 8 and 9, including:
    - .1 Figure 2 (on e-navigation architecture on page 4 of the document) as conceptual representation of the e-navigation environment;
    - .2 identification of existing systems and new communication technologies supporting user needs and complying with equipment performance standards; and
    - .3 definition of criteria for the selection of hardware and the development of corresponding software;

- .2 which existing international regulations and standards are relevant to go forward with the communication requirement identified in the document;
  - .3 using the international regulations and standards identified above, which ones would need to be addressed and in which order to be able to achieve an appropriate implementation of e-navigation;
  - .4 whether there are any technical constraints related to bandwidth and frequency and other relevant issues which will have to be addressed to achieve e-navigation communication needs;
  - .5 the idea to recognize the WWRNS as a central part of the e-navigation system;
  - .6 the need for a common data structure;
  - .7 the proposal for an initial gap analysis; and
  - .8 the proposal for an initial C/B- and risk analysis; and
- .2 consider document COMSAR 14/7 on a proposal for simplification of VHF DSC radiocommunication and increasing DSC efficiency and provide comments and recommendations, as appropriate,

and report back to Plenary.

### **Report of the e-navigation Working Group**

12.13 On receipt of the report of the e-navigation Working Group (COMSAR 14/WP.6), the Sub-Committee took action as summarized in the ensuing paragraphs.

12.14 The Sub-Committee endorsed the views of the Working Group that:

- .1 the conceptual e-navigation architecture as depicted in Figure 2 of document COMSAR 14/12 was a good basis for further development and simplification by the Correspondence Group;
- .2 Figure 1 of document COMSAR 14/12 relating to the structure of the process for the development of the e-navigation concept should be further developed by the Correspondence Group;
- .3 the criteria for the selection of hardware and the development of the corresponding software should be further developed by the Correspondence Group with input from other organizations involved, as detailed in document MSC 86/23/4, annex;
- .4 tables identifying current related communication equipment, performance standards including test standards and possible future communication equipment systems, respectively had been developed, which should be further developed by the Correspondence Group;

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- .5 the satellite detection of ships' automatic identification systems could become part of the e-navigation concept; however, there were numerous issues which still had to be studied and discussed, including the protection of the frequencies reserved for AIS, which was a matter of concern;
  - .6 the Committee had not taken any decision as yet on the issue of satellite detection of ships' automatic identification systems, pending the outcome of relevant studies under the framework of ITU;
  - .7 the principles relating to bridge design, design and arrangement of navigational systems and equipment and bridge procedures in SOLAS regulation V/15 would be useful in identifying navigational system functions;
  - .8 the World-Wide Radionavigation System was a central part of the e-navigation system, as it provided position and timing information for the whole system;
  - .9 the issues of a terrestrial electronic position fixing system as a back-up system and user needs for security required further consideration by the Correspondence Group with input from other organizations involved as detailed in document MSC 86/23/4, annex;
  - .10 the Correspondence Group should further consider the issue of common data structure for information exchange and requested IALA and IHO to provide the relevant input;
  - .11 specific criteria for reliability, in support of the user needs stated in the e-navigation strategy, should be addressed within the gap analysis;
  - .12 preliminary user needs analysis with respect to SAR should be further developed by the Correspondence Group as well as other relevant fora; and
  - .13 the development of e-navigation and the scoping exercise to establish the need for a review of the elements and procedures of the GMDSS should be harmonized and secondly, there should also be an identification of user needs for GMDSS. In addition, further consideration should be given as to which basic communication capabilities should be a part of the developing e-navigation concept.

12.15 The Sub-Committee, in particular:

- .1 endorsed the proposed methodology for carrying out the initial gap analysis;
- .2 noted the proposed methodologies for cost-benefit analysis and risk analysis; and
- .3 supported the proposal by Ukraine identifying user needs and being an example of the benefits that could be obtained by integrating VHF DSC operation with the AIS-ECDIS; noting that this proposal was fully compatible with the e-navigation development strategic direction which envisaged further development of means of radiocommunications and navigation and the implementation of modern digital information technologies in navigation.

**13 REVISION OF PERFORMANCE STANDARDS FOR FLOAT-FREE SATELLITE EPIRBs OPERATING ON 406 MHz (RESOLUTION A.810(19))**

13.1 The Sub-Committee recalled that COMSAR 13 had:

- .1 considered document COMSAR 13/7/1 (United States), introducing the concept of an AIS transmitter being permitted as an option to the 121.5 MHz homing beacon now required on 406 MHz EPIRBs;
- .2 listed relevant issues from the technical point of view and concluded that, on balance, the best solution would be to permit the option of adding an AIS processor to the standard EPIRB. The EPIRB performance standard would need to be amended accordingly. Concerning the question of identification for the AIS component of an AIS-EPIRB, the Sub-Committee had noted that it would be necessary to use the same MMSI numbering protocol as recommended for the AIS-SART in order to ensure that the location of the unit was displayed on navigational displays;
- .3 noted that there had been some reservations about the description "AIS-EPIRB" and the Technical Working Group had recommended that a more accurate description would be "EPIRB-AIS";
- .4 noted the views expressed by the delegation of Panama, supported by others, that, although the AIS-EPIRB presented several advantages, as described by the United States (COMSAR 13/7/1) and considered by the Technical Working Group, at this stage one should proceed with caution and not rush into amending the current performance standards for EPIRBs. AIS was presently not part of the GMDSS and therefore this issue should be considered within the wider GMDSS future concept. A possible way forward could be to carry out an assessment of the inclusion of an AIS processor to the EPIRB, taking into consideration the negative effects that this might have on the reliability, durability and cost of the equipment; and
- .5 endorsed the views of the SAR Working Group that an AIS-EPIRB might be an option; however, it emphasized the continuing importance of the 121.5 MHz frequency for final homing. Whilst an AIS-EPIRB might have useful application in some parts of the world and should be further developed as an option, the global need for 121.5 MHz homers, especially in regions with limited dedicated SAR facilities, would remain for the foreseeable future.

13.2 The Sub-Committee further recalled that MSC 86 had considered document MSC 86/23/1 (United States), proposing that an automatic identification system (AIS) transmitter be permitted as an option to the 121.5 MHz homing beacon, now required on 406 MHz emergency position indicating radiobeacons (EPIRB) and, taking into account the information provided by COMSAR 13, agreed to include, in the work programme of the Sub-Committee and the provisional agenda for COMSAR 14, a high-priority item on "Revision of Performance standards for float-free satellite EPIRBs operating on 406 MHz (resolution A.810(19))" with a target completion date of 2011.

13.3 The Sub-Committee considered document COMSAR 14/13 (Australia), pointing out that there might be pros and cons in terms of performance of an AIS-EPIRB depending upon where and how the equipment was used. Australia supported the development of an AIS-EPIRB as an option to an EPIRB with a 121.5 MHz homer and fully acknowledged the growing use of AIS to support search and rescue. Australia was also pointing out that, in many situations and many parts of the world, the 121.5 MHz final homing signal remained a most effective option for the foreseeable future.

13.4 Several Member Governments expressed their support for the option to add an AIS to EPIRBs with a 121.5 MHz homing capability, but not to replace the 121.5 MHz homing capability by an AIS.

13.5 The Sub-Committee further considered document COMSAR 14/13/1 (Norway), proposing amendments to resolution A.810(19), based upon the report from the investigation committee after the tragic capsizing of the Norwegian anchor handling vessel **Bourbon Dolphin** – LNUW, in April 2007, where seven persons had been lost.

13.6 Several Member Governments expressed their support for the proposed amendments by Norway. However, concerns were expressed regarding the proposal for the release of the beacon on reaching the water surface. Questions were raised, as to whether reliable technologies existed for release at water surface level.

13.7 Concerns were also raised regarding the proposal to require two EPIRBs, on either side of the ship. It was noted that this would have cost implications, which could, however be reduced when allowing a combined beacon of an EPIRB and a VDR. It was noted that this might require an amendment to SOLAS and that this did not fall under the purview of the current work programme item. It was further noted that this matter could form part of the future review of the GMDSS.

13.8 The Sub-Committee also considered document COMSAR 14/13/2 (United States), providing information to assist in determining the way ahead when considering the revision of resolution A.810(19), in particular, on the issue of homing on the 406 MHz beacon signal, as well as other options such as AIS for final homing as an acceptable equivalent to homing on the 121.5 MHz signal.

13.9 The Sub-Committee noted the view expressed by several delegations that the performance standards for 406 MHz EPIRBs need to be updated, to include new technologies such as AIS and homing on 406 MHz. It was further noted that adding more options to an EPIRB would make the device more complex and expensive.

13.10 The Sub-Committee referred documents COMSAR 14/13, COMSAR 14/13/1 and COMSAR 14/13/2 to the SAR Working Group, as well as to the Technical Working Group, for further consideration.

13.11 The Sub-Committee considered document COMSAR 14/13/3 (Republic of Korea), proposing to include in resolution A.814(19) or MSC.1/Circ.861 measures for reducing beacon false alerts by adding requirements for a sound alert with a transparent window and making a hole in the beacon container to keep the inside of the container dry. The Sub-Committee noted that this issue concerned a proposed revision of resolution A.814(19) or MSC.1/Circ.861 which was currently not on the Sub-Committee's work programme and could therefore not be considered further.

13.12 The Sub-Committee further noted that the Republic of Korea had submitted a proposal for a new work programme item for the development of measures to avoid false distress alerts to MSC 87, and that the consideration of the revision of resolution A.814(19) and MSC.1/Circ.861 formed part of the proposed new work programme item. The Sub-Committee decided to await the decision of MSC 87 regarding the proposed new work programme item.

13.13 The Sub-Committee considered document COMSAR 14/13/4 (Republic of Korea), proposing standardization of beacon operation indicators, a matter which was currently not standardized.

13.14 The Sub-Committee noted the information provided by the representative of the IEC, which had considered the question of indicators and lamps on EPIRBs in the past. IEC had considered that lamps were of limited value and had developed a recommendation on the use of strobe lights which should start operating within 2 seconds. This recommendation was universally adopted and implemented by manufacturers. It slightly exceeded the recommendation of the EPIRB Performance Standards, which only required the strobe light to operate at night.

13.15 The Sub-Committee decided to refer the document to the SAR Working Group, as well as to the Technical Working Group, for further consideration.

#### **Terms of Reference for the SAR Working Group**

13.16 The Sub-Committee instructed the SAR Working Group to consider, as an urgent matter, documents COMSAR 14/13, COMSAR 14/13/1, COMSAR 14/13/2 and COMSAR 14/13/4, taking into account decisions of, and comments and proposals made at, Plenary and forward comments and recommendations to the Technical Working Group, in order to enable the Technical Working Group to take the views of the SAR Working Group into account when discussing the matter.

#### **Report of the SAR Working Group**

13.17 On receipt of the report of the SAR Working Group (COMSAR 14/WP.4, section 4, annex 2), the Sub-Committee noted the advice given to the Technical Working Group on the issue of the Revision of Performance Standards for float-free satellite EPIRBs operating on 406 MHz (resolution A.810(19)).

#### **Terms of Reference for the Technical Working Group**

13.18 The Sub-Committee instructed the Technical Working Group to consider documents COMSAR 14/13, COMSAR 14/13/1, COMSAR 14/13/2 and COMSAR 14/13/4, taking into account decisions of, and comments and proposals made at, Plenary, and the views of the SAR Working Group, and provide comments and recommendations, in order to enable the Sub-Committee to finalize the agenda item at its next session.

#### **Report of the Technical Working Group**

13.19 On receipt of the report of the Technical Working Group (COMSAR 14/WP.5, section 7), the Sub-Committee took action as summarized in the ensuing paragraphs.

13.20 The Sub-Committee endorsed the view of the SAR Working Group on document COMSAR 14/13/1, that the proposed change to the Performance Standards for float-free satellite EPIRBs had merit in principle. However, many technical questions remained to be resolved before making any revision.

13.21 The Sub-Committee invited interested Member Governments and organizations to submit comments and suitable proposals for consideration at COMSAR 15.

### **14 WORK PROGRAMME AND AGENDA FOR COMSAR 15**

14.1 The Sub-Committee recalled that MSC 78 had agreed that a decision to include a new item in a Sub-Committee's work programme did not mean that the Committee agreed with the technical aspects of the proposal. MSC 78 had further agreed that if it was decided to include the item in a Sub-Committee's work programme, detailed consideration of the technical aspects of the proposal and the development of appropriate requirements and recommendations should be left to the Sub-Committee concerned.



14.2 The Sub-Committee noted that MSC 86 had:

- .1 considered document MSC 86/23/1 (United States), proposing that an automatic identification system (AIS) transmitter be permitted as an option to the 121.5 MHz homing beacon, now required on 406 MHz emergency position indicating radiobeacons (EPIRB), and agreed to include, in the work programme of the Sub-Committee and the provisional agenda for COMSAR 14, a high-priority item on "Revision of Performance standards for float-free satellite EPIRBs (resolution A.810(19))", with a target completion date of 2011; and
- .2 following consideration of document MSC 86/23/11 (Chile, France, Norway, United Kingdom and United States), proposing to undertake a scoping exercise on how any review of the elements and procedures of the GMDSS may be implemented and further advise on the shape, size and structure of this review, and having noted COMSAR 13's recommendation (COMSAR 13/14, paragraph 7.26), agreed to include, in the work programme of the Sub-Committee a subitem on "Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS" under the work programme item on "Global Maritime Distress and Safety Systems (GMDSS)", with two sessions needed to complete the subitem. In this context, the Committee requested the Secretariat to liaise with ITU with a view to utilizing the resources of the Joint IMO/ITU Experts Group in the cause of this exercise.

14.3 Having noted the adoption of the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium (resolution A.1012(26)), the Sub-Committee further noted that the Assembly, recognizing the need for a uniform basis for the application of the Strategic Plan and the High-level Action Plan throughout the Organization, and for the strengthening of existing working practices through the provision of enhanced planning and management procedures, adopted Guidelines on the application of the Strategic Plan and the High-level Action Plan (resolution A.1013(26)). In particular, the Sub-Committee noted that the Assembly requested the Committee to review and revise, during the 2010-2011 biennium, the Committee's Guidelines on the organization and method of work (MSC-MEPC.1/Circ.2) with a view to bringing them in line with the Guidelines on the application of the Strategic Plan and the High-level Action Plan.

14.4 The Sub-Committee was informed that, in pursuance of the above request, the Secretariat, in consultation with the MSC and MEPC Chairmen, had prepared the draft revised Committees' Guidelines for consideration by MSC 87 (MSC 87/23), which also took account of the provisions of the Migration Plan approved by the Council. In this regard, the Sub-Committee in the context of this item noted that, while the former format for "work programme" had been replaced by the new format for "biennial agenda" and "post-biennial agenda", the existing format for the reporting on the status of planned outputs was replaced by the new format and that the Committee Chairmen had agreed to implement the use of the aforementioned new formats from the start of 2010, as set out in annexes 1 and 4 to document COMSAR 14/WP.1.

#### **Biennial, Post-Biennial and Provisional agenda**

14.5 Taking into account the progress made at the current session, the decisions of MSC 86 and the provisions of the agenda management procedure, the Sub-Committee prepared a draft biennial agenda and post-biennial agenda, and provisional agenda for COMSAR 15 (COMSAR 14/WP.1), based on those approved by MSC 86 (COMSAR 14/2, annex), as set out in annexes 14 and 15, for consideration and approval by MSC 87. While reviewing the biennial agenda, the Sub-Committee agreed to invite the Committee to:

- .1 delete the output Procedures for updating shipborne navigation and communication equipment (5.2.5.8); and
- .2 extend the target completion date for the following planned outputs to 2011:
  - .1 Harmonized aeronautical and maritime search and rescue procedures, including SAR training matters (2.0.3.6);
  - .2 Measures to protect the safety of persons rescued at sea (5.1.2.3); and
  - .3 Reports on developments in maritime radiocommunication systems and technology (5.2.5.7).

### **Urgent matters to be considered by MSC 89**

14.6 The Sub-Committee agreed that, due to the close proximity between COMSAR 15 and MSC 89 and in accordance with the provisions of paragraph 4.9 of the Guidelines on the organization and method of work, MSC 89 should be invited to consider urgent matters emanating from COMSAR 15.

14.7 The Sub-Committee invited the Committee to agree that urgent matters for consideration by MSC 89 should be the following:

- .1 operational and technical coordination provisions of maritime safety information (MSI) services, including review of the related documents;
- .2 ITU World Radiocommunication Conference matters;
- .3 scoping exercise to establish the need for a review of the elements and procedures of the GMDSS;
- .4 revision of the IAMSAR Manual; and
- .5 revision of Performance Standards for float-free satellite EPIRBs operating on 406 MHz (resolution A.810(19)).

### **Arrangements for the next session**

14.8 The Sub-Committee agreed to establish at its next session working groups on the following subjects:

- .1 SAR Working Group;
- .2 Technical Working Group (GMDSS, ITU and operational matters and performance standards); and
- .3 e-navigation Working Group.

14.9 The Sub-Committee did not foresee the establishment of drafting groups at its next session.

14.10 The Sub-Committee did not establish correspondence groups due to report to COMSAR 15.

**Status of planned output**

14.11 The Sub-Committee prepared the information on the status of planned outputs of the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium relevant to the Sub-Committee, as set out in annex 16, which the Committee is invited to consider and take action on, as appropriate.

**Date of the next session**

14.12 The Sub-Committee noted that the fifteenth session of the Sub-Committee had been tentatively scheduled to be held from 7 to 11 March 2011 at IMO Headquarters.

**15 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2011**

15.1 In accordance with rule 16 of the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously re-elected Mr. C. Salgado (Chile) as Chairman and, in absentia, Mr. A. Olopoenia (Nigeria) as Vice-Chairman, for 2011.

**16 ANY OTHER BUSINESS****Report on the Eleventh Combined Antarctic Naval Patrol**

16.1 The Sub-Committee noted with interest the information provided by Argentina and Chile (COMSAR 14/16) on the activities of the eleventh combined Antarctic naval patrol carried out during the southern hemisphere summer of 2008/2009 by Argentina and Chile with the aim of enhancing maritime safety and environmental protection on the Antarctic continent.

16.2 The delegation of Chile informed the Sub-Committee that, following the recent earthquake and tsunami, they managed to keep their SAR services up and running and they would keep themselves committed to the combined Antarctic naval patrol programme.

**Amendments to and interpretations of the 1994 and 2000 HSC Codes**

16.3 The Sub-Committee considered document COMSAR 14/16/1 (Secretariat), containing information on discussions that took place at DE 52 concerning the proposed amendments to and interpretations of the 1994 and 2000 HSC Codes.

16.4 The Sub-Committee noted that DE 52 had considered the following documents:

- .1 DE 52/20/9 (France) pointing out an inconsistency between amendments to the 1994 HSC Code concerning radiocommunication facilities adopted by MSC 82 and MSC 84, and proposing an amendment to paragraph 14.1 of the Code to resolve the matter;
- .2 DE 52/20/10 (France) proposing an interpretation to the 1994 HSC Code concerning the application of chapter 14 carriage requirements for distress panels and distress alert panels; and
- .3 DE 52/20/11 (France) proposing an amendment to paragraph 14.15.10 of the 2000 HSC Code concerning the testing of satellite EPIRBs on passenger craft.

16.5 The Sub-Committee further noted that DE 52, noting that the amendments in question had been prepared by the COMSAR Sub-Committee, the proposed interpretation also concerned a COMSAR matter, and that, therefore, the issues raised did not fall under

the remit of the DE Sub-Committee, agreed to refer documents DE 52/20/9, DE 52/20/10 and DE 52/20/11 to the COMSAR Sub-Committee for action, as appropriate, and requested the Secretariat to act accordingly.

16.6 The Sub-Committee decided to refer documents DE 52/20/9, DE 52/20/10 and DE 52/20/11 to the Technical Working Group for further consideration.

### **Terms of Reference for the Technical Working Group**

16.7 The Sub-Committee instructed the Technical Working Group to consider documents DE 52/20/9, DE 52/20/10 and DE 52/20/11, taking into account decisions of, and comments and proposals made at, Plenary and prepare, as appropriate, a draft MSC resolution on an amendment to the 1994 HSC Code, a draft MSC circular on Unified interpretation of the 1994 HSC Code and a draft MSC resolution on an amendment to the 2000 HSC Code.

### **Report of the Technical Working Group**

16.8 On receipt of the report of the Technical Working Group (COMSAR 14/WP.5, section 8), the Sub-Committee took action as summarized in the ensuing paragraphs.

16.9 The Sub-Committee endorsed:

- .1 the draft MSC resolution on an amendment to the International Code of Safety for High-Speed Craft, 1994 (1994 HSC Code) with a view to adoption by the Committee (annex 17);
- .2 the draft MSC circular on a unified interpretation of the International Code of Safety for High-Speed Craft, 1994 (1994 HSC Code) for approval by the Committee (annex 18); and
- .3 the draft MSC resolution on an amendment to the International Code of Safety for High-Speed Craft, 2000 (2000 HSC Code) with a view to adoption by the Committee (annex 19).

### **Report of a limited trial of AIS via satellite**

16.10 The Sub-Committee noted with interest the information provided in document COMSAR 14/INF.11 (Australia), containing a brief summary of a limited commercial trial of AIS via satellite conducted by Australia. Australia had found that AIS via satellite was useful for obtaining greater maritime domain awareness in its Search and Rescue region.

### **Expressions of appreciation**

16.11 The Sub-Committee expressed appreciation to the following delegates and observers, who had recently relinquished their duties, retired or were transferred to other duties or were about to, for their invaluable contribution to its work and wished them a long and happy retirement or, as the case might be, every success in their new duties:

- Admiral Carlos Saraiva Ribeiro (Brazil) (on retirement);
- Mr. Torsten Kruuse (IALA) (on retirement);
- Captain François Lacroze (France) (on retirement);
- Mr. Jesper Loldrup (Denmark) (on return home); and
- His Excellency Ambassador Mr. Rafael Moreno Rojas (Chile) (on return home).

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**17 ACTION REQUESTED OF THE COMMITTEE**

- 17.1 The Maritime Safety Committee, at its eighty-seventh session, is invited to:
- .1 approve the draft MSC circular on the revised International SafetyNET Manual (paragraph 3.29.1 and annex 1);
  - .2 adopt the draft MSC resolution on Guideline on operational procedures for the promulgation of maritime safety information concerning acts of piracy and piracy counter-measure operations (paragraph 3.29.2 and annex 2);
  - .3 adopt the draft MSC resolution on the Revised performance standards for enhanced group call (EGC) equipment, amending resolution A.664(16) (paragraph 3.29.5 and annex 4);
  - .4 endorse the action of the Sub-Committee to instruct the Secretariat to circulate COMSAR.1/Circ.51 on the list of NAVAREA Coordinators (paragraph 3.30);
  - .5 endorse the draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services and the action of the Sub-Committee to instruct the Secretariat to submit to ITU directly after COMSAR 14 (paragraph 4.38.1 and annex 5);
  - .6 approve the continuation of the Joint IMO/ITU Experts Group on maritime radiocommunication matters, along with its terms of reference, to be held from 14 to 16 September 2010 at IMO Headquarters (paragraph 4.42 and annex 9);
  - .7 authorize the Secretariat to send the Supplementary advice on the IMO position, as prepared by the IMO/ITU Experts Group, at its meeting from 14 to 16 September 2010, to MSC 88 for approval (paragraph 4.44);
  - .8 approve the draft MSC circular on commercially available locating, tracking and emergency notification devices (paragraph 6.32.2 and annex 10);
  - .9 approve the draft MSC circular on Medical assistance at sea – yacht racing (paragraph 6.32.4 and annex 11);
  - .10 endorse the convening of the 17<sup>th</sup> session of the ICAO/IMO Joint Working Group, including its associated terms of reference and provisional agenda (paragraph 6.33.2 and annex 12);
  - .11 approve the draft MSC circular on amendments to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, taking into account ICAO's concurrence with the inclusion of the proposed amendments to the IAMSAR Manual (paragraphs 8.3 and 8.4, and annex 13);
  - .12 note the outcome of discussions with regard to the issue of Measures to protect the safety of persons rescued at sea and the proposed way forward (paragraphs 10.9 to 10.26);
  - .13 note the biennial and post-biennial agendas of the Sub-Committee and approve the changes proposed (paragraph 14.5 and annex 14);

- .14 approve the provisional agenda for COMSAR 15 (paragraph 14.5 and annex 15); and
  - .15 note the report on the status of planned outputs of the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium relevant to the Sub-Committee (paragraph 14.11 and annex 16).
- 17.2 The Maritime Safety Committee, at its eighty-eighth session, is invited to:
- .1 approve the draft MSC circular on the Questionnaire on the availability of shore-based facilities in the GMDSS, superseding MSC/Circ.684 (paragraph 3.29.3 and annex 3);
  - .2 endorse the action of the Sub-Committee to instruct the Secretariat to convey a liaison statement to ITU on Recommendation ITU-R M.493-13 on Digital Selective Calling System for use in the Maritime Mobile Service and MMSI Numbering Systems for Hand Held VHF DSC Radios (paragraph 4.38.2 and annex 6);
  - .3 endorse the action of the Sub-Committee to instruct the Secretariat to convey a liaison statement to ITU on the implementation of Resolution 355 (WRC-07) (paragraph 4.38.3 and annex 7);
  - .4 endorse the action of the Sub-Committee to instruct the Secretariat to convey a liaison statement to ITU on "Specifications of Man Overboard Devices" (paragraph 4.38.4 and annex 8);
  - .5 endorse the action of the Sub-Committee to instruct the Secretariat to circulate COMSAR.1/Circ.52 on the Questionnaire on the availability of SAR Services (paragraph 6.33.1);
  - .6 adopt the draft MSC resolution on an amendment to the International Code of Safety for High-Speed Craft, 1994 (1994 HSC Code) (paragraph 16.9.1 and annex 17);
  - .7 approve the draft MSC circular on a unified interpretation of the International Code of Safety for High-Speed Craft, 1994 (1994 HSC Code) (paragraph 16.9.2 and annex 18);
  - .8 adopt the draft MSC resolution on an amendment to the International Code of Safety for High-Speed Craft, 2000 (2000 HSC Code) (paragraph 16.9.3 and annex 19); and
  - .9 approve the report in general.

\*\*\*

**ANNEX 1**

**DRAFT MSC CIRCULAR**

**REVISED INTERNATIONAL SAFETYNET MANUAL**

1 The Maritime Safety Committee (MSC), at its [eighty-seventh session (12 to 21 May 2010)], noted and approved the revised International SafetyNET Manual, as prepared by IHO, WMO and IMSO and agreed by the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) at its fourteenth session (8 to 12 March 2010).

2 This circular supersedes MSC/Circ.1064 and replaces the existing text of the International SafetyNET Manual.

3 The Committee decided that the amendments will come into force on [1 January 2012].

# **IMO International SafetyNET Manual**



## PREFACE

SOLAS regulation IV/12.2 states that "Every ship, while at sea, shall maintain a radio watch for broadcasts of maritime safety information on the appropriate frequency or frequencies on which such information is broadcast for the area in which the ship is navigating".

At the request of the IMO Sub-Committee on Radiocommunications, the International SafetyNET Manual was first produced in 1994. The second edition was published in 2003 containing amendments endorsed by the Maritime Safety Committee at its seventy-sixth session in December 2002 by MSC/Circ.1064.

At its seventh meeting in September 2005, the IHO's Commission on the Promulgation of Radio Navigational Warnings (CPRNW<sup>1</sup>) established a Working Group to review all World-Wide Navigational Warning Service (WWNWS) documentation. The Working Group included representation from the WMO and prepared at first, revisions to IMO resolutions A.705(17), "Promulgation of Maritime Safety Information" and A.706(17), "World-Wide Navigational Warning Service". The proposed revisions of the resolutions were circulated to IHO Member States under IHB CL 104/2007, endorsed by COMSAR at its twelfth session in April 2008 and subsequently approved by the Maritime Safety Committee at its eighty-fifth session in November/December 2008 by MSC.1/Circ.1287 and MSC.1/Circ.1288 respectively.

The IHO CPRNW<sup>1</sup> Working Group then prepared the revised Joint IMO/IHO/WMO Manual on Maritime Safety Information incorporating the revised information from resolutions A.705(17), as amended and A.706(17), as amended. The revised text of the Joint IMO/IHO/WMO Manual on Maritime Safety Information was circulated to IHO Member States under cover of IHB CL 70/2008, endorsed by COMSAR at its thirteenth session in January 2009 and subsequently approved by the Maritime Safety Committee at its eighty-sixth session in May/June 2009 by MSC.1/Circ.1310.

Continuing with the holistic approach of reviewing all the MSI documents from the top-down, the IHO WWNWS Working Group prepared the third revision of the International SafetyNET Manual. The revised text of the International SafetyNET Manual was circulated to IHO Member States under cover of IHB CL [68/2009], endorsed by COMSAR at its fourteenth session in March 2010 and subsequently approved by the Maritime Safety Committee at its [eighty-seventh] session in [May 2010].

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<sup>1</sup> CPRNW was renamed the IHO WWNWS Sub Committee (WWNWS) with effect from 1 January 2009.

## CONTENTS

SECTION	PAGE
1. GENERAL INFORMATION	5
2. SAFETYNET SERVICE	5
2.1 Introduction	5
2.2 Definitions	7
2.2.2 NAVAREAS with Inmarsat satellite ocean region coverage	12
2.2.3 METAREAS with Inmarsat satellite ocean region coverage	13
3. GENERAL FEATURES OF THE EGC SYSTEM	14
4. PLANNING OF NEW SAFETYNET SERVICES	14
5. CHANGES TO SAFETYNET SERVICES	15
6. OPERATION OF THE INTERNATIONAL SAFETYNET SERVICE	15
7. PROMULGATION OF MARITIME SAFETY INFORMATION	17
8. MESSAGE FORMATTING AND C CODES	18
9. MONITORING OF MSI BROADCASTS	19
9.3 EGC SafetyNET Log	20
10. QUALITY CONTROL OF MSI BROADCASTS	20
10.1 Misuse of C-codes	20
10.2 Improper use of C1 priority codes	20
10.3 Improper use of C2 service codes	21
10.4 Improper use of C4 repetition codes	22
11. Accessing the SafetyNET service	23
12. Land Earth Station functions	23
13. Receiving SafetyNET broadcasts	24
14. Charges for SafetyNET services	26
<b>Annex 1</b> - International SafetyNET Co-ordinating Panel	27
1 Terms of reference	27
2 Contact address	27
3 Panel membership	27
<b>Annex 2</b> - Authorization, Certification and Registration of SafetyNET information providers	28
1 Authorization	28
2 Certification	29
3 Registration	29
4 Contact addresses	30
5 Sample Certificate of Authorization	
<b>Annex 3</b> - The Inmarsat system	31
1 Introduction	31
2 Bandwidths	31
3 The space segment	31
4 The ground segment	31
5 Mobile Earth Stations (MESs)	32
<b>Annex 4</b> - Operational guidance	33
<b>Part A</b> - Navigational warning services	36
<b>Part B</b> - Meteorological services	38
<b>Part C</b> - Search and rescue services	40
<b>Part D</b> - Piracy countermeasures broadcast messages	44
<b>Part E</b> - Repetition Codes (C4)	47
<b>Annex 5</b> - EGC receiver specifications	49
<b>Annex 6</b> - Procedure for amending the International SafetyNET Manual	58

## **1 – GENERAL INFORMATION**

SafetyNET is an international automatic direct-printing satellite-based service for the promulgation of navigational and meteorological warnings, meteorological forecasts, Search and Rescue (SAR) information and other urgent safety-related messages – maritime safety information (MSI) – to ships. It has been developed as a safety service of the Inmarsat-C enhanced group call system to provide a simple and automated means of receiving MSI on board ships at sea. The message-selection features of SafetyNET receivers enable mariners to receive safety information broadcasts that are tailored to their particular needs.

SafetyNET fulfils an integral role in the Global Maritime Distress and Safety System (GMDSS) developed by the International Maritime Organization (IMO) and incorporated into the 1988 amendments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, as a requirement for ships to which the Convention applies.

This Manual describes the structure and operation of the International SafetyNET Service. It is intended primarily for national Administrations and registered information providers, but may also be useful to the mariner who requires more operational information than is found in manufacturers' equipment manuals.

## **2 – SAFETYNET SERVICE**

### **2.1 Introduction**

**2.1.1** SafetyNET provides shipping with navigational and meteorological warnings, meteorological forecasts, shore-to-ship distress alerts, SAR information and other urgent information in accordance with the requirements of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended. It is suitable for use in all sizes and types of ships. Figure 1 illustrates the way the service is structured.

**2.1.2** SafetyNET is a service of Inmarsat's Enhanced Group Call (EGC) system and was specifically designed for promulgation of MSI as a part of the GMDSS. The EGC system (technically a part of the Inmarsat C system) provides an automatic method of broadcasting messages to both fixed and variable geographical areas. It is designed with the capability to provide services within the coverage areas of geostationary satellites, known as satellite ocean regions (approximately between 76° N and 76° S). In addition to providing services to ships operating in sea area A3, it also provides the means of disseminating MSI to coastal warning areas not covered by the International NAVTEX service.

**2.1.3** SafetyNET offers the ability to direct a message to a given geographical area. The area may be fixed, as in the case of a NAVAREA/METAREA or coastal warning area; or it may be a user defined area (circular or rectangular). A user defined area is used for messages, such as a local storm warning or a shore-to-ship distress alert, for which it is inappropriate to alert ships in an entire satellite ocean region or NAVAREA/METAREA. The general EGC system capabilities are shown in Figure 2.

**2.1.4** SafetyNET messages are submitted by registered information providers for broadcast to the appropriate satellite ocean region(s) via an Inmarsat C Land Earth Station (LES). Messages are broadcast according to their priority, i.e. distress, urgency or safety. Aboard ship, messages are received by type-approved Inmarsat C or Mini-C mobile terminals with EGC SafetyNET capability.

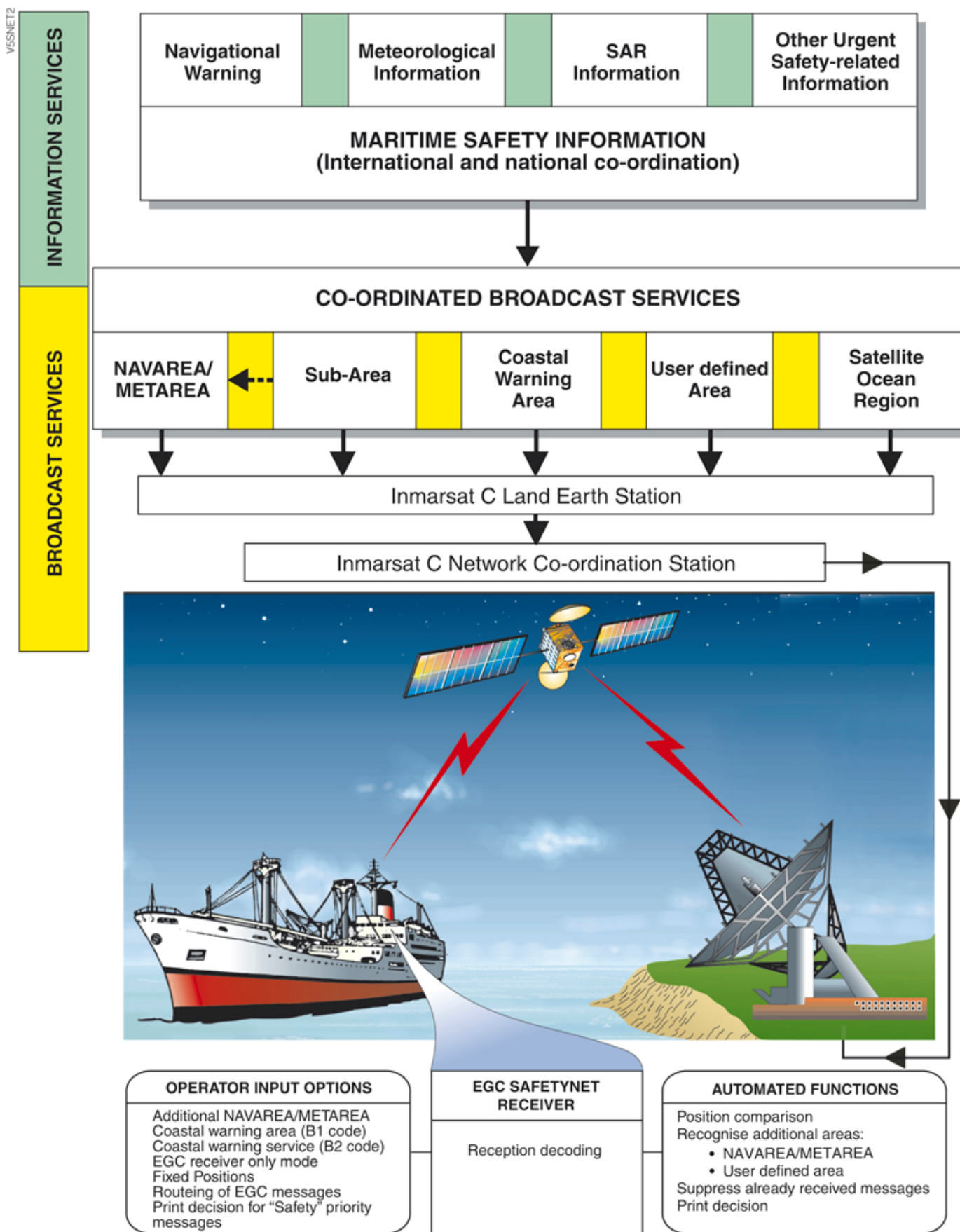
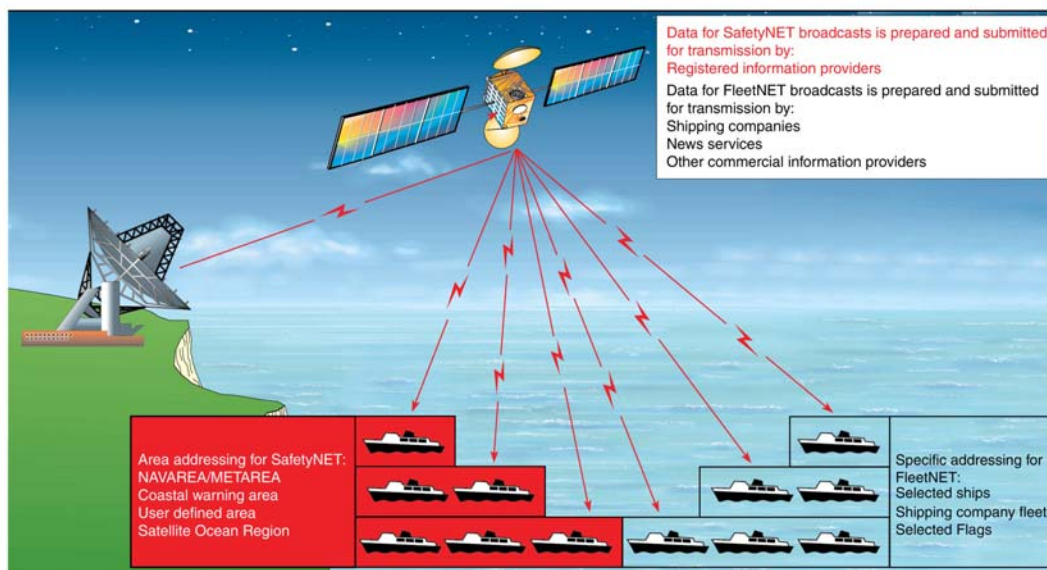


Figure 1 – The International SafetyNET Service system



**Figure 2 – Basic concept of the Inmarsat Enhanced Group Call system**

## 2.2 Definitions

### 2.2.1 For the purposes of this manual, the following definitions apply:

.1 *Coastal warning* means a navigational warning promulgated as part of a numbered series by a National co-ordinator. Broadcast shall be made by the International NAVTEX service to defined NAVTEX service areas and/or by the International SafetyNET service to coastal warning areas. (In addition, Administrations may issue coastal warnings by other means.)

.2 *Coastal warning area* means a unique and precisely defined sea area within a NAVAREA/METAREA or Sub-Area established by a coastal state for the purpose of co-ordinating the broadcast of coastal maritime safety information through the SafetyNET service.

.3 *Enhanced Group Call (EGC)* means the system for broadcasting messages via the mobile satellite communications system operated by Inmarsat Global Limited. EGC is a part of the Inmarsat C system and supports two services: SafetyNET and FleetNET.

.4 *FleetNET* means the commercial service for the broadcasting and automatic reception of fleet management and general public information by means of direct printing through Inmarsat's EGC system. Some receivers for FleetNET may not be able to receive SafetyNET.

.5 *Global Maritime Distress and Safety System (GMDSS)* means the global communications service based upon automated systems, both satellite and terrestrial, to provide distress alerting and promulgation of Maritime Safety Information for mariners.

.6 *HF NBDP* means High Frequency narrow-band direct-printing, using radio telegraphy as defined in Recommendation ITU-R M.688.

**.7** *In-force bulletin* means a list of serial numbers of those NAVAREA, Sub-Area or coastal warnings in force issued and broadcast by the NAVAREA co-ordinator, Sub-Area co-ordinator or National co-ordinator during at least the previous six weeks.

**.8** *Inmarsat B* means the digital satellite communications system for transmission of voice, telex, facsimile or data using directional antennas. (*Note: Inmarsat B will be discontinued from 31 December 2014*)

**.9** *Inmarsat C* means the digital satellite communications system for store-and-forward text or data messaging using mobile terminals with omni-directional antennas. Inmarsat C is the only system that allows ships to meet the majority of the satellite communication requirements of the GMDSS including distress alerting, reception of maritime safety information and general communications.

**.10** *Inmarsat Mini-C* means smaller terminals, based on the same technical requirements as Inmarsat C terminals. Some models are approved as GMDSS compliant terminals.

**.11** *Inmarsat Fleet* means the digital satellite communication system that provides voice and flexible data communication services, e-mail and secure internet access for maritime users, comprising a family of Fleet F77, F55 and F33 mobile terminals. The Inmarsat Fleet F77 system provides voice distress and safety functionality and meets the requirements of IMO resolution A.1001(25).

**.12** *Inmarsat FleetBroadband* means the communication service that provides voice and high-speed data services, simultaneously, through compact terminals for maritime users.

**.13** *International NAVTEX service* means the co-ordinated broadcast and automatic reception on 518 kHz of maritime safety information by means of narrow-band direct-printing telegraphy using the English language<sup>2</sup>.

**.14** *International SafetyNET service* means the co-ordinated broadcasting and automated reception of maritime safety information via the Inmarsat Enhanced Group Call (EGC) system, using the English language, in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended.

**.15** *Land Earth Station (LES)* means a fixed terrestrial station acting as a gateway between terrestrial communication networks and the Inmarsat satellites in the maritime mobile-satellite service. This may also be referred to as a Coast Earth Station (CES).

**.16** *Land Earth Station Operator (LESO)* means an Inmarsat service provider which owns and operates the LES.

**.17** *Local warning* means a navigational warning which covers inshore waters, often within the limits of jurisdiction of a harbour or port authority.

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<sup>2</sup> As set out in the IMO NAVTEX Manual.

**.18** *Maritime safety information (MSI)*<sup>3</sup> means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.

**.19** *Maritime safety information service* means the internationally and nationally co-ordinated network of broadcasts containing information which is necessary for safe navigation.

**.20** *METAREA* means a geographical sea area<sup>4</sup> established for the purpose of co-ordinating the broadcast of marine meteorological information. The term *METAREA* followed by a roman numeral may be used to identify a particular sea area. The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States (**See Figure 4**).

**.21** *METAREA issuing service* means the National Meteorological Service which has accepted responsibility for ensuring that meteorological forecasts and warnings are disseminated through the Inmarsat SafetyNET service to the designated *METAREA* or other area.

**.22** *Meteorological information* means the marine meteorological warning and forecast information in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended.

**.23** *Mobile Earth Station (MES)* means a mobile user terminal in the Inmarsat maritime mobile-satellite service. This may also be referred to as Ship Earth Station (SES).

**.24** *National co-ordinator* means the national authority charged with collating and issuing coastal warnings within a national area of responsibility.

**.25** *National NAVTEX service* means the broadcast and automatic reception of maritime safety information by means of narrow-band direct-printing telegraphy using frequencies other than 518 kHz and languages as decided by the Administration concerned.

**.26** *National SafetyNET service* means the broadcasting and automated reception of maritime safety information via the Inmarsat EGC system, using languages as decided by the Administration concerned.

**.27** *NAVAREA* means a geographical sea area<sup>4</sup> established for the purpose of co-ordinating the broadcast of navigational warnings. The term *NAVAREA* followed by a roman numeral may be used to identify a particular sea area. The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States (**See Figure 3**).

**.28** *NAVAREA co-ordinator* means the authority charged with co-ordinating, collating and issuing *NAVAREA* warnings for a designated *NAVAREA*.

**.29** *NAVAREA warning* means a navigational warning or in-force bulletin promulgated as part of a numbered series by a *NAVAREA* co-ordinator.

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<sup>3</sup> as defined in Regulation IV/2 of the 1974 SOLAS Convention, as amended.

<sup>4</sup> which may include inland seas, lakes and waterways navigable by sea-going ships.

**.30** *Navigational warning* means a message containing urgent information relevant to safe navigation broadcast to ships in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended.

**.31** *NAVTEX* means the system for the broadcast and automatic reception of maritime safety information by means of narrow-band direct-printing telegraphy.

**.32** *NAVTEX service area* means a unique and precisely defined sea area for which maritime safety information is provided from a particular NAVTEX transmitter.

**.33** *NAVTEX co-ordinator* means the authority charged with operating and managing one or more NAVTEX stations broadcasting maritime safety information as part of the International NAVTEX service.

**.34** *Network Co-ordination Station (NCS)* means a fixed land station in the Inmarsat satellite communications system which controls channel assignments and provides the network management functions for each of the four satellite ocean regions. NCSs also transmit EGC messages on the NCS common channel.

**.35** *Other urgent safety-related information* means maritime safety information broadcast to ships that is not defined as a navigational warning, meteorological information or SAR information. This may include, but is not limited to, significant malfunctions or changes to maritime communications systems, and new or amended mandatory ship reporting systems or maritime regulations affecting ships at sea.

**.36** *Registered information provider* means a maritime safety information provider (MSI provider), authorized in accordance with Annex 2 of the International SafetyNET Manual, which has an agreement with one or more LES(s) for providing SafetyNET services.

**.37** *Rescue Co-ordination Centre (RCC)* means a unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

**.38** *SafetyNET* means the international service for the broadcasting and automatic reception of maritime safety information via the Inmarsat EGC system. SafetyNET receiving capability is part of the mandatory equipment which is required to be carried by certain ships in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended.

**.39** *SAR information* means distress alert relays and other urgent search and rescue information broadcast to ships.

**.40** *Satellite Ocean Region* means the area on the earth's surface within which a mobile or fixed antenna can obtain line-of-sight communications with one of the four primary Inmarsat geostationary satellites. This area may also be referred to as the "footprint":

Atlantic Ocean Region – East (AOR-E)  
Atlantic Ocean Region – West (AOR-W)  
Indian Ocean Region (IOR)  
Pacific Ocean Region (POR)



- .41** *Sea Area A1* means an area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC<sup>5</sup> alerting is available, as may be defined by a Contracting Government.
- .42** *Sea Area A2* means an area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.
- .43** *Sea Area A3* means an area, excluding sea areas A1 and A2, within the coverage of an Inmarsat geostationary satellite in which continuous alerting is available.
- .44** *Sea Area A4* means an area outside sea areas A1, A2 and A3.
- .45** *Sub-Area* means a sub-division of a NAVAREA/METAREA in which a number of countries have established a co-ordinated system for the promulgation of maritime safety information. The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States.
- .46** *Sub-Area co-ordinator* means the authority charged with co-ordinating, collating and issuing Sub-Area warnings for a designated Sub-Area.
- .47** *Sub-Area warning* means a navigational warning promulgated as part of a numbered series by a Sub-Area co-ordinator. Broadcast shall be made by the International NAVTEX service to defined NAVTEX service areas or by the International SafetyNET service (through the appropriate NAVAREA co-ordinator.)
- .48** *User defined area* means a temporary geographic area, either circular or rectangular, to which maritime safety information is addressed.
- .49** *UTC* means Co-ordinated Universal Time which is equivalent to GMT (or ZULU) as the international time standard
- .50** *World-Wide Navigational Warning Service (WWNWS)*<sup>6</sup> means the internationally and nationally co-ordinated service for the promulgation of navigational warnings.
- .51** In the operating procedures *co-ordination* means that the allocation of the time for data broadcast is centralized, the format and criteria of data transmissions are compliant as described in the Joint IMO/IHO/WMO Manual on Maritime Safety Information and that all services are managed as set out in IMO resolutions A.705(17), as amended and A.(706)17, as amended.

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<sup>5</sup> Digital selective calling (DSC) means a technique using digital codes which enables a radio station to establish contact with and transfer information to another station or group of stations and complying with the relevant recommendations of the International Radio Consultative Committee ((CCIR) – "Radiocommunications Bureau of the International Telecommunication Union (ITU)" from 1 March 1993).

<sup>6</sup> as set out in resolution A.706(17), as amended.

### 2.2.2 NAVAREAS with Inmarsat satellite ocean region coverage

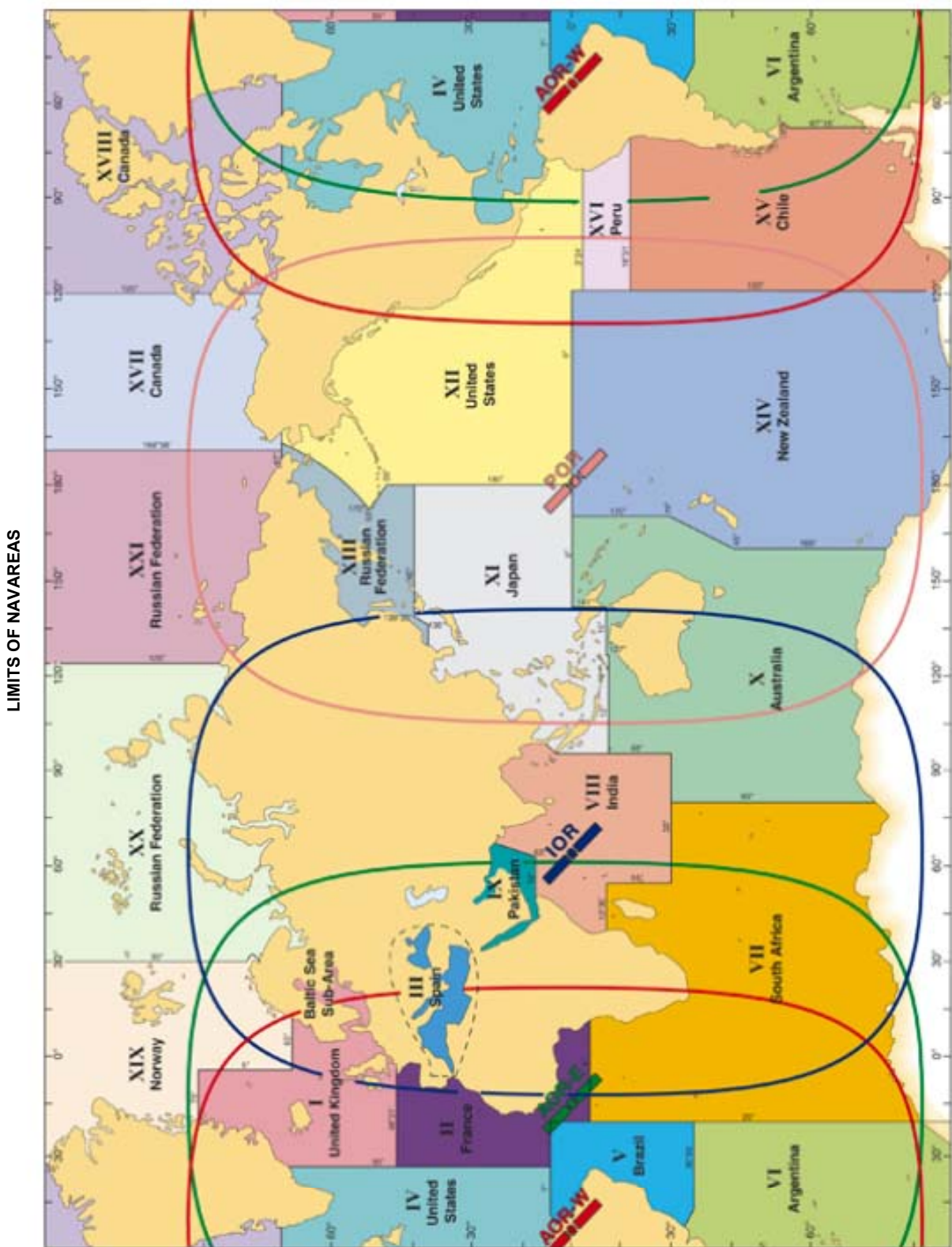


Figure 3  
NAVAREAS for coordinating and promulgating radio navigational warnings under the World-Wide Navigational Warning Service, including Inmarsat satellite footprints

The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States

2.2.3 METAREAS with Inmarsat satellite ocean region coverage

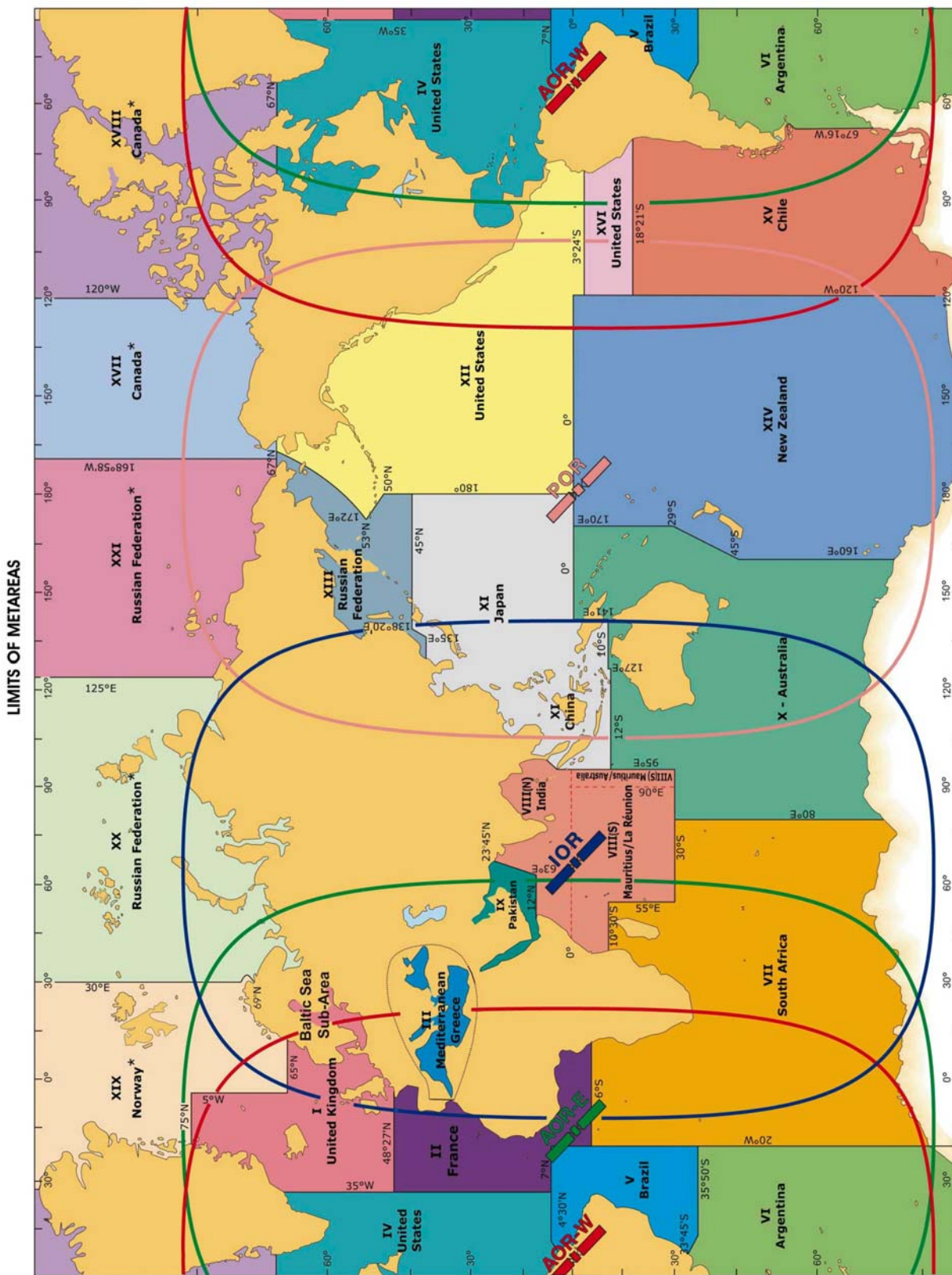


Figure 4 METAREAS for coordinating and promulgating meteorological warnings and forecasts including Inmarsat satellite footprints

The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States.

### 3 – GENERAL FEATURES OF THE EGC SYSTEM

3.1 The Inmarsat C EGC system supports two different services:

- .1 SafetyNET - for promulgation of MSI; and
- .2 FleetNET – for transmission of fleet management, general public information and other information to fleets or groups of ships. **The FleetNET service is not part of the GMDSS.**

3.2 All navigable waters of the world between 76° N and 76° S are covered by satellites in the Inmarsat system. Each satellite transmits EGC messages on a designated channel; this channel is optimised to enable the signal to be received by Inmarsat C or Mini-C terminals with EGC SafetyNET capability. Reception of EGC messages is normally not affected by the position of the ship within the satellite ocean region, atmospheric conditions or time of day.

3.3 SafetyNET messages are addressed to a geographical area (area calls), where as FleetNET messages are addressed to groups of ships (group calls):

- .1 *Area calls* (SafetyNET) can be addressed to a fixed geographical area (NAVAREA/METAREA or coastal warning area) or to a user defined area selected by an MSI provider. Area calls will be received automatically by any SafetyNET receiver within the area. To receive SafetyNET coastal warnings, the EGC receiver must be set up with appropriate B<sub>1</sub> and B<sub>2</sub> codes – where the B<sub>1</sub> Code is the designator of the defined area and the B<sub>2</sub> Code is the subject indicator (**See section 13.4**).
- .2 *Group calls* (FleetNET) will be received automatically by any ship whose EGC receiver acknowledges the unique group identity associated with a particular message.

### 4 – PLANNING OF NEW SAFETYNET SERVICES

4.1 Authorities wishing to become officially registered information providers of MSI to ships at sea via SafetyNET, should contact the IMO via the International SafetyNET Coordinating Panel at an early stage for advice. The plans of any prospective registered information providers should be co-ordinated with the IMO, IHO and WMO and with other national authorities, before authorization to broadcast via SafetyNET may be granted by the International SafetyNET Panel, in accordance with the procedures set out in Annex 2.

4.2 Once authorised and registered, information providers should contact the LES operator(s) or service provider(s) they desire to use for promulgation of information to their areas of responsibility, in order to determine specific details for addressing messages, accessing the LES, charges and payment for services and any other matters with respect to providing MSI to mariners.

4.3 The International SafetyNET Coordinating Panel, in co-operation with IHO and WMO, undertakes the co-ordination of times for scheduled transmissions.

4.4 Mariners should be informed of the establishment of a SafetyNET service by the inclusion of full details in Notices to Mariners and other national nautical publications and the IMO Master Plan of Shore-Based Facilities for the GMDSS, as amended. In addition, full

details of the service should be sent to the International SafetyNET Co-ordinating Panel at the address given in Annex 1.

**4.5** Questions concerning promulgation of MSI through the EGC SafetyNET service can be addressed to the International SafetyNET Co-ordinating Panel at the address given in Annex 1.

**4.6** Questions concerning the operation of the Inmarsat system should be addressed to Maritime Safety Services, Inmarsat Global Ltd, 99 City Road, London EC1Y 1AX, United Kingdom. E-mail address: maritime\_safety@inmarsat.com

## **5 – CHANGES TO EXISTING SAFETYNET SERVICES**

**5.1** Registered information providers wishing to change their existing SafetyNET service should follow the same co-ordination procedures as for a new service, in accordance with the procedures set out in Annex 2

**5.2** Mariners should be informed of the changes to an existing SafetyNET service by the inclusion of full details in Notices to Mariners and other national nautical publications and the IMO Master Plan of Shore-Based Facilities for the GMDSS, as amended. In addition, full details of the service should be sent to the International SafetyNET Co-ordinating Panel at the address given in Annex 1.

## **6 – OPERATION OF THE INTERNATIONAL SAFETYNET SERVICE**

**6.1** Given the size of a satellite ocean region, some form of selectivity in receiving and printing the various messages is required. All ships within the footprint of a selected satellite will receive area calls, however, they will only be displayed and printed by those receivers that recognize both;

.1 the fixed geographical area (NAVAREA/METAREA), user defined area as appropriate, and;

.2 for coastal warnings, the coastal warning area and the subject indicator for the message.

**6.2** The message format includes a preamble which enables the EGC receiver to display and print only those MSI messages which relate to its present position, to the intended route, or to the afore mentioned areas as programmed by the operator.

**6.3** For coastal warning areas messages, the MSI provider must ensure that the preamble includes the B<sub>1</sub> Code identifier allocated for the particular area, along with the appropriate B<sub>2</sub> Code subject indicator (**See section 13.4**). The EGC receiver can be set to reject messages concerning certain optional subjects which may not be required by the ship (e.g. LORAN messages may be rejected in a ship which is not fitted with a LORAN receiver). Receivers also use the B<sub>2</sub> Code subject indicator, to identify coastal warnings which, because of their importance, may NOT be rejected.

**6.4** Reception of certain types of messages, such as shore-to-ship distress alerts, SAR information, meteorological warnings and forecasts and navigational warnings, addressed to a geographical area within which the EGC receiver is located, is mandatory and cannot be

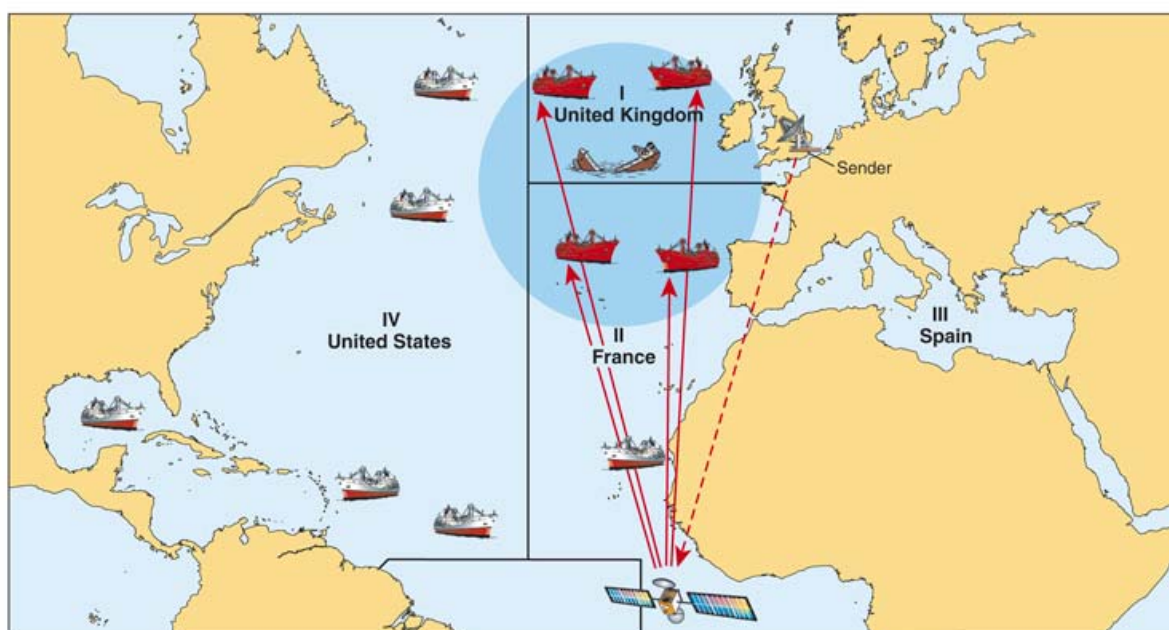
suppressed by ships in the affected area. These messages are identified by the C<sub>2</sub> service codes: 00, 04, 14, 24, 31, 34 and 44 (**See Annex 4**).

**6.5** When a message has been received error-free, a record is made of the message identification (the unique sequence number, the LES identifier and the service code) associated with that message. The unique sequence number is used to suppress the printing of repeated transmissions of the same message.

**6.6** An EGC receiver is capable of storing at least 255 message identifications. These message identifications are stored with an indication of the number of hours that have elapsed since the last receipt of the message. Subsequent reception of the same message identification will reset this timer. After between 60 and 72 hours, message identifications may be automatically erased. If the number of received message identifications exceeds the capacity of memory allocated, the oldest message identification will be erased.

**6.7** SafetyNET messages can be addressed to user defined areas, which may be circular or rectangular in shape. A circular area is described by latitude and longitude of the centre in degrees and radius of the circle in nautical miles. A rectangular area is described by latitude and longitude of the southwest corner in degrees and extension in degrees to the North and East of the rectangle.

**6.8** In the case of a ship in distress, it is normal to create a circular user defined area (C<sub>2</sub> service code 14), defined by the position of the casualty and a radius around the casualty to alert ships that may be able to render assistance (**See Figure 5**). If no response is received from any ship at the first call, the area can be expanded in steps until an acknowledgement by one or more ships is received. In cases where the position of the distress is unknown, a shore to ship distress alert can be transmitted to all ships (C<sub>2</sub> service code 00), in a given satellite ocean region. SAR co-ordination messages shall only be addressed to circular (C<sub>2</sub> service code 14) or to rectangular (C<sub>2</sub> service code 34) user defined areas (**See Figure 6**).



**Figure 5 – SafetyNET message addressing to a circular area**

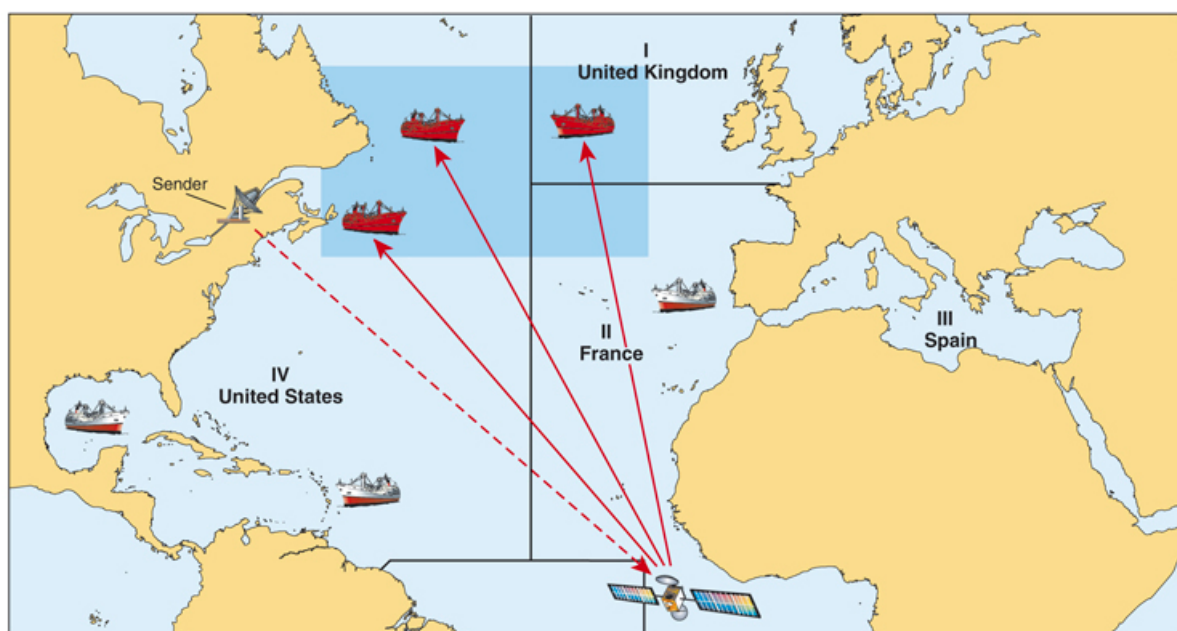


Figure 6 – SafetyNET message addressing to a rectangular area

## 7 – PROMULGATION OF MARITIME SAFETY INFORMATION

7.1 Maritime safety information is promulgated by officially registered information providers whose Certificates of Authorization to broadcast via SafetyNET are issued by the IMO in accordance with the procedures in Annex 2. Registered information providers include for example:

- .1 NAVAREA Co-ordinators: for NAVAREA warnings and other urgent safety-related information;
- .2 National Co-ordinators: for coastal warnings and other urgent safety-related information;
- .3 METAREA issuing services: for meteorological warnings and forecasts; and
- .4 Rescue Co-ordination Centres: for shore-to-ship distress alerts, SAR information and other urgent safety-related information.

7.2 All METAREA/NAVAREA, Sub-Area and coastal warnings shall be broadcast only in English in the international SafetyNET service in accordance with IMO resolution A.706(17), as amended. In addition to the required broadcasts in English, METAREA/NAVAREA, Sub-Area and coastal warnings may be broadcast in a national language using a national SafetyNET service.

7.3 Registered information providers shall take into account the need for contingency planning.

## 8 – MESSAGE FORMATTING AND C CODES

**8.1** EGC messages include instructions to the LES for processing MSI in the form of a special address header that consists of five (or six) C-codes as described below. In order for a message to be correctly processed, it must always consist of data conforming to C codes "1" to "5". Additionally, C code "0" shall be used when required by the service provider.

- C<sub>0</sub> Ocean Region code - 1 digit (when required)
  - 0 - Atlantic Ocean Region - West
  - 1 - Atlantic Ocean Region - East
  - 2 - Pacific Ocean Region
  - 3 - Indian Ocean Region
  - 9 - all ocean regions (*Note: availability of C<sub>0</sub> = 9 should be checked with LES operator or service provider*)
- C<sub>1</sub> priority code - 1 digit code
- C<sub>2</sub> service code - 2 digit code
- C<sub>3</sub> address code - 2, 4, 10 or 12 alphanumeric code
- C<sub>4</sub> repetition code - 2 digit code
- C<sub>5</sub> presentation code – normally a 2 digit code

<b>C Codes</b>					
<b>C<sub>0</sub> Ocean Region code (when required)</b>	<b>C<sub>1</sub> Priority code</b>	<b>C<sub>2</sub> Service code</b>	<b>C<sub>3</sub> Address code</b>	<b>C<sub>4</sub> Repetition code</b> <small>(See Annex 4, Part E)</small>	<b>C<sub>5</sub> Presentatio n code</b>
1 digit code	1 digit code	2 digit code	2, 4, 10 or 12 alphanumeric code	2 digit code	Normally a 2 digit code
0 - AOR-W 1 – AOR-E 2 – POR 3 – IOR 9 – All Ocean Regions <sup>1</sup>	1 - Safety 2 - Urgency 3 - Distress	00 – All ships (general call)	2 digit - 00 (All ships)	<b>Category (a) –</b> for EGC messages to be repeated a finite number of times.  <b>Category (b) –</b> for EGC messages to be repeated at specified intervals until cancelled by the MSI provider.	00
		04 – Navigational, Meteorological or Piracy warning to a rectangular area	12 alphanumeric rectangular area address D <sub>1</sub> D <sub>2</sub> N(S)D <sub>3</sub> D <sub>4</sub> D <sub>5</sub> E(W)D <sub>6</sub> D <sub>7</sub> D <sub>8</sub> D <sub>9</sub> D <sub>10</sub>		
		13 – Navigational, Meteorological or Piracy Coastal warning	4 alphanumeric coastal warning area address X <sub>1</sub> X <sub>2</sub> B <sub>1</sub> B <sub>2</sub>		
		14 – Shore-to-Ship Distress Alert to a circular area	10 alphanumeric circular area address D <sub>1</sub> D <sub>2</sub> N(S)D <sub>3</sub> D <sub>4</sub> E(W)M <sub>1</sub> M <sub>2</sub> M		
		24 – Navigational, Meteorological or Piracy warning to a circular area	10 alphanumeric circular area address D <sub>1</sub> D <sub>2</sub> N(S)D <sub>3</sub> D <sub>4</sub> E(W)M <sub>1</sub> M <sub>2</sub> M <sub>3</sub>		
		31 – NAVAREA/ METAREA warning, MET Forecast or Piracy warning to NAVAREA /METAREA	2 digit – NAVAREA/METAREA number		
		34 – SAR Coordination to a rectangular area	12 alphanumeric rectangular area address D <sub>1</sub> D <sub>2</sub> N(S)D <sub>3</sub> D <sub>4</sub> D <sub>5</sub> E(W)D <sub>6</sub> D <sub>7</sub> D <sub>8</sub> D <sub>9</sub> D <sub>10</sub>		
44 – SAR Coordination to a circular area	10 alphanumeric circular area address D <sub>1</sub> D <sub>2</sub> N(S)D <sub>3</sub> D <sub>4</sub> E(W)M <sub>1</sub> M <sub>2</sub> M <sub>3</sub>				
1) Subject to availability through LES or service provider					



**8.2** The syntax of the special address header in relation to the exact number of digits and/or alphanumeric characters, and to the spaces between each C code, is critical and must conform to the format required by the LES or service provider used.

**8.3** SafetyNET messages are stored at the LES until transmitted the appropriate number of times, as specified by the C<sub>4</sub> code, although the MSI provider may also cancel a message at any time by sending an appropriate cancellation message to the LES.

**8.4** Cancellation procedure may vary between different LESs or service providers. Detailed operational procedure is contained in the instructions on sending EGC broadcast given to the MSI providers after registration with the LES operator or service providers.

**8.5** Messages destined for areas of satellite overlap that are required to be transmitted through more than one Satellite, should be sent to more than one LES (i.e. one in each *satellite ocean region*) to ensure they are received by all intended ships. This may require co-ordination with adjacent NAVAREA/METAREA and other MSI providers. In an area of overlap coverage from two or three ocean region satellites, distress alert relays and urgency warnings will be broadcast over all satellites which cover the affected region.

**8.6** Scheduled broadcasts are made over nominated satellites and at specified times, as allocated by the IMO International SafetyNET Co-ordinating Panel. These schedules are published in national nautical publications and the IMO Master Plan of Shore-Based Facilities for the GMDSS, as amended.

**8.7** MSI providers shall adhere to their published scheduled broadcast times to facilitate reception of messages.

## **9 – MONITORING OF MSI BROADCASTS**

**9.1** In order to ensure the integrity of the MSI being broadcast, MSI providers must monitor the broadcasts which they originate in accordance to IMO resolution A.706(17), as amended. Monitoring is especially important in a highly automated system, which is dependent on careful adherence to procedure and format. This shall be accomplished by the installation of an EGC receiver to enable each MSI provider to:

- .1 check that the message has been broadcast;
- .2 confirm that the message is received correctly;
- .3 ensure that cancellation messages are properly executed; and
- .4 observe any unexplained delay in the message being broadcast.

**9.2** EGC receivers only display or print messages on the first occasion they are received. Therefore, in order for MSI providers to confirm that all messages in force are still being transmitted by the LES, and that cancelled messages are no longer being transmitted, the EGC receiver used by the MSI provider to monitor their SafetyNET broadcasts should be powered down (including the transceiver), and re-booted at regular intervals, where ever this is possible.

Alternatively, MSI providers should consult their equipment supplier for specialist EGC monitoring software which would not require the MES to be re-booted.

### 9.3 EGC SafetyNET Log

All Inmarsat C and mini-C MESs capable of receiving MSI, have an EGC SafetyNET Log, which contains information on all SafetyNET messages received by the terminal.

Message Number	LES	Service	Priority	Rec Date & Time	Size	Seq. No	Routeing
10022405.egc	321	MET/NAV Warning/Forecast	Safety	10-02-24 03:31	2263	1605	Prn+Mem
10022402.egc	321	SAR Coordination	Urgency	10-02-24 03:02	1506	1604	Prn+Mem
10022401.egc	322	Coastal Warning/Forecast	Safety	10-02-23 02:56	269	9154	Prn+Mem
10022302.egc	304	Distress Alert Relay	Distress	10-02-23 20:44	769	691	Prn+Mem
10022305.egc	317	NAV Warning	Safety	10-02-23 19:41	819	8318	Prn+Mem
10022302.egc	322	MET Warning	Safety	10-02-23 19:35	2358	9150	Prn+Mem

**Figure 7 - Example of an EGC SafetyNET Log**

This information includes:

- Message number: Generated by the terminal
- LES: ID of the LES which broadcast the message
- Service: The MES software translates the C<sub>2</sub> service code used in the message address and displays a short title for the particular type message service.
- Priority: The MES software translates the C<sub>1</sub> priority code used in the message address and displays the appropriate Priority. This could be either; Safety, Urgency or Distress.
- Rec Date & Time: The date time group YY-MM-DD HH:mm of when the message was received.
- Size: Usually in number of bits or characters.
- Seq. No: The unique message sequence or reference number allocated to the message by the addressed LES.
- Routing: Message routeing (memory or memory and printer) – set up by the MES operator or a mandatory routeing for Urgency and Distress priority messages.

## 10 – QUALITY CONTROL OF MSI BROADCASTS

### 10.1 Misuse of C-codes

Monitoring of MSI broadcasts is a vital tool to show instances of misuse of C<sub>1</sub> (priority), C<sub>2</sub> (service) and C<sub>4</sub> (repetition) codes and other technical or operational problems in connection with preparing and broadcasting EGC messages. Misuse of C-codes results in incorrect understanding of MSI services and types of message, multiple reception of unwanted messages received on ships and delay in receiving vital information.

### 10.2 Improper use of C<sub>1</sub> priority codes

This refers mainly to the use of service code C<sub>2</sub> = 14 "Ship-to-Shore distress alerts" which require using C<sub>1</sub> = 3 **Distress** priority code only. Problems are caused when the service code C<sub>1</sub> = 2 is used by mistake, as in the following example. When C<sub>1</sub> = 2 is erroneously used in conjunction with C<sub>2</sub> = 14, the header of the message received on a ship is displayed and printed as:

- LES xxx - MSG 1210 – **Distress Urgent** Call to Area: 14N 66W 300 – PosOK, where:
  - LES xxx – ID of the LES;
  - MSG 1210 – message number;
  - **Distress** Call to Area – decoding of service  $C_2 = 14$ ;
  - **Urgent** – decoding of priority  $C_1 = 2$ ;
  - 14N 66W 300 – circular position the message was sent to, where 14N 66W – centre of the circle and 300 is radius of the circle in nautical miles; and
  - PosOK – indicator that the MES's position status is valid or the position was updated within the last 12 hours.

*Note: format of the message header may be different depending on the MES model*

The message header contains reference to two different priorities at the same time – Distress and Urgent (the same problem may be evident in the EGC log or message list), which misleads mariners about the message importance and its content. This is an important issue, particularly for non-SOLAS users, where an EGC message received with conflicting Urgency and Distress priorities may NOT be printed out automatically, which could cause a delay in reacting to the vital information.

If an EGC message is submitted with Urgency priority, service code  $C_1 = 2$  and another message is sent with Distress priority afterwards, priority code  $C_1 = 3$ , the message with Urgency priority will be aborted and the message with Distress priority will be handled first.

### 10.3 Improper use of $C_2$ service codes

There are cases when MSI providers submit an EGC SafetyNET message using improper  $C_2$  service codes and a sample is given below:

```
LES xxx – MSG 5213 – Met/NavWarn Urgent Call to Area: 35N 23E 300 – PosOK  
FROM: Maritime Rescue Coordination Centre xxx  
TO: ALL SHIPS IN xxxxxxxx
```

#### **SAR SITREP NO: 02**

```
FISHING BOAT 'xxx' WITH THREE PERSONS ON BOARD DEPARTED FROM xxx ISLAND  
ON xxx AT NOONTIME AND SINCE THEN NO INFORMATION ABOUT HER.  
PARTICULARS ... SHIPS SAILING IN VICINITY ARE KINDLY REQUESTED TO KEEP A  
SHARP LOOK OUT INFORMING MRCC  
REGARDS  
DUTY OFFICER
```

The message was sent using service code  $C_2 = 24$  "Met/Nav warning to circular area", as shown in the message header, but the text of the message content is concerned with SAR co-ordination. The correct  $C_2$  code for this type of message should have been  $C_2 = 14$ . Use of the incorrect  $C_2$  codes, may delay delivery of the vital SAR information.

Another example is the improper use of rectangular addressing, e.g., service code  $C_2 = 04$ , for coastal warnings whereby the addressed rectangular area covers areas far beyond coastal areas. In this case, ships receive unwanted information for areas other than those in which they are navigating.

Reception of EGC SafetyNET Coastal Warnings is an option and to receive these messages, MESs should be programmed or set up accordingly; otherwise Coastal warnings will not be received, regardless of the ship's position. If a coastal warning-type message is addressed to a rectangular area, **ALL** ships, whose position is inside the addressed rectangle, will receive the message. The main problem here is not only misusing service codes, which are specified by the International SafetyNET Manual, but reception (and printing) of multiple unwanted messages which ships may never require.

#### **10.4 Improper use of $C_4$ repetition codes**

Repetition codes detailed in Annex 4, Part E, are used by MSI providers to "instruct" the Inmarsat C system to repeat a SafetyNET message a finite number of times or at specific intervals until cancelled by the information provider.

MSI is submitted for broadcast with repetitions, either 6 minutes after initial broadcast (with 6 minutes "echo") or every 1, 2, 3, 4,...48,... or 120 hours until cancelled by the MSI provider. Each message, when submitted for broadcast, is given a unique reference number. When the message is received by the MES, the reference number is "recorded" by the mobile terminal and stored in the memory. When the same message is re-broadcast later, using any  $C_4$  repetition codes, MESs receive it and "recognize" the reference number by cross-checking the list of numbers of messages already received. Messages received with the same unique reference number will not be displayed or printed out for a second time.

**Note:** *An EGC message, which requires a multiple broadcast, should be addressed with the proper repetition code and requires only a single submission to the LES. The process of repeated broadcast will be controlled by the repetition code.*

When the same SafetyNET message is submitted for broadcast for a second (or third or more) time, the addressed LES will give the message another reference or sequence number and mobile terminals will not be able to "recognize" it as the same message. In this case each subsequent message submitted to the LES for repetition will be received by MESs and may be automatically printed out.

SafetyNET monitoring shows that some MSI providers do not use the recommended repetition code and in this case MESs receive and print unwanted messages, which will fill up the MES's memory rather quickly and waste printing paper.

#### **Notes:**

- 1.** *Some MSI is broadcast only once on receipt using repetition code  $C_4 = 01$ .*
- 2.** *Mariners are advised not to engage in routine communications during the periods designated for scheduled MSI SafetyNET broadcasts. The 6 minute repeat or echo should be used for non-scheduled broadcasts.*

Below is an example of the same weather forecast submitted for broadcast twice and having two different reference numbers:

LES xxx – MSG 1032 – MetWarn/Fore Safety Call to Area: xx – PosOK  
xxx CSAT 23423440010402 xx-NOV-2010 09:55:41 103000  
SECURITE  
HIGH SEAS BULLETIN FOR METAREA xx ISSUED AT 0800 ON xx NOV 2010 BY  
THE MET OFFICE ...

LES xxx – MSG 1033 – MetWarn/Fore Safety Call to Area: xx – PosOK  
xxx CSAT 23423440010402 xx-NOV-2010 10:10:13 103453  
SECURITE  
HIGH SEAS BULLETIN FOR METAREA xx ISSUED AT 0800 ON xx NOV 2010 BY  
THE MET OFFICE

The message (size about 4,800 characters) was received and printed twice since it was submitted to the LES for broadcast twice and was given two separate reference numbers – 103000 and 103453.

If the message had been submitted once with, for example  $C_4 = 11$  (transmit on receipt followed by repeat 6 minutes later), it would have been given one reference number and received and printed only once.

## **11 – ACCESSING THE SAFETYNET SERVICE**

**11.1** MSI messages are transmitted to LESs providing Inmarsat C services in accordance with national and international routing arrangements. Each user interface has its own access procedure and syntax command, which should be checked with the Inmarsat C LES operator or service provider.

**11.2** Some LESs may provide e-mail, or internet (direct) drop access to the SafetyNET service that allows registered MSI providers to send EGC messages using e-mail from any computer with access to the internet. Due to the nature of the internet, an e-mail service may not guarantee that EGC messages will be received by the addressed LES without delay and may not support cancellation procedures. For this reason monitoring of all EGC messages is especially important in accordance with Section 9 above.

## **12 – LAND EARTH STATION FUNCTIONS**

**12.1** Messages for transmission via the SafetyNET service are received and processed automatically at the LES. Because the system is automatic, the quality of service and information depends on accurate preparation of messages.

**12.2** Messages are not reviewed for corruption or accuracy at the LES; therefore, the originator must take special care to adhere to the format specified. This dependence on syntax is one of the reasons why MSI providers must monitor the broadcasts they originate.

**12.3** Participating LESs transmit SafetyNET messages over an inter-station signalling link to the Ocean Region Network Co-ordination Station (NCS) for transmission over the broadcast channel.

**12.4** Messages will be queued at the LES and scheduled for transmission according to priority and instructions contained in the special address headers ( $C_1$  – priority code and  $C_4$  – repetition code); messages with the highest priority will be transmitted first (i.e. in the order "distress", "urgency", "safety"). The originator of each message will specify in the message parameters the desired number of repetitions and the interval between transmissions.

## 13 – RECEIVING SAFETYNET BROADCASTS

**13.1** The basic requirements of the EGC receiver are that it should continuously receive the broadcast channel (the Inmarsat C NCS common channel) and process the messages being transmitted through the satellite. However, certain classes of receiving equipment may not provide wholly uninterrupted monitoring of the broadcast channel. For this reason, MSI providers must repeat their most important **unscheduled messages** 6 minutes after the first broadcast.

**13.2** Although the MES receives all SafetyNET messages on the broadcast channel, it may suppress some messages from being displayed or printed automatically. For example:

- .1 all messages addressed to geographical areas (circular or rectangular) other than those including the ship's current position will be automatically suppressed;
- .2 for coastal warnings only (**See Figure 8**) it may be programmed to suppress:
  - a) messages containing  $B_1$  codes for coastal warning areas which have not been setup in the terminal,
  - b) messages containing  $B_2$  codes for subject matter of no relevance to the ship.

**13.3** The MES also suppresses the printing of messages previously received. It is not possible to reject mandatory "all ship" messages such as shore-to-ship distress alerts for the area within which the ship is located. When a distress or urgency message is received, an audio and visual alarm will be given.

**13.4** The following  $B_2$  code subject indicators for coastal warnings are in use:

A = Navigational warnings <sup>7</sup>	I = not used
B = Meteorological warnings <sup>7</sup>	J = SATNAV messages
C = Ice reports	K = Other electronic navaid messages
D = Search and rescue information, and acts of piracy warnings <sup>7</sup>	L = Other Navigational warnings – additional to $B_2$ code A
E = Meteorological forecasts	V =
F = Pilot service messages	W = } Special services allocation
G = AIS	X = } by the International SafetyNET Panel
H = LORAN messages	Y = }
	Z = No messages on hand

---

<sup>7</sup> Cannot be rejected by the receiver.

**13.5** It is recommended that, in order to ensure that all necessary MSI is available before sailing, the EGC receiver should remain in operation while the ship is in port.

**13.6** Although reception of SafetyNET traffic is automatic, the shipboard operator must set up the receiver properly before the start of the voyage as follows:

- .1 Selecting the appropriate satellite ocean region.
- .2 Selecting one or more of the following (as appropriate);
  - a) current NAVAREA/METAREA or Sub-Area designator;
  - b) additional NAVAREA/METAREA designator(s);
  - c) relevant coastal warning area identification letter and subject indicator characters;
  - d) fixed position(s).

### EGC Setup

EGC-only receiver
 System Messages

Additional Navarea(s)/Metarea(s) [0...99]

---

#### Coastal Warning Settings

Coastal Warning Areas [A...Z]

Type of Coastal Warnings

<input checked="" type="checkbox"/> Navigational Warnings	<input checked="" type="checkbox"/> Meteorological Forecasts	<input checked="" type="checkbox"/> Satnav
<input checked="" type="checkbox"/> Meteorological Warnings	<input checked="" type="checkbox"/> Pilot Service messages	<input type="checkbox"/> Other Nav aids
<input type="checkbox"/> Ice Reports	<input type="checkbox"/> Loran messages	<input type="checkbox"/> Additional Nav Warnings
<input checked="" type="checkbox"/> Search and Rescue	<input type="checkbox"/> AIS messages	

---

#### Fixed Position Settings

	Deg. N/S	Deg. E/W
Fixed Pos. 1	<input type="text" value="50"/> <input type="text" value="N"/>	<input type="text" value="009"/> <input type="text" value="W"/>
Fixed Pos. 2	<input type="text" value="35"/> <input type="text" value="N"/>	<input type="text" value="020"/> <input type="text" value="W"/>
Fixed Pos. 3	<input type="text" value="11"/> <input type="text" value="N"/>	<input type="text" value="057"/> <input type="text" value="E"/>
Fixed Pos. 4	<input type="text" value="05"/> <input type="text" value="S"/>	<input type="text" value="120"/> <input type="text" value="W"/>
Fixed Pos. 5	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>

**Figure 8** – EGC setup screen

*Note: Figure 8 depicts the general information available on an EGC setup screen. The layout of this screen varies between different models of Inmarsat-C and mini-C MESSs.*

**13.7** The position in MESs is up-dated automatically from integrated navigational receivers if fitted, or may be up-dated from a separate electronic position-fixing system. If there is no automatic position up-date system installed, it is recommended that the position in the MES is up-dated at least every 4 hours. If the position has not been up-dated for more than 12 hours or is unknown, all SafetyNET messages within the entire satellite ocean region will be printed or stored in the MES.

**13.8** If the MES is a Class 2 Inmarsat C terminal (having a common receiver for Inmarsat C messages and MSI), MSI broadcasts will only be received when the terminal is idle. Therefore a Class 2 terminal must not be in use for other communications at the times of scheduled broadcasts. Similarly, it is necessary to ensure that a Class 3 Inmarsat C MES (having two separate receivers for Inmarsat C messages and MSI) is tuned to the calling channel of the appropriate satellite at the times of scheduled broadcasts.

*Note: More information on different classes of Inmarsat C and Mini-C MESs is in Annex 5*

## **14 – CHARGES FOR SAFETYNET SERVICES**

**14.1** IMO resolution A.707(17): *Charges for Distress, Urgency and Safety Messages Through the Inmarsat System*, establishes the arrangements in place for the treatment of charges.

**14.2** There are no charges to the mariner for reception of SafetyNET messages.

**14.3** Message transmission charges apply to MSI providers and are set at a special SafetyNET tariff by national telecommunication service providers and LESs offering EGC services.



## Annex 1

### International SafetyNET Co-ordinating Panel

#### 1 Terms of reference

To co-ordinate the development and use of the International SafetyNET Service, and in particular to:

- .1 develop operating methods for the effective use of the SafetyNET service, including consideration of the need for scheduled broadcasts;
- .2 develop documentation in support of the SafetyNET service, in particular the International SafetyNET Manual;
- .3 advise Land Earth Station (LES) operators and potential registered information providers on all aspects of the Service, including system access and effective operation;
- .4 develop criteria and establish means for the approval and registration of potential information providers;
- .5 co-ordinate the registration of potential information providers; and
- .6 promote a proper understanding of the benefits and use of the International SafetyNET Service among the wider maritime community.

#### 2 Contact address

The International SafetyNET Co-ordinating Panel can be contacted at the following address:

The Chairman  
International SafetyNET Co-ordinating Panel  
International Maritime Organization  
4 Albert Embankment  
London SE1 7SR  
United Kingdom  
Telephone: +44 (0)20 7735 7611, Telefax: +44 (0)20 7587 3210  
E-mail: info@imo.org

#### 3 Panel membership

**3.1** The International SafetyNET Co-ordinating Panel is open to membership by all Member Governments and also includes one member nominated by each of the following international organizations:

- i) International Maritime Organization (IMO)
- ii) World Meteorological Organization (WMO)
- iii) International Hydrographic Organization (IHO)
- iv) International Mobile Satellite Organization (IMSO)

**3.2** The following may be represented as observers on the panel:

- i) IHO World-Wide Navigational Warnings Service Sub-Committee
- ii) IMO NAVTEX Co-ordinating Panel.
- iii) Expert Team on Maritime Safety Services (ETMSS) of the Joint WMO/IOC Commission for Oceanography and Marine Meteorology (JCOMM)
- iv) Inmarsat Global Limited

## Annex 2

### Authorization, Certification and Registration of SafetyNET information providers

Two distinct and separate processes, Authorization and Certification, must be completed before an information provider will be granted Registration to access the SafetyNET broadcast service. They have been established to protect the integrity of the SafetyNET information service and clearly establish a qualification to the special SafetyNET tariff.

#### 1 Authorization

1.1 Authorization is carried out by IMO in consultation with IHO and WMO as appropriate.

1.2 In order to obtain authorization to broadcast maritime safety information through the International SafetyNET Service, an information provider must apply to the relevant international organization for approval to participate in the internationally co-ordinated service:

Meteorological authorities – to WMO;

Hydrographic authorities – to IHO;

Search and rescue authorities – to IMO;

The International Ice Patrol – to IMO;

Others – to IMO

1.3 In considering such applications, the relevant international organizations will take into account:

.1 the established and expected availability of other information sources for the area concerned; and

.2 the need to minimize duplication of information as much as possible.

1.4 The relevant international organization will inform IMO of endorsed applications.

#### 2 Certification

2.1 On receipt of IMO authorization, the International SafetyNET Coordinating Panel will issue a Certificate of Authorization to Participate in the International SafetyNET Service directly to the information provider with a copy to IHO or WMO or IMO, as well as to Inmarsat C LES operators. A specimen Certificate of Authorization is shown at the end of this annex.

2.2 International SafetyNET Co-ordinating Panel will maintain the master list of all registered information providers and circulate it to IMO, IHO, WMO and all Inmarsat C LES operators.

### **3 Registration**

**3.1** After receiving a Certificate of Authorization, an information provider may conclude an agreement with any Inmarsat C LES operator(s), serving the required ocean region(s), to obtain access to the system.

**3.2** This will involve, in addition to the contractual aspects, registration of the information provider's identity which must be programmed into the LES control equipment.

**3.3** LES operators will only register information providers who have received a Certificate of Authorization.

### **4 Contact addresses**

#### **International Maritime Organization**

The Chairman  
International SafetyNET Co-ordinating Panel  
4 Albert Embankment  
London SE1 7SR  
United Kingdom

Telephone: +44 (0)20 7735 7611  
Fax: +44 (0)20 7587 3210  
E-mail: [info@imo.org](mailto:info@imo.org)

#### **International Hydrographic Organization**

4 quai Antoine 1er  
BP445  
MC98011 Monaco Cedex  
Principauté de MONACO

Telephone: +377 93 10 81 00  
Fax +377 93 10 81 40  
E-mail: [info@ihb.mc](mailto:info@ihb.mc)

#### **World Meteorological Organization**

7bis, avenue de la Paix  
Case postale 2300  
CH-1211 Geneva 2  
Switzerland

Telephone: + 41(0) 22 730 81 11  
Fax: + 41(0) 22 730 81 81  
E-mail: [mmo@wmo.int](mailto:mmo@wmo.int)

5 Sample Certificate of Authorization



**IMO**

4 Albert Embankment,  
London SE1 7SR  
United Kingdom



99 City Road,  
London EC1Y 1AX  
United Kingdom

**[Name of authority/country]**

**Date: 01 Jan 2012**

***Certificate of Authorization to Participate as an Information Provider in the International SafetyNET Service***

This is to certify that the **[Name of authority/country]** is authorized by the International Maritime Organization to provide Navigational Warning Services for broadcast in the International SafetyNET Service in accordance with Annex 2 of the International SafetyNET Manual.

PETER M. DOHERTY  
Chairman  
International SafetyNET Co-ordinating Panel

Certificate No.

**"XX"**

International Maritime Organization (IMO)  
Organization

Telephone:

National (207) 735-7611  
International +44 (207) 735-7611  
Facsimile +44 (207) 587-3210

International Mobile Satellite  
(IMSO)

Telephone:

National (207) 728-1249  
International +44 (207) 728-1249  
Facsimile +44 (207) 728-1172

## Annex 3

### The Inmarsat system

#### 1 Introduction

1.1 There are three essential components of the Inmarsat system:

.1 the Inmarsat space segment – the satellites and their ground support facilities – planned and funded by Inmarsat;

.2 the ground segment – comprises a network of Land Earth Stations (LESs), Network Coordination Stations (NCSs) and the Network Operations Centre (NOC). Each LES provides an interface between the space segment and the national and international fixed telecommunication networks; and

.3 the Mobile Earth Stations (MESs) – comprises mobile satellite communication terminals.

#### 2 Bandwidths

2.1 Shore-to-ship communications are in the 6 GHz band (C-band) from the LES to the satellite and in the 1.5 GHz band (L-band) from satellite to ship. Ship-to-shore communications are in the 1.6 GHz band (L-band) from the ship to the satellite and in the 4 GHz band (C-band) from satellite to LES.

#### 3 The space segment

3.1 To provide the space segment for global coverage, Inmarsat employs its own dedicated satellites.

3.2 The space segment is segmented globally into four ocean regions: Atlantic Ocean Region East (AOR-E), Atlantic Ocean Region West (AOR-W), Indian Ocean Region (IOR) and Pacific Ocean Region (POR). Each ocean region is served by a dedicated satellite. Inmarsat has full contingency plans in place in the unlikely event of any prime satellite outage. These plans are exercised regularly and are witnessed by the International Mobile Satellite Organization (IMSO). The Polar Regions – above approximate latitudes 76° N and 76° S - cannot be seen by geostationary satellites (**See Figures 3 & 4**).

#### 4 The ground segment

4.1 The Inmarsat system is connected into the world-wide telecommunication networks via LESs. Many of these LESs provide Inmarsat C EGC services.

4.2 For Inmarsat C communication system there is a Network Coordination Station (NCS) in each ocean region, which monitors and controls communications traffic within its region. Each NCS communicates with the LESs in its ocean region, the other NCSs and the Network Operations Centre (NOC). Inmarsat C NCSs also transmit EGC SafetyNET and FleetNET messages on the NCS common channel.

**4.3** The Inmarsat Network Operations Centre (NOC) is located in London at the Inmarsat headquarters and functions around the clock, co-ordinating the activities of the NCSs and the LESSs in each ocean region.

## **5 Mobile Earth Stations (MESs)**

**5.1** Inmarsat C and mini-C MESs with the EGC function are small, lightweight terminals, with small omni-directional antennas, for providing data and message-type services. EGC receive capability is provided by Class 2 or 3 Inmarsat C MESs. Interfaces via RS232 ports are provided for a dedicated messaging unit, personal computer or any other data terminal equipment for message generation and display.

**5.2** Class 0 standalone EGC receivers provide the capability to receive SafetyNET and FleetNET messages only; there is no transmit or receive capability for sending and receiving messages.

**5.3** The technical requirements of all classes of equipment are detailed in Annex 5.

## Annex 4

### Operational guidance

**1** This annex contains operational guidance for the benefit of registered MSI providers who are responsible for preparing messages for broadcast via the International SafetyNET Service.

**Use of the codes given in this annex is mandatory for all messages in the system.**

**2** Types of messages and message formats are detailed in the sub-parts of this Annex.

PART A – Navigational warning service

PART B – Meteorological service

PART C – Search and rescue (SAR) services and SAR coordination traffic

PART D – Piracy countermeasures broadcast messages

<b>Allocation of priority and service codes for EGC SafetyNET services</b>		
<b>EGC SafetyNET service</b>	<b>Message priority</b>	<b>Service code (type)</b>
Navigational Warning services	C <sub>1</sub> = 1 (Safety) - normally C <sub>1</sub> = 2 (Urgency) - exceptionally at discretion of MSI provider	C <sub>2</sub> = 04 - Navigational warning to a rectangular area C <sub>2</sub> = 13 - Coastal warnings C <sub>2</sub> = 24 - Navigational warnings to a circular area C <sub>2</sub> = 31 - NAVAREA warnings
Meteorological services	C <sub>1</sub> = 1 (Safety) - always for forecasts and warnings C <sub>1</sub> = 2 (Urgency) - always for urgent tropical cyclone warnings only	C <sub>2</sub> = 04 - Meteorological warning to a rectangular area C <sub>2</sub> = 13 - Met warnings or forecasts to a coastal area C <sub>2</sub> = 24 - Met warnings to a circular area C <sub>2</sub> = 31 - METAREA warnings or MET forecasts
SAR services: 1) shore-to-ship distress alert	C <sub>1</sub> = 3 (Distress) - always	C <sub>2</sub> = 14 - Shore-to-ship Distress Alert to a circular area
2) SAR co-ordination traffic	C <sub>1</sub> = 1 (Safety) - determined by the phase of emergency C <sub>1</sub> = 2 (Urgency) – determined by the phase of emergency C <sub>1</sub> = 3 (Distress) - determined by the phase of emergency	C <sub>2</sub> = 34 - SAR co-ordination to a rectangular area C <sub>2</sub> = 44 - SAR co-ordination to a circular area
3) shore-to-ship urgency & safety traffic	C <sub>1</sub> = 1 (Safety) C <sub>1</sub> = 2 (Urgency)	C <sub>2</sub> = 31 - Urgency and Safety traffic
4) general (all ships call within the Inmarsat ocean region)	C <sub>1</sub> = 2 (Urgency) C <sub>1</sub> = 3 (Distress)	C <sub>2</sub> = 00
Piracy countermeasures broadcast messages	C <sub>1</sub> = 1 (Safety) C <sub>1</sub> = 2 (Urgency) - for piracy attack warnings.	C <sub>2</sub> = 04 - Navigational warning to a rectangular area C <sub>2</sub> = 13 - Coastal warnings C <sub>2</sub> = 24 - Navigational warnings to a circular area C <sub>2</sub> = 31 - NAVAREA warnings

**3** The broadcast parameters are controlled by the use of five (or six) C-codes which are combined into a generalized message address header format as follows:

C<sub>0</sub>:C<sub>1</sub>:C<sub>2</sub>:C<sub>3</sub>:C<sub>4</sub>:C<sub>5</sub>

*(Spaces, colons or other delimiters between these codes will be required, depending on the communication protocol of the addressed LES)*

**C<sub>0</sub> - Ocean Region.**

**C<sub>1</sub> - Message Priority**

**C<sub>2</sub> - Service code**

**C<sub>3</sub> - Address code**

**C<sub>4</sub> - Repetition code**

**C<sub>5</sub> - Presentation code**

Each C-code controls a different broadcast parameter and is assigned a numerical value according to the options specified in the following parts.

The additional C<sub>0</sub> code will only be required to identify the satellite ocean region when sending a broadcast message to a LES which operates to more than one satellite ocean region, as follows:

C<sub>0</sub> = 0 – AOR-W

C<sub>0</sub> = 1 – AOR-E

C<sub>0</sub> = 2 – POR

C<sub>0</sub> = 3 – IOR

C<sub>0</sub> = 9 – All Ocean Regions<sup>8</sup>

**4** (a) All EGC messages should comprise of three elements:

Address header instruction (EGC C Codes)

TEXT OF MESSAGE

NNNN

<b>Mandatory message element table</b>	
<b>Message Element</b>	<b>Remarks</b>
Address header instruction	The syntax of the special address header in relation to the exact number of digits and/or alphanumeric characters, and to the spaces between each C code is critical, and must conform to the format required by the LES or service provider as supplied in their specific instruction manual.
TEXT OF MESSAGE	The content of the message should be presented in UPPER Case. For Maritime Safety Information messages, the format of Navigational Warnings is defined in the Joint IMO/IHO/WMO Maritime Safety Information Manual as amended.
NNNN	The letters NNNN should be inserted at the end of the text to indicate "end of message".

<sup>8</sup> Subject to availability through LES or service provider.



(b) EGC messages submitted for transmission (or broadcast) via a two stage access system must also include an end of transmission instruction code for the LES. This should be inserted on the final line, after NNNN. This code may vary, and must conform to the format required by the LES or service provider as supplied in their specific instruction manual.

**5** The International Maritime Organization (IMO) requires that, in order to allow the use of non-dedicated receive facilities, the majority of broadcasts on the International SafetyNET Service are made at scheduled times. Broadcast schedules must be co-ordinated through the International SafetyNET Co-ordinating Panel, which can also offer advice on ways of scheduling information within the system.

**6** Because errors in the header format of a message may prevent it being released, MSI providers must install an Inmarsat SafetyNET receiver and monitor broadcasts of messages which they originate.

**7** For all the services described below, a cancellation or deleting facility is provided for messages transmitted to a LES with Category (b) repetition codes (**See Part E**). Cancellation (or deletion) procedures may vary between different LESs or service providers. Detailed operational procedure is contained in the instructions on sending EGC broadcast given to the MSI providers after registration with the LES operator or service provider.

**8** The term "echo" used in all of the services described below in Parts A, B, C & D, is associated with using the respective C<sub>4</sub> repetition codes which will initiate an automatic repeated broadcast 6 minutes after the initial scheduled or unscheduled broadcast. The 6 minute repeat or echo is used to ensure that the warning is received by the maximum number of ships.

## Part A - Navigational warning services

**1** The following guidelines set out the arrangements to be used for promulgating navigational and coastal warnings via SafetyNET for the GMDSS. **They are mandatory for broadcasts in the International SafetyNET Service. Broadcasts originated by the International Ice Patrol also follow the guidelines in this Part.**

**2** These guidelines are to be read in conjunction with the IMO/IHO World-Wide Navigational Warning Service (WWNWS) Guidance Document (IMO resolution A.706(17), as amended).

**3** Navigational warnings that require an immediate broadcast should be transmitted as soon as possible after receipt. If still in force, they should be repeated in subsequent scheduled broadcasts, twice a day for six weeks or until cancelled.

**4** Navigational warnings shall remain in force until cancelled by the originating Coordinator. Navigational warnings should be broadcast for as long as the information is valid; however, if they are readily available to mariners by other official means, for example in Notices to Mariners, then after a period of six weeks they may no longer be broadcast. If the navigational warning is still valid and not available by other means after 6 weeks, it should be re-issued as a new navigational warning.

**5** The following C-codes shall be used for warnings issued under the auspices of the WWNWS.

### 5.1 *C<sub>1</sub> – Message priority*

C <sub>1</sub> = 1 (safety)
C <sub>1</sub> = 2 (urgency) (at discretion of the registered MSI provider).

### 5.2 *C<sub>2</sub> – Service code*

C <sub>2</sub> = 04	NAVAREA warnings for a rectangular area
C <sub>2</sub> = 13	Coastal warnings
C <sub>2</sub> = 24	Navigational warnings to a circular area
C <sub>2</sub> = 31	NAVAREA warnings

### 5.3 C<sub>3</sub> – Address code

C <sub>3</sub> = two digits X <sub>1</sub> X <sub>2</sub>	When C <sub>2</sub> = 31, then: X <sub>1</sub> X <sub>2</sub> are the two digits of the NAVAREA number (with a leading zero where necessary in the range 01 - 21).
C <sub>3</sub> = four alphanumeric characters X <sub>1</sub> X <sub>2</sub> B <sub>1</sub> B <sub>2</sub>	When C <sub>2</sub> = 13 for Coastal warnings, then: X <sub>1</sub> X <sub>2</sub> are the two digits of the NAVAREA number (with a leading zero where necessary in the range 01 - 21). B <sub>1</sub> is the coastal warning area A to Z B <sub>2</sub> is the subject indicator must always be A or L, where:  A = Navigational warnings L = Other Navigational warnings
C <sub>3</sub> = twelve alphanumeric characters D <sub>1</sub> D <sub>2</sub> LaD <sub>3</sub> D <sub>4</sub> D <sub>5</sub> LoD <sub>6</sub> D <sub>7</sub> D <sub>8</sub> D <sub>9</sub> D <sub>10</sub>	When C <sub>2</sub> = 04 for NAVAREA warnings within a rectangular area. D <sub>1</sub> D <sub>2</sub> is latitude of south-west corner of the rectangle in degrees. La is hemisphere which will always be N for Arctic NAVAREAs XVII to XXI. D <sub>3</sub> D <sub>4</sub> D <sub>5</sub> is longitude of south-west corner of rectangle in degrees, with leading zeros if required. Lo is longitude E or W. D <sub>6</sub> D <sub>7</sub> is extent of rectangle in latitude (degrees). D <sub>8</sub> D <sub>9</sub> D <sub>10</sub> is extent of rectangle in longitude (degrees).
<p><i>Example:</i> a rectangle whose south-west corner is 60° N and 010° W, extending 30° north and 25° east, is coded as: 60N010W30025</p> <p><i>Note:</i> Latitude and longitude are limited by values from 00° to 90° latitude and 000° to 180° longitude.</p>	

### 5.4 C<sub>4</sub> – Repetition code

C <sub>4</sub> = 01	May be used for initial unscheduled broadcast of NAVAREA warnings, and coastal warnings with no echo. (transmit once on receipt)
C <sub>4</sub> = 11	Recommended for use with initial unscheduled broadcast of NAVAREA warnings, and coastal warnings. (transmit on receipt, echo 6 minutes later)
C <sub>4</sub> = 16	Use for NAVAREA or Coastal warnings scheduled for broadcast twice per day at 12 hour intervals with safety priority.
<p><i>Note.</i> For NAVAREA or Coastal warnings scheduled for broadcast more than twice per day, the appropriate C<sub>4</sub> repetition code detailed in <b>PART E</b> of this Manual must be used.</p>	

### 5.5 C<sub>5</sub> – Presentation code

C <sub>5</sub> = 00	The code 00 for International Alphabet Number 5 is normally used
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## Part B - Meteorological services

**1** The following guidelines set out the arrangements to be used for promulgating meteorological forecasts and warnings via SafetyNET for the GMDSS. **They are mandatory for broadcasts in the International SafetyNET Service.**

**2** These guidelines are to be read in conjunction with the WMO Manual on Marine Meteorological Services (WMO No. 558), as revised for the GMDSS.

**3** In order to ensure uniformity of meteorological forecasts and warnings globally, the following C-codes should be used for meteorological services via SafetyNET.

### 3.1 $C_1$ – Message priority

$C_1 = 2$ (urgency)	Only use for tropical cyclone warnings or urgent meteorological warnings with force 12 Beaufort or above.
$C_1 = 1$ (safety)	For forecasts and other meteorological warnings.

### 3.2 $C_2$ – Service code

$C_2 = 24$	Meteorological warnings to a circular area
$C_2 = 31$	Meteorological warnings or forecasts to METAREA
$C_2 = 13$	Meteorological warnings or forecast to coastal warning area
$C_2 = 04$	METAREA warnings or forecasts for a rectangular area

### 3.3 $C_3$ – Address code

$C_3 =$ ten alphanumeric characters $D_1D_2LaD_3D_4D_5LoR_1R_2R_3$	<p>When <math>C_2 = 24</math> for Meteorological warnings to user defined circular area, then:</p> <p><math>D_1D_2La</math> (three characters) is latitude of centre in degrees, and La whether north (N) or south (S). A leading zero should be used for latitudes less than 10°.</p> <p><math>D_3D_4D_5Lo</math> (four characters) is longitude of centre in degrees, and Lo whether east (E) or west (W) of the prime meridian. One or two leading zeros should be used for longitudes less than 100°.</p> <p><math>R_1R_2R_3</math> (three characters) is radius of circle in nautical miles, up to 999. One or two leading zeros should be used for radius less than 100 nm.</p>
<i>Example:</i> A circle centred at latitude 56°N longitude 34°W with radius of 35 nautical miles is coded as: 56N034W035	
$C_3 =$ two digits XX	<p>When <math>C_2 = 31</math>, then:</p> <p><math>C_3 =</math> the two digits of the METAREA number (with a leading zero where necessary in the range 01 – 21)</p>

<p>C<sub>3</sub> = four alphanumeric characters X<sub>1</sub>X<sub>2</sub>B<sub>1</sub>B<sub>2</sub></p>	<p>When C<sub>2</sub> = 13 for Coastal warnings, then:  X<sub>1</sub>X<sub>2</sub> are the two digits of the METAREA number (with a leading zero where necessary in the range 01 - 21). B<sub>1</sub> is the coastal warning area A to Z B<sub>2</sub> is the subject indicator must always be B or E, where:  B = Meteorological warnings E = Meteorological forecasts</p>
<p>C<sub>3</sub> = twelve alphanumeric characters D<sub>1</sub>D<sub>2</sub>LaD<sub>3</sub>D<sub>4</sub>D<sub>5</sub>LoD<sub>6</sub>D<sub>7</sub>D<sub>8</sub>D<sub>9</sub>D<sub>10</sub></p>	<p>When C<sub>2</sub> = 04 for Meteorological warnings or forecasts within a rectangular area  <i>Note: The definition of 12 characters for a Rectangular address is given in Part A, paragraph 5.3.</i></p>

### 3.4 C<sub>4</sub> – Repetition code

<p>Category (a) repetition codes are used for meteorological services as follows:</p>	
<p>C<sub>4</sub> = 01</p>	<p>Use for Meteorological forecast (transmit once on receipt).</p>
<p>C<sub>4</sub> = 11</p>	<p>Use for Meteorological warning (transmit on receipt followed by repeat 6 minutes later).</p>

### 3.5 C<sub>5</sub> – Presentation code

<p>C<sub>5</sub> = 00</p>	<p>The code 00 for International Alphabet Number 5 is normally used.</p>
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## Part C - Search and rescue services

**1** The following guidelines set out the arrangements to be used by Rescue Co-ordination Centres (RCCs) for initiating transmission of shore-to-ship distress alert relays and shore-to-ship search and rescue information. Transmissions should be in accordance with the relevant procedures of the International Telecommunication Union (ITU) Radio Regulations (RR), the International Convention on Maritime Search and Rescue, 1979, as amended, and the IAMSAR Manual.

**2** In order to ensure uniformity of the search and rescue broadcast product throughout the world, C-codes should be used as described in this Part.

### **3 Shore-to-ship distress alert relays**

**3.1** As a general principle, distress alert relays should be addressed to a circular area around the estimated or known position of the distressed vessel. The radius of the circle should be chosen to take account of the accuracy of the datum position, the expected density of shipping in the vicinity and the fact that the position can only be defined in the message address to the nearest whole degree of latitude and longitude. The distress alert relay message must be broadcast via all satellites which cover the area concerned. Shore-to-ship distress alert relays sent by the International SafetyNET Service should contain the identification of the unit in distress, its approximate position and other information which might facilitate rescue. C-codes should be as follows:

#### **3.2 $C_1$ – Message priority**

$C_1 = 3$ (distress)
----------------------

#### **3.3 $C_2$ – Service code**

$C_2 = 14$ (shore-to-ship distress alert to circular areas)	Messages addressed to circular areas will only be received and printed out by EGC receivers that are located inside the circle or have not had their position kept up to date.
---	--

### 3.4 *C<sub>3</sub> – Address code*

<p>C<sub>3</sub> = ten alphanumeric characters D<sub>1</sub>D<sub>2</sub>LaD<sub>3</sub>D<sub>4</sub>D<sub>5</sub>LoR<sub>1</sub>R<sub>2</sub>R<sub>3</sub></p>	<p>When C<sub>2</sub> = 14 for Distress Alert to user defined circular area, then:</p> <p>D<sub>1</sub>D<sub>2</sub>La (three characters) is latitude of vessel in distress in degrees (two digits) and whether north (N) or south (S): e.g., 39N (three characters total). A leading zero should be included for latitudes less than 10°.</p> <p>D<sub>3</sub>D<sub>4</sub>D<sub>5</sub>Lo (four characters) is longitude of vessel in distress in degrees (three digits) and whether east (E) or west (W) of the prime meridian: e.g. 059W. A leading zero or zeros should be included for longitudes less than 100° or 10° as appropriate: e.g., use 099 for 99° and 008 for 8°.</p> <p>R<sub>1</sub>R<sub>2</sub>R<sub>3</sub> (three characters) is alert radius around distressed vessel in nautical miles. To ensure that position inaccuracies of both the distressed vessel and nearby vessels to which the message is intended do not affect receipt of messages, radius values of 200 nautical miles or larger should normally be used. Note that if a vessel's own position information is not entered into its SafetyNET receiver, <u>every</u> shore-to-ship distress alert relay message transmitted to the Inmarsat ocean region will be received and printed.</p>
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### 3.5 *C<sub>4</sub> – Repetition code*

<p>C<sub>4</sub> = 11</p>	<p>Use for Distress Alerts (transmit on receipt followed by repeat 6 minutes later)</p>
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### 3.6 *C<sub>5</sub> – Presentation code*

<p>C<sub>5</sub> = 00</p>	<p>The code 00 for International Alphabet Number 5 is normally used.</p>
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## 4 General (all ships) call

**4.1** When the RCC has no indication of the position of the vessel in distress, shore-to-ship distress alert relays may be sent as general call. This will be printed in every vessel within the Inmarsat ocean region, provided the receiver is tuned to the proper ocean region satellite.

*Note: This method of alert should rarely be used.*

The C<sub>0</sub>:C<sub>1</sub>:C<sub>2</sub>:C<sub>3</sub>:C<sub>4</sub>:C<sub>5</sub> codes for general calls are always as follows:

C<sub>0</sub> = 0 (1, 2 or 3) (if required)

C<sub>1</sub> = 3 (distress) or 2 (urgency)

C<sub>2</sub> = 00

C<sub>3</sub> = 00

C<sub>4</sub> = 11

C<sub>5</sub> = 00

## 5 Search and rescue co-ordination traffic

**5.1** Search and rescue co-ordination messages should be addressed to user defined circular or rectangular areas for the intent of co-ordinating the search and rescue of a vessel in distress. Priority of the message will be determined by the phase of the emergency.

### 5.2 C<sub>1</sub> – Message priority

C<sub>1</sub> = 3 (distress), 2 (urgency) or 1 (safety)

### 5.3 C<sub>2</sub> – Service code

C <sub>2</sub> = 34	Search and rescue coordination to a rectangular area.
C <sub>2</sub> = 44	Search and rescue coordination to a circular area.

### 5.4 C<sub>3</sub> – Address code

C <sub>3</sub> = twelve alphanumeric characters D <sub>1</sub> D <sub>2</sub> LaD <sub>3</sub> D <sub>4</sub> D <sub>5</sub> LoD <sub>6</sub> D <sub>7</sub> D <sub>8</sub> D <sub>9</sub> D <sub>10</sub>	When C <sub>2</sub> = 34 Search and rescue coordination to a rectangular area. <i>Note: The definition of 12 characters for a Rectangular address is given in Part A, paragraph 5.3</i>
C <sub>3</sub> = ten alphanumeric characters D <sub>1</sub> D <sub>2</sub> LaD <sub>3</sub> D <sub>4</sub> D <sub>5</sub> LoR <sub>1</sub> R <sub>2</sub> R <sub>3</sub>	When C <sub>2</sub> = 44 Search and rescue coordination to a circular area. <i>Note: The definition of 10 characters for a circular address is given in Part C, paragraph 3.3.</i>

### 5.5 C<sub>4</sub> – Repetition code

C <sub>4</sub> = 11	Use for Distress Alerts (transmit on receipt followed by repeat 6 minutes later)
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**5.6 C<sub>5</sub> – Presentation code**

C <sub>5</sub> = 00	The code 00 for International Alphabet Number 5 is normally used
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**6 Shore-to-ship urgency and safety traffic**

**6.1** As a general principle, only the minimum information consistent with the safety of navigation should be broadcast. However, where such information is deemed essential, shore-to-ship information other than distress should be broadcast to a NAVAREA using C-codes as follows:

**6.2 C<sub>1</sub> – Message priority**

C <sub>1</sub> = 2 (urgency) or 1 (safety)
--

**6.3 C<sub>2</sub> – Service code**

C <sub>2</sub> = 31
---------------------

**6.4 C<sub>3</sub> – Address code**

C <sub>3</sub> = two digits X <sub>1</sub> X <sub>2</sub>	When C <sub>2</sub> = 31, then: X <sub>1</sub> X <sub>2</sub> are the two digits of the NAVAREA number (with a leading zero where necessary in the range 01 - 21).
---	---

**6.5 C<sub>4</sub> – Repetition code**

C <sub>4</sub> = 11	Use for unscheduled broadcasts of urgency and safety traffic (transmit on receipt followed by repeat 6 minutes later)
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**6.6 C<sub>5</sub> – Presentation code**

C <sub>5</sub> = 00	The code 00 for International Alphabet Number 5 is normally used
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**7 SAR broadcast for overlapping satellite ocean regions**

**7.1** Search and rescue distress and urgency broadcasts should be promulgated through all Inmarsat satellites serving the area surrounding the vessel in distress. This is to ensure that vessels with receivers tuned to any ocean region satellite serving the area will receive the message.

## Part D - Piracy countermeasures broadcast messages

**1** On receiving a message of alert or any other information concerning a threat of attack (from the Security Forces Authority responsible for the operational application of the urgency plans (countermeasures) in the region or another MRCC, for example), the MRCC should ask the NAVAREA co-ordinator (or any other competent authority in accordance with local arrangements), to send out a warning through the appropriate MSI network (NAVTEX or SafetyNET) and other broadcasting networks for warnings to shipping, if these exist.

**2** There are two kinds of MSI broadcast messages associated with piracy countermeasures: the daily situation report (SITREP) and a piracy attack warning. Specific guidance on drafting and broadcasting these messages is given below.

**3** The daily situation report should be broadcast via SafetyNET at a regular time around 0800 local time daily. The following paragraphs provide specific guidance on broadcast procedures.

**4** The daily situation report should be broadcast to a rectangular area enclosing the region of probable piracy attacks (based on historical data) plus a margin of 700 nautical miles (24 hours' steaming by a fast ship) in every direction.

**5** The following C codes illustrate those to be used for SafetyNET broadcasts of the daily SITREP:

### 5.1 $C_1$ – Message priority

$C_1 = 1$ (safety)
--------------------

### 5.2 $C_2$ – Service code

$C_2 = 04$	SITREP to a rectangular area.
$C_2 = 24$	SITREP to a circular area.

### 5.3 $C_3$ – Address code

$C_3 =$ twelve alphanumeric characters $D_1D_2LaD_3D_4D_5LoD_6D_7D_8D_9D_{10}$	When $C_2 = 04$ SITREP to a rectangular area. <i>Note: The definition of 12 characters for a Rectangular address is given in Part A, paragraph 5.3</i>
$C_3 =$ ten alphanumeric characters $D_1D_2LaD_3D_4D_5LoR_1R_2R_3$	When $C_2 = 24$ SITREP to a circular area. <i>Note: The definition of 10 characters for a circular address is given in Part C, paragraph 3.3.</i>

### 5.4 $C_4$ – Repetition code

$C_4 = 18$	Broadcast every 24 hours (no echo) until cancelled
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### 5.5 $C_5$ – Presentation code

$C_5 = 00$	The code 00 for International Alphabet Number 5 is normally used
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**6** A piracy attack warning shall be broadcast as an "URGENT" NAVAREA or Coastal Warning immediately on receipt of the source information and at least at the next scheduled broadcast or for as long as the information remains valid. In the area of overlap coverage from two or three ocean region satellites, urgent warnings will be broadcast over all satellites which cover the affected region. Subject indicator character B2 = L should be used in Coastal Warning areas. The specific area in which the attack has taken place is to be quoted in the first line of the text, using no more detail than is necessary to indicate the probable location of further attacks, e.g., WESTERN PHILIP CHANNEL or VICINITY HORSBURGH LIGHT. The description of the pirate vessel and its last observed movements are to be kept as brief as possible and should give only those details which are of significance in avoiding other attacks.

**7** The following C codes illustrate those to be used for SafetyNET broadcast of Piracy attack warnings:

**7.1 C<sub>1</sub> – Message priority**

C <sub>1</sub> = 2 (urgency)
------------------------------

**7.2 C<sub>2</sub> – Service code**

C <sub>2</sub> = 13	Coastal Warnings
C <sub>2</sub> = 31	NAVAREA Warnings

**7.3 C<sub>3</sub> – Address code**

C <sub>3</sub> = two digits X <sub>1</sub> X <sub>2</sub>	When C <sub>2</sub> = 31 then: X <sub>1</sub> X <sub>2</sub> are the two digits of the NAVAREA number (with a leading zero where necessary in the range 01 to 21).
C <sub>3</sub> = four alphanumeric characters X <sub>1</sub> X <sub>2</sub> B <sub>1</sub> B <sub>2</sub>	When C <sub>2</sub> = 13 for Coastal warnings then: X <sub>1</sub> X <sub>2</sub> are the two digits of the NAVAREA number (with a leading zero where necessary in the range 01 to 21). B <sub>1</sub> is the coastal warning area A to Z. B <sub>2</sub> is the subject indicator and must always be A or L, where A = Navigational warnings L = Other navigational warnings

**7.4 C<sub>4</sub> – Repetition code**

C <sub>4</sub> = 16	Broadcast every 12 hours with no echo until cancelled.
---------------------	--

**7.5 C<sub>5</sub> – Presentation code**

C <sub>5</sub> = 00	The code 00 for International Alphabet Number 5 is normally used
---------------------	--

- 8 Date/time should always be quoted in the form DDHHMM UTC MoMoMo YY, e.g.,  
251256 UTC JUN 12.

*Note:* UTC (Universal Co-ordinated Time) is the same time-zone as GMT (Z).

- 9 Geographical positions should be quoted in the standard format:  
D<sub>1</sub>D<sub>2</sub>M<sub>1</sub>M<sub>2</sub>La D<sub>3</sub>D<sub>4</sub>D<sub>5</sub>M<sub>3</sub>M<sub>4</sub>Lo where:

D<sub>1</sub>D<sub>2</sub> = degrees latitude (with leading zero if required)

M<sub>1</sub>M<sub>2</sub> = minutes latitude

La = hemisphere (N or S)

D<sub>3</sub>D<sub>4</sub>D<sub>5</sub> = degrees longitude (with leading zeros if required)

M<sub>3</sub>M<sub>4</sub> = minutes longitude

Lo = longitude (E or W)

as in the example: 5419N10327E

*Notes:*

1. Examples of format and drafting guidance for Piracy Warnings is contained in the Joint IMO/IHO/WMO Manual on Maritime Safety Information (IMO MSC.1/Circ.1310 and IHO Special Publication No. S53.)
2. Decimals of minutes will seldom be necessary or appropriate for reports of this kind.
3. Where the name of a geographical feature is used instead of a geographical position, a name should be chosen that appears on all commonly used charts of the area. Local knowledge should not be required for understanding the message.

## Part E - Repetition codes (C<sub>4</sub>)

- 1 The C<sub>4</sub> repetition codes are divided into two categories:  
 Category (a) for messages that are required to be repeated a finite number of times;  
 and  
 Category (b) for messages that are required to be repeated at specified intervals until cancelled by the MSI provider.

### 1.1 *Category (a) repetition codes:*

Code	Instruction
01	transmit once on receipt
11	transmit on receipt followed by repeat 6 minutes later
61	transmit on receipt and 1 hour after initial broadcast (twice)
62	transmit on receipt and 2 hours after initial broadcast (twice)
63	transmit on receipt and 3 hours after initial broadcast (twice)
64	transmit on receipt and 4 hours after initial broadcast (twice)
66	transmit on receipt and 12 hours after initial broadcast (twice)
67	transmit on receipt and 24 hours after initial broadcast (twice)
70	transmit on receipt, 12 hours after initial broadcast and then 12 hours after the second broadcast (three times)
71	transmit on receipt, 24 hours after initial broadcast and then 24 hours after the second broadcast (three times)

### 1.2 *Category (b) repetition codes:*

A Category (b) repetition code allows a message to be repeated indefinitely or until cancelled by the message provider. The repetition period can be set at between 1 and 120 hours. In addition, each transmission can be echoed after a fixed period of 6 minutes. Repetition codes are made up by stating the multiplier first, followed by the delay period:

Multiplier x Delay

where the multiplier specifies the amount of delay periods between each broadcast, and the delay is a fixed number of hours. The **multiplier** digit may be any digit from 1 to 5 as follows:

- 1 = 1 specified delay period between broadcasts
- 2 = 2 specified delay periods between broadcasts
- 3 = 3 specified delay periods between broadcasts
- 4 = 4 specified delay periods between broadcasts
- 5 = 5 specified delay periods between broadcasts

The **delay** digit coding is as follows:

- 2 = 1 hour delay; no echo
- 3 = 1 hour delay; with echo
- 4 = 6 hour delay; no echo
- 5 = 6 hour delay; with echo
- 6 = 12 hour delay; no echo
- 7 = 12 hour delay; with echo
- 8 = 24 hour delay; no echo
- 9 = 24 hour delay; with echo

The various combinations (Multiplier x Delay) available, are shown in the table below:

<b>Code</b>	<b>Instruction</b>
12	repeat broadcast every 1 hour with no echo.
13	repeat broadcast every 1 hour with an echo 6 minutes after each broadcast.
22	repeat broadcast every 2 hours with no echo.
23	repeat broadcast every 2 hours with an echo 6 minutes after each broadcast.
32	repeat broadcast every 3 hours with no echo.
33	repeat broadcast every 3 hours with an echo 6 minutes after each broadcast.
42	repeat broadcast every 4 hours with no echo.
43	repeat broadcast every 4 hours with an echo 6 minutes after each broadcast.
52	repeat broadcast every 5 hours with no echo.
53	repeat broadcast every 5 hours with an echo 6 minutes after each broadcast.
14	repeat broadcast every 6 hours with no echo.
15	repeat broadcast every 6 hours with an echo 6 minutes after each broadcast.
16 (or 24)	repeat broadcast every 12 hours with no echo.
17 (or 25)	repeat broadcast every 12 hours with an echo 6 minutes after each broadcast.
34	repeat broadcast every 18 hours with no echo.
35	repeat broadcast every 18 hours with an echo 6 minutes after each broadcast.
18 (or 26; or 44)	repeat broadcast every 24 hours with no echo.
19 (or 27; or 45)	repeat broadcast every 24 hours with an echo 6 minutes after each broadcast.
54	repeat broadcast every 30 hours with no echo.
55	repeat broadcast every 30 hours with an echo 6 minutes after each broadcast.
36	repeat broadcast every 36 hours with no echo.
37	repeat broadcast every 36 hours with an echo 6 minutes after each broadcast.
28 (or 46)	repeat broadcast every 48 hours with no echo.
29 (or 47)	repeat broadcast every 48 hours with an echo 6 minutes after each broadcast.
56	repeat broadcast every 60 hours with no echo.
57	repeat broadcast every 60 hours with an echo 6 minutes after each broadcast.
38	repeat broadcast every 72 hours with no echo.
39	repeat broadcast every 72 hours with an echo 6 minutes after each broadcast.
48	repeat broadcast every 96 hours with no echo.
49	repeat broadcast every 96 hours with an echo 6 minutes after each broadcast.
58	repeat broadcast every 120 hours with no echo.
59	repeat broadcast every 120 hours with an echo 6 minutes after each broadcast.

**Note – Not all codes may be provided by all service providers.**

## Annex 5

### EGC receiver specifications

These technical requirements were defined by Inmarsat for equipment manufacturers and have been extracted from the System Definition Manual (SDM) for the Inmarsat-C communications system.

Enhanced Group Call (EGC) receive facilities are used by SOLAS Convention ships as well as ships not required to comply with the requirements of the SOLAS Convention, as amended. It should be noted that EGC receive facilities intended to meet SOLAS Convention requirements must comply with the IMO Recommendation on Performance Standards for Enhanced Group Call Equipment contained in IMO resolution [A.664(16), as amended].

**The specific guidance given in this annex has been carefully coordinated to ensure that the automatic functions of the SafetyNET receiver work properly. Land Earth Stations providing Inmarsat C services for the GMDSS must comply with all relevant aspects of the Inmarsat C SDM, including provision of the EGC SafetyNET services.**

### Technical requirements for Enhanced Group Call receivers for SOLAS-compliant MESS

#### 1 EGC SafetyNET receivers for SOLAS installations

##### 1.1 Background

The global maritime distress and safety system (GMDSS) is a radiocommunication system based on satellite and terrestrial technology, designed to improve communications relating to distress and safety of life at sea. It was adopted by the International Maritime Organization (IMO) in 1988, in the form of Amendments to the International Convention for the Safety of Life at Sea (SOLAS), 1974 and came into effect on 1 February 1992. Implementation was completed on 1 February 1999.

It is the responsibility of national Administrations to determine whether a radio installation on board a ship meets the SOLAS requirements. This is done by national Type Acceptance or Approval testing of the sub-systems included in the installation and by inspection of the complete installation by a radio surveyor.

National Type Acceptance testing for SOLAS equipment is usually based on GMDSS specifications and procedures prepared by IMO and the International Electrotechnical Commission (IEC) on their behalf, although other national or regional specifications may be invoked as well.

IMO and IEC documents, which are identified in section 1.2, do not only summarize the general requirements for GMDSS equipment, but also the special requirements for EGC SafetyNET receivers for use in SOLAS installations, as specified by IMO/IEC.

A number of the Inmarsat specifications have been completely revised to reflect the latest IMO/IEC requirements, for example, electromagnetic compatibility and environmental requirements.

## **1.2 Principal relevant documents**

For Inmarsat C and mini-C GMDSS compliant MESSs with EGC SafetyNET function, the principal relevant documents in addition to the Inmarsat C SDM are:

**.1** Performance Standards for Enhanced Group Call Equipment – Annex: Recommendation on Performance Standards for Enhanced Group Call Equipment, published by IMO as resolution [A.664(16), as amended].

**.2** General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids, published by IMO as resolution A.694(17).

**.3** Performance Standards for Inmarsat Standard-C Ship Earth Stations Capable of Transmitting and Receiving Direct-printing Communications – Annex: Recommendation on Performance Standards for Inmarsat Standard-C Ship Earth Stations Capable of Transmitting and Receiving Direct-printing Communications, published by IMO as resolution A.807(19), as amended by resolution MSC.68(68), annex 4.

**.4** Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System and Marine Navigational Equipment, published by the IEC as IEC 60945.

**.5** Global Maritime Distress and Safety System (GMDSS) – Part 4: Inmarsat-C Ship Earth Station and Inmarsat Enhanced Group Call (EGC) Equipment – Operational and Performance Requirements, Methods of Testing and Required Test Results, published by the IEC as IEC 61097-4.

**.6** Maritime Design and Installation Guidelines (DIGs), Annex B, issue 6 of April 2008 published by Inmarsat at:  
**<http://www.inmarsat.com/Maritimesafety/DIGs.pdf>**

## **2 Introduction**

### **2.1 Enhanced Group Calls**

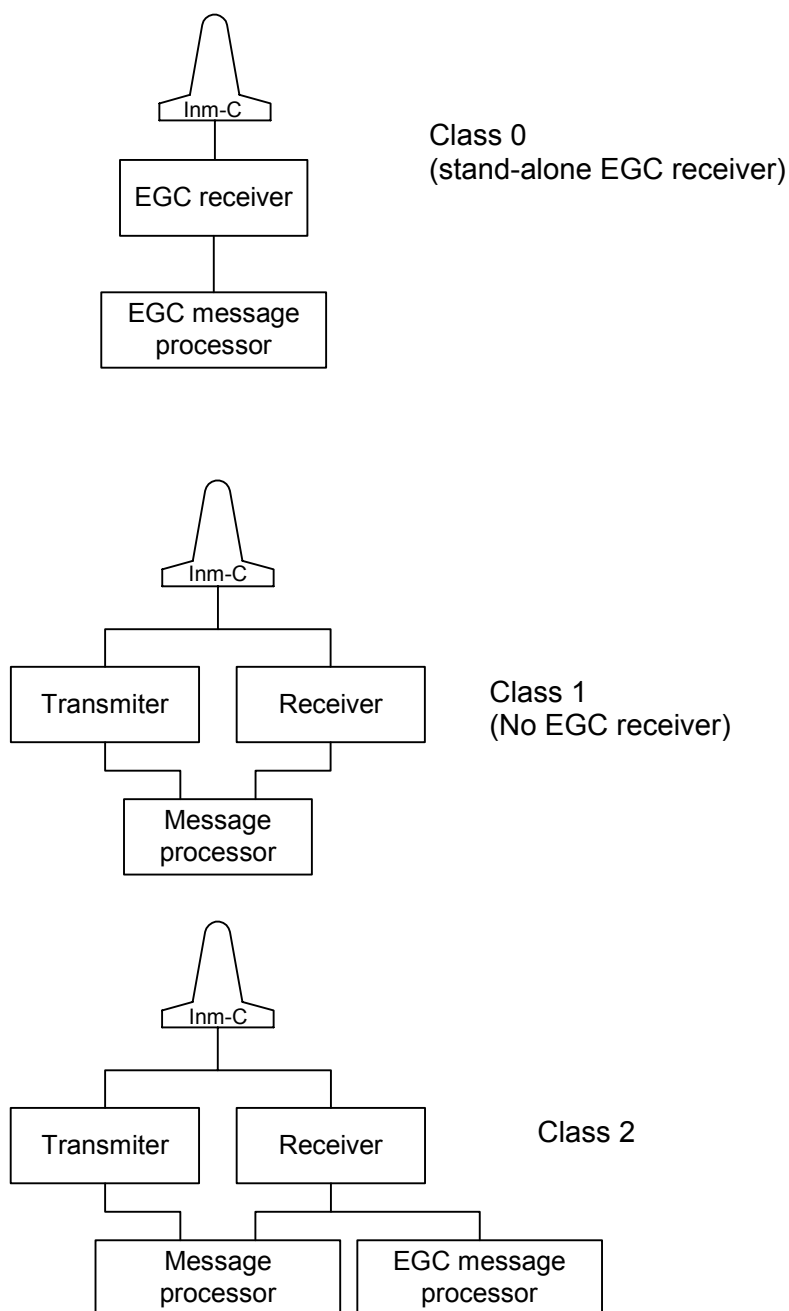
Enhanced Group Calls are a message broadcast service transmitted over the Inmarsat-C communications system. The service allows terrestrial information providers to pass messages or data to Class 2 or Class 3 MESSs with EGC receivers or Class 0 stand-alone EGC receivers through the Inmarsat C LESs. The messages are processed at the addressed LES and forwarded to the NCS which transmits them on the common channel.

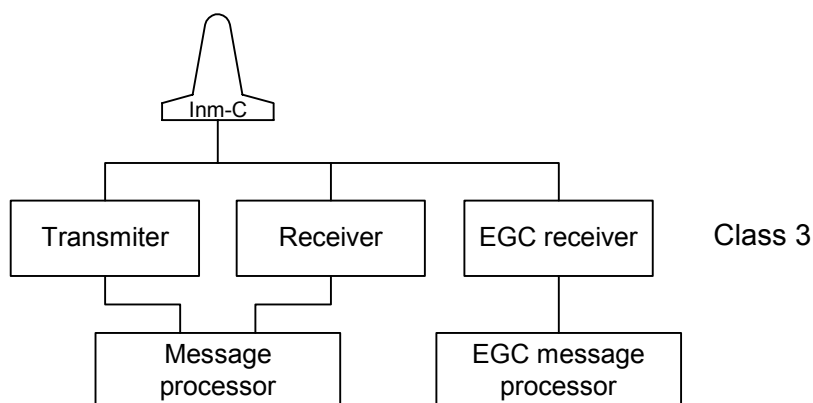


## 2.2 EGC receiver

An EGC receiver is defined as a single-channel receiver with a dedicated message processor. Mobile Earth Stations of Class 2 and 3 provide an EGC capability in addition to To-Ship and From-Ship messaging capabilities; class 0 MESs are self-contained EGC receivers as shown in Figure 9.

*Note: Most of the existing models of Inmarsat C and mini-C Maritime terminals on the market are Class 2 MESs.*





**Figure 9 – Classes of Inmarsat C Mobile Earth Stations**

### **2.3 Type approval**

The Inmarsat C SDM presents the technical requirements and recommendations for an EGC receiver. These requirements must be satisfied before the equipment can be utilized in the Inmarsat system. Procedures for type approval by Inmarsat of a manufacturer's design are provided in a complementary document entitled Type Approval Procedures for Inmarsat-C and mini-C Ship Earth Stations published by Inmarsat.

## **3 General requirements**

### **3.1 Mandatory capabilities**

The mandatory capabilities of SafetyNET receivers for SOLAS applications are:

- .1 Continuous reception of an NCS common channel and processing of the information according to the EGC message protocol; a Class 2 Inmarsat-C MES continuously receives the NCS common channel when not engaged in general communications;
- .2 Automatic recognition of messages directed to fixed and absolute geographical areas and service codes as selected by the receiver operator or based upon input(s) from navigational equipment;
- .3 SafetyNET receivers meet the requirements of IEC 61097-4 and IEC 60945; and
- .4 Where automatic updates are not available, provision is made for a visual indication if the ship's position has not been updated during the last 12 hours. It is only possible to reset this indication by revalidating the ship's position.

## 4 NCS common channel selection

### 4.1 General

EGC receivers are equipped with facilities for storing up to 20 NCS channel numbers. Four of these are permanently assigned global beam channel numbers and frequencies as follows:

NCS	NSC common channel	
	Channel No.	Frequency
AOR-West	11080	1537.70 MHz
AOR-East	12580	1541.45 MHz
POR	12580	1541.45 MHz
IOR	10840	1537.10 MHz

These four channel numbers are stored in ROM and are not alterable.

### 4.2 NCS scanning

Automatic NCS scanning on a regular basis is prohibited in SOLAS SafetyNET receivers. In the event of low signal strength from the satellite, an alarm is raised and the operator is advised to initiate NCS scanning manually.

## 5 Message-processing requirements

### 5.1 General

Acceptance or rejection of the EGC service code types is under operator control except that receivers always receive navigational warnings; meteorological warnings, SAR information and To-Ships distress alerts which are directed to a fixed or absolute geographical area within which the receiver is situated.

### 5.2 Display devices

#### 5.2.1 Message display

The display is capable of presenting at least 40 characters per line of text. The EGC receiver ensures that if a word cannot be accommodated in full on one line it is transferred to the next line.

### **5.2.2 Status display**

An indication of EGC carrier frame synchronization (or loss of synchronization) is provided.

### **5.3 Printer requirements**

A printer is required for a SOLAS SafetyNET receiver. Received EGC messages may be stored for later printing with an indication to the operator that the message has been received. However, distress or urgency priority calls are directly printed as well as stored. Means are also provided not to print or store the same EGC message after it has been received error-free and printed.

Messages are not printed until completely received.

A local audible alarm is sounded to give advanced warning of a printer "paper-low" condition.

All SafetyNET messages are annotated with the date and time (UTC) of reception. This information is displayed or printed with the message.

### **5.4 Character codes**

For the EGC service, the International Reference Version of the International Alphabet 5 (IA5), also known as ASCII (a standard alphanumerical character set based on 7-bit codes) is used.

### **5.5 Operator control**

The following control functions and displays are provided as a minimum:

- .1 selection of EGC carrier frequency;

For SOLAS SafetyNET receivers:

- .2 means of inputting the following information:
  - .1 MES's position co-ordinates;
  - .2 current and planned (additional) NAVAREA(s)/METAREA(s);
  - .3 current and planned coastal warning area (B<sub>1</sub> Code); and
  - .4 coastal warning subject indicator character (B<sub>2</sub> Code).

Receivers are fitted with operator controls to allow the operator to select desired geographical areas and message categories. Details of the geographical areas and message categories which have been selected for reception by the operator are readily available.

### **5.6 EGC receiver memory capacity requirements**

Both temporary and non-volatile memory is required in an EGC receiver for the following purposes:

- .1 message buffering;
- .2 maintaining message identification records;
- .3 storing position co-ordinates and NAVAREA(s)/METAREA(s) data; and
- .4 storing expansion of NCS common channel numbers.

#### **5.7 EGC receiver addressing**

The five basic methods of addressing EGC receivers are:

- .1 all-mobiles call;
- .2 Inmarsat system message addressing;
- .3 group addressing;
- .4 unique addressing; and
- .5 geographical area addressing including coastal addressing.

The type of address used in the header of an EGC packet is uniquely determined by the "C2" service code field.

#### **5.8 Message identification**

All messages are transmitted with a unique sequence number, originating LES ID and service code. Each subsequent transmission of the message contains the original sequence number. This facility allows multiple printing of repeated messages to be inhibited.

#### **5.9 Geographical area addressing**

Geographical area addressing refers to messages transmitted to MESs in a particular area. The area may be expressed in terms of a fixed, pre-defined area such as the NAVAREA/METAREA, or satellite coastal warning area, or in terms of an absolute geographical address expressed as latitude and longitude coordinates on the surface of the earth. An absolute geographical area address is a representation of a closed boundary on the surface of the earth given in the address field of the message header. The receiver recognizes two forms of absolute geographical addressing: rectangular and circular. Each form is specified in terms of an absolute position in latitude and longitude and further parameters that completely specify the boundary.

In order to process a geographical area address, the receiver shall be programmed with the MES's current position. The position may be entered automatically from an integrated or external navigation aid or entered manually. The receiver provides notification to the operator when the position has not been updated for four hours. If the MES's position has not been updated for more than 12 hours, or is unknown, all SafetyNET messages will be printed or stored in memory.

A geographical area address is considered valid for a particular MES if its current position falls inside or on the boundary specified by the address. It is a mandatory requirement that the operator be able to select more than one area, so that messages directed to other area(s) of interest can be provided. It is recommended that the operator be able to select at least four areas.

## **6 Link performance monitoring**

The SafetyNET EGC receiver continuously monitors the received bulletin board error rate (BBER) as a measure of link performance whenever it is tuned and synchronized to a NCS (or LES) TDM. The receiver stores a count of the number of bulletin boards received in error out of the last 100 received. This count is continuously updated frame by frame.

## **7 Alarms and indications**

The following alarms and indications are provided at a SOLAS SafetyNET receiver and meet the operational requirements for alarms stated in IEC 61097-4.

### **7.1 Distress/Urgency priority call alarm**

For SOLAS SafetyNET receivers:

Provision is made for a specific audible alarm and visual indication at the position from which the ship is normally navigated to indicate receipt of SafetyNET messages with distress or urgency priority. It is not possible to disable this alarm and it is only possible to re-set it manually, and then only from the position where the message is displayed or printed.

### **7.2 Other alarms and indications**

- .1 High BBER;
- .2 Printer paper low;
- .3 Receiver fault indication;
- .4 Loss of receiver synchronisation; and
- .5 Position update.

Additional alarms and indications may be provided at the manufacturer's discretion.

## **8 Electromagnetic compatibility**

The interference and electromagnetic compatibility requirements of IEC 60945-applies.

## **9 Environmental conditions**

SOLAS SafetyNET receivers shall operate satisfactorily under the environmental conditions specified in the SDM. The latest issues of IEC 61097-4 and IEC 60945 apply.

## **10 Navigational interface**

In order that a receiver's position may be automatically updated, receivers may be equipped with an interface to navigational instruments. A suggested standard interface is in IEC 61162, Part 1 (NMEA 0183) Standard for Interfacing Electronic Marine Navigational Devices.

*Note: The majority of modern maritime MESs have an integrated navigational receiver.*

## **Annex 6**

### **Procedure for amending the International SafetyNET Manual**

- 1** Proposals for amendment or enhancement of the International SafetyNET Manual should be submitted to the IMO Maritime Safety Committee through the Sub-Committee on Radiocommunications and Search and Rescue.
- 2** Amendments to this Manual should normally come into force at intervals of approximately two years or at such longer periods as determined by the Maritime Safety Committee at the time of adoption. Amendments adopted by Maritime Safety Committee will be notified to all concerned, will provide at least 12 months' notification and will come into force on 1 January of the following year.
- 3** The agreement of the International Hydrographic Organization, International Mobile Satellite Organization, the World Meteorological Organization and the active participation of other bodies should be sought, according to the nature of the proposed amendments.

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**ANNEX 2**

**DRAFT MSC RESOLUTION MSC....([87])**

**(adopted on [21 May 2010])**

**GUIDELINE ON OPERATIONAL PROCEDURES FOR THE PROMULGATION OF  
MARITIME SAFETY INFORMATION CONCERNING ACTS OF PIRACY AND  
PIRACY COUNTER-MEASURE OPERATIONS**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO article 100 of the United Nations Convention on the Law of the Sea ("UNCLOS"), which requires all States to co-operate to the fullest possible extent in the repression of piracy on the high seas or in any other place outside the jurisdiction of any State,

BEARING IN MIND resolution A.1026(26) on "Piracy and armed robbery against ships in waters off the coast of Somalia" through which the Assembly has recommended a number of actions to be taken by Governments, the Transitional Federal Government of Somalia, the Council, the Maritime Safety Committee and the Secretary-General, with a view to bringing the situation under control,

NOTING that the Maritime Safety Committee has approved revised recommendations<sup>1</sup> to Governments and guidance<sup>2</sup> to shipowners and ship operators, shipmasters and crews on preventing and suppressing acts of piracy and armed robbery against ships, including specific advice<sup>3</sup> developed by the industry in relation to the situation in waters off the coast of Somalia,

NOTING ALSO that the Sub-Committee on Safety of Navigation has reviewed the details, and recommended<sup>4</sup> the use by all ships transiting the Gulf of Aden, of the Internationally Recommended Transit Corridor in the Gulf of Aden, as it may be amended from time to time by those who established it,

BEING AWARE of the serious safety and security concerns that the shipping industry and the seafaring community continue to have as a result of the attacks against ships sailing in waters off the coast of Somalia referred to above,

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<sup>1</sup> Refer to MSC.1/Circ.1333 on Recommendations to Governments for preventing and suppressing piracy and armed robbery against ships, as it may be revised.

<sup>2</sup> Refer to MSC.1/Circ.1334 on Guidance to shipowners and ship operators, shipmasters and crews on preventing and suppressing acts of piracy and armed robbery against ships, as it may be revised.

<sup>3</sup> Refer to MSC.1/Circ.1332 on Piracy and armed robbery against ships in waters off the coast of Somalia and MSC.1/Circ.1335 on Piracy and armed robbery against ships in waters off the coast of Somalia – Best Management Practices to Deter Piracy in the Gulf of Aden and off the Coast of Somalia developed by the industry, as it may be revised.

<sup>4</sup> Refer to SN.1/Circ.281 on Information on Internationally Recommended Transit corridor (IRTC) for ships transiting the Gulf of Aden, as it may be revised.

RECOGNIZING, in view of the continuing situation in Somalia giving rise to grave concern, the need for the continued implementation of appropriate measures to protect ships sailing in waters off the coast of Somalia from piracy and armed robbery attacks,

HAVING CONSIDERED, at its [eighty-seventh] session, the proposed draft Guideline on Operational Procedures for the promulgation of Maritime Safety Information concerning acts of Piracy and counter-Piracy operations,

1. ADOPTS the Guideline on Operational Procedures for the promulgation of Maritime Safety Information concerning acts of Piracy and Piracy counter-measure operations, the text of which is set out in the Annex to the present resolution;
2. RESOLVES that the Guideline be brought into use with immediate effect;
3. REQUESTS the Secretary-General to transmit copies of this resolution and the Annex to all Member Governments;
4. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and the Annex to the International Hydrographic Organization (IHO), the International Mobile Satellite Organization (IMSO), the Chairman of the IHO WWNWS Sub-Committee and naval and military forces currently engaged in official counter-piracy operations.

ANNEX

**GUIDELINE ON OPERATIONAL PROCEDURES FOR THE PROMULGATION OF  
MARITIME SAFETY INFORMATION CONCERNING ACTS OF PIRACY AND PIRACY  
COUNTER-MEASURE OPERATIONS**

1 Maritime Safety Information (MSI) concerning acts of piracy and piracy counter-measure operations is broadcast through the World-Wide Navigational Warning Service (WWNWS) in accordance with the general guidance and requirements contained in MSC.1/Circ.1310: Revised Joint IMO/IHO/WMO Manual on Maritime Safety Information (Joint MSI Manual) and the International SafetyNET Manual. These operational procedures provide specific additional guidance for naval and military authorities involved in the gathering and interpretation of information on acts of piracy and piracy counter-measure operations, and NAVAREA or National Coordinators within the WWNWS who are responsible for originating the broadcasts.

2 A piracy attack warning shall be broadcast as an "URGENT" NAVAREA or Coastal Warning immediately on receipt of the source information and at least at the next scheduled broadcast or for as long as the information remains valid.

3 Naval or military authorities wishing to provide information on acts of piracy and piracy counter-measure operations for broadcast under these procedures shall nominate a Military Navigational Warning Coordinator (MNWC) for all matters related to the release and coordination of information for broadcast. Contact details for the MNWC shall be notified to the IMO Secretariat ([info@imo.org](mailto:info@imo.org)) and the IHO ([info@ihb.mc](mailto:info@ihb.mc)), who will inform the chairman of the IHO World-Wide Navigational Warnings Service Sub-Committee (IHO WWNWS-SC).

4 As the single point of contact for the WWNWS in this regard, the Chairman of the IHO WWNWS-SC should nominate an alternative to act on his behalf in the event that he is not available at any time.

5 Draft messages concerning piracy and piracy counter-measures for input into the WWNWS shall be routed through the MNWC to the Chairman of the IHO WWNWS-SC.

6 The Chairman of the IHO WWNWS-SC will:

- .1 check messages for format in accordance with the Joint MSI Manual;
- .2 liaise with MNWC if any changes are needed to the draft; and
- .3 forward the approved text to the relevant NAVAREA or National Coordinator(s) for broadcast.

7 Personnel providing navigational warnings concerning acts of piracy and piracy counter-measure operations shall have a working knowledge of:

- .1 SOLAS chapter IV and the GMDSS;
- .2 MSC.1/Circ.1310 and resolutions A.705(17) *Promulgation of Maritime Safety Information*, as amended, and A.706(17) *World Wide Navigational Warning Service*, as amended, including the use of standardized texts and message formats; and

.3 the legal definitions of piracy; relevant parts of the UN Convention on the Law of the Sea (UNCLOS), particularly as they apply to territorial waters limits; and other political and operational issues related to the environment in which they are operating.

8 Naval and military authorities shall avoid requesting broadcasts that give instructions to merchant shipping and instead phrase their warnings in factual and/or advisory terms.

9 Naval and military authorities providing information for broadcast may wish to install facilities to receive Inmarsat-C SafetyNET and, where appropriate, NAVTEX so that they can monitor the broadcast of messages.

10 MNWCs are responsible for informing the Chairman of the IHO WWNWS-SC as appropriate, when the information is no longer valid.

11 Once the MNWC has forwarded information to the Chairman of the IHO WWNWS-SC for broadcast, the final decision on what to broadcast and how this is done rests with the NAVAREA or National Coordinator concerned. This decision should be guided by resolution A.706(17), as amended, the International SafetyNET Manual and MSC.1/Circ.1310, and be taken in the light of all other information on hand.

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**ANNEX 3**

**DRAFT MSC CIRCULAR**

**QUESTIONNAIRE ON SHORE-BASED FACILITIES FOR THE GLOBAL MARITIME  
DISTRESS AND SAFETY SYSTEM (GMDSS)**

1 The Maritime Safety Committee, at its [eighty-eighth session (24 November to 3 December 2010)], approved circulation of the attached revised questionnaire on shore-based facilities in the GMDSS prepared by the Sub-Committee on Radiocommunications and Search and Rescue, at its fourteenth session.

2 The revised questionnaire contains the revision of MSC/Circ.684, taking into account changes in the provision of several services as well as the evolution of the database over the years.

3 Member Governments, including those which have submitted answers to MSC/Circ.684, are invited to provide or update, in accordance with the annexed questionnaire, the required information electronically, as far as possible, for inclusion in the GMDSS Master Plan (GMDSS.1 circular).

4 Administrations should submit information obtained, as appropriate, from national authorities responsible for shore-based facilities for the GMDSS, NAV/MET Area Coordinators and search and rescue authorities.

5 This questionnaire supersedes MSC/Circ.684.

ANNEX 1

**STATUS OF SHORE-BASED FACILITIES FOR THE GMDSS**

1 Indicate in brief the status of shore-based facilities for the GMDSS, using the following indicators:

- O = Operational
- T = Under trial
- P = Planned or to be decided

COUNTRY	COAST STATIONS						SES for RCC	MSI BROADCAST SERVICE				Cospas-Sarsat		
	DSC			Inmarsat LES				NAVTEX	SafetyNET			HF	MCC	LUT
	A1	A2	A3 & A4	B	C	Inmarsat Fleet F77			NAV	MET	SAR	NBDP		

ANNEX 2

**Sea Area A1 (Within range of shore-based VHF DSC coverage)**

- 1 Does your Administration intend to establish Sea Area A1? YES  NO  Is it operational now? YES  NO   
If not operational now, indicate the date of operation in the following table.
- 2 Do they keep fulltime DSC watch on channel 70? YES  NO   
If not, indicate watch hours in the following table.
- 3 Indicate details of VHF stations

NAV/MET Area	Country	VHF DSC Coast Station								RCC Associated
		Type	Name	MMSI	Position	Range (NM)	Status of implementation	Purpose (SD/PS)	Watch hours on CH 70	

- (1) Monitored stations include remote-controlled stations.  
 (2) Refer to resolution A.801(19). See appendix.  
 (3) SD = "Distress and Safety" only, PS = Both "Public Correspondence" and "Safety and Distress".

- 4 Provide a map indicating:
- Name and location of **main** VHF stations
  - Coverage of main and monitored Transmitter & Receivers
  - Name and location of associated RCC(s)

APPENDIX TO ANNEX 2

**IMO RESOLUTION A.801(19), annex 3, paragraph 2**

*Criteria for establishing GMDSS sea areas*

2.3 Determination of radius A

$$A = 2.5( \sqrt{H(\text{in - metres})} + \sqrt{h(\text{in - metres})} )$$

2.3.1 The following formula should be used to calculate the range A in nautical miles:  
H is the height of the coast station VHF receiving antenna and h is the height of the ship's transmitting antenna which is assumed to be 4 m.

2.3.2 The following table gives the range in nautical miles (NM) for typical values of H:

<b><i>H</i></b>	50 m	100 m
<b><i>h</i></b>		
4 m	23 NM	30 NM

2.3.3 The formula given above applies to line-of-sight cases but is not considered adequate for cases where both antennae are at a low level. The VHF range in Sea Area A1 should be verified by field strength measurements.



ANNEX 3

**Sea Area A2 (Within range of shore-based MF DSC coverage)**

1 Does your Administration intend to establish Sea Area A2? YES  NO  Is it operational now? YES  NO   
If not operational now, indicate the date of operation in the following table.

2 Do they keep fulltime DSC watch on 2187.5 kHz? YES  NO   
If not, indicate watch hours in the following table.

3 Indicate details of MF stations

NAV/MET Area	Country	MF DSC Coast Station								RCC Associated
		Type	Name	MMSI	Position	Range (NM)	Status of implementation	Purpose (SD/PS)	Watch hours on 2187.5 kHz	

- (1) Monitored stations include station remote-controlled stations.
- (2) Refer to resolution A.801(19). See appendix.
- (3) SD = "Distress and Safety" only, PS = Both "Public Correspondence" and "Safety and Distress".

4 Provide a map indicating:

- Name and location of **main** MF stations
- Coverage of main and monitored Transmitter & Receivers
- Name and location of associated RCC(s)

APPENDIX TO ANNEX 3

**IMO RESOLUTION A.801(19) , annex 3, paragraph 3**

*Criteria for establishing GMDSS sea areas*

3.3 Determination of radius B

The radius B may be determined for each coast station by reference to Recommendation ITU-R P.368-9 and P.372-10 for the performance of a single side band (J3E) system under the following conditions:

- |                                |   |   |
|--------------------------------|---|---|
| Frequency                      | - | 2182 kHz  |
| Bandwidth                      | - | 3 kHz   |
| Propagation                    | - | ground wave   |
| Time of day & Season           | - | (Administration should determine time periods and seasons appropriate to their geographic area based on prevailing noise level) |
| Ship's transmitter power (PEP) | - | 60 W (See footnote to regulation IV/16(c)(i) of the 1981 amendments to the 1974 SOLAS Convention)                               |
| Ship's antenna efficiency      | - | 25%   |
| S/N(RF)                        | - | 9 dB (voice)  |
| Mean transmitter power         | - | 8 dB below peak power   |
| Fading margin                  | - | 3 dB  |

The range of sea area A2 should be verified by field strength measurements.

ANNEX 4

**Sea Areas A3 and A4 (Outside of Sea Area A2)**

1 Does your Administration intend to equip one or more HF DSC station? YES  NO  Is it operational now? YES  NO   
If not operational now, indicate the date of operation in the following table.

2 Do they keep fulltime DSC watch on the bands? YES  NO   
 4 MHz (4207.5 kHz)?    
 6 MHz (6312 kHz)?    
 8 MHz (8414.5 kHz)?    
 12 MHz (12577 kHz)?    
 16 MHz (16804.5 kHz)?

If not, indicate watch hours in the following table.

3 Indicate details of HF stations

NAV/MET Area	Country	HF DSC Coast Station							RCC Associated
		Name	MMSI	Position	Status of implementation	Purpose (SD*/PS)	Frequency Band*	Watch hours	

\* SD = "Distress and Safety" only, PS = Both "Public Correspondence" and "Safety and Distress".

ANNEX 5

**Inmarsat facilities**

1 Does your Administration operate an Inmarsat Land Earth Station (LES)? YES  NO  Is it operational now? YES  NO   
If not operational now, indicate the date of operation in the following table.

2 Indicate details of Inmarsat LES

NAV/MET Area	Country	Location	Ocean Area	Service provided (Status of Implementation [Data of operation])			RCC Associated
				Inmarsat-B	Inmarsat-C	Fleet F 77	

\* AOR-E = Atlantic Ocean Region –East  
 AOR-W = Atlantic Ocean Region – West  
 IOR = Indian Ocean Region  
 POR = Pacific Ocean Region

ANNEX 6

**Rescue Coordination Centres (RCCs) using Ship Earth Stations (SEs)**

1 Does your Administration intend to commission a ship earth station for RCC operation? YES NO

Is it operational now? YES NO

If not operational now, indicate the date of operation in the following table.

2 Indicate details of SES

NAV/MET Area	Country	RCC		SES DETAIL			Status of implementation
		Name	Position	ID	Type	Ocean Region Accessed	

ANNEX 7

**NAVTEX Service on 518 kHz**

1 Does your Administration operate NAVTEX Service on 518 kHz? YES  NO  Is it operational now? YES  NO   
If not operational now, indicate the date of operation in the following table.

2 Indicate details of NAVTEX stations

NAV/MET Area	Country	NAVTEX Coast Station	Position	Range (NM)	B1 Character	Transmission times (UTC)	Language	Status of implementation

\* Refer to resolution A.801(19). See appendix.

**490 kHz NAVTEX Service**

1 Does your Administration operate NAVTEX Service on 490 kHz? YES  NO  Is it operational now? YES  NO   
If not operational now, indicate the date of operation in the following table.

2 Indicate details of NAVTEX stations

NAV/MET Area	Country	NAVTEX Coast Station	Position	Range (NM)	B1 Character	Transmission times (UTC)	Language	Status of implementation

ANNEX 7 (cont.)

**4209.5 kHz NAVTEX Service**

1 Does your Administration operate a 4209.5 kHz NAVTEX Service?  YES  NO Is it operational now?  YES  NO  
If not operational now, indicate the date of operation in the following table.

2 Indicate details of 4209.5 kHz NAVTEX stations

NAV/MET Area	Country	NAVTEX Coast Station	Position	Range (NM)	B1 Character	Transmission times (UTC)	Language	Status of implementation

APPENDIX

**IMO RESOLUTION A.801(19) , annex 4, paragraph 3**

*Criteria for use when providing a NAVTEX service*

The ground-wave coverage may be determined for each coast station by reference to Recommendations ITU-R P.368-9 and P.372-10 for the performance of a system under the following conditions:

Frequency	-	518 kHz
Bandwidth	-	500 Hz
Propagation	-	ground wave
Time of day & Season	-	(Administration should determine time periods in accordance with NAVTEX time transmission table (NAVTEX Manual, figure 3) and seasons appropriate to their geographic area based on prevailing noise level.)

Transmitter power & Antenna efficiency

- (The range of a NAVTEX transmitter depends on the transmitter power and local propagation conditions. The actual range achieved should be adjusted to the minimum required for adequate reception in the NAVTEX area served, taking into account the needs of ships approaching from other areas. Experience has indicated that the required range of 250 to 400 nautical miles can generally be attained by transmitter power in the range between 100 and 1,000 W during daylight with a 60% reduction at night.)
- RF S/N in 500 Hz band with - 8 dB (Bit error rate  $1 \times 10^{-2}$ )
- Percentage of time - 90

Full coverage of NAVTEX service area should be verified by field strength measurements.



ANNEX 8

**International SafetyNET Service**

1 Does your Administration intend to broadcast MSI through the International SafetyNET Service? YES NO Is it operational now? YES NO?  
     
 If not operational now, indicate the date of operation in the following table.

2 Indicate detail of International SafetyNET Service

NAV/MET Area	Type of MSI	Country	LES	Ocean Area	Area Covered <sup>(1)</sup>	Broadcast schedule (UTC)	Status of implementation
	NAV						
	MET						
	SAR						
	Coastal warning				<sup>(2)</sup>		

- (1) Service area covered in NAV/MET information
- (2) Provide a map indicating Area covered and B1 characters

ANNEX 9

**HF Narrow Band Direct Printing (NBDP) MSI Broadcast Service**

1 Does your Administration intend to broadcast MSI through HF NBDP?  YES  NO Is it operational now?  YES  NO  
If not operational now, indicate the date of operation in the following table.

2 Indicate details of HF NBDP MSI Broadcast Service

Country	NBDP Coast Station	Position	Frequency Band*	Schedule (UTC)	Status of implementation
			4 MHz (4210 kHz)		
			6 MHz (6425 kHz)		
			8 MHz (8416.5 kHz)		
			12 MHz (12579 kHz)		
			16 MHz (16806.5 kHz)		
			19 MHz (19680.5 kHz)		
			22 MHz (22376 kHz)		
			26 MHz (26100.5 kHz)		

ANNEX 10

**Cospas-Sarsat MCC and LUT**

1 Does your Administration intend to operate Cospas-Sarsat ground facilities? YES  NO  Is it operational now? YES  NO   
If not operational now, indicate the date of operation in the following table.

2 Indicate details of the Cospas-Sarsat facilities

Ground Segment Operator	MCC			LEOLUT		RCC Associated
	Location	Designator	Status of implementation	Location	Status of implementation	

ANNEX 11

**EPIRB Registration Data**

406 MHz EPIRB

- 1 MID-Numbers (country codes) assigned to 406 MHz EPIRBs?
- 2 406 MHz coding schemes currently used by the country:
- |                  |                          |     |                          |    |
|------------------|--------------------------|-----|--------------------------|----|
| Serial protocol: | <input type="checkbox"/> | YES | <input type="checkbox"/> | NO |
| MMSI:            | <input type="checkbox"/> |     | <input type="checkbox"/> |    |
| Radio call sign: | <input type="checkbox"/> |     | <input type="checkbox"/> |    |
- 3 Database for 406 MHz EPIRBs:
- Address:
- Open 24 hours a day, all days of the year?  YES  NO  
If not, specify the opening hours (UTC), days etc:
- Telephone No. for database information:
  - Telefax No. for database information:
  - Telex No. for database information:
  - AFTN No. for database information:
  - E-mail address for database information:
- 4 How often does your Administration update the database?

ANNEX 12

**Maritime Mobile Service Identities (MMSI)**

1 MID-Numbers (country codes) assigned to equipment other than 406 MHz EPIRBs?

2 National database for MMSI number:

- Same database as for 406 MHz EPIRBs?      YES      NO

If not, fill in the following information:

- Address:

Open 24 hours a day, all days of the year?      YES      NO  
           
If no, specify the opening hours (UTC), days etc:

- Telephone No. for database information:
- Telefax No. for database information:
- Telex No. for database information:
- AFTN No. for database information:
- E-mail address for database information:

3 How often does your Administration update the national database?

4 How often does your Administration update the ITU database?

\*\*\*



**ANNEX 4**

**DRAFT MSC RESOLUTION MSC....([87])**

**(adopted on [21 May 2010])**

**REVISED PERFORMANCE STANDARDS FOR ENHANCED GROUP CALL (EGC)  
EQUIPMENT**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the functions of adopting performance standards for radio and navigational equipment, as well as amendments thereto, should be performed by the Maritime Safety Committee on behalf of the Organization,

RECOGNIZING the need for performance standards for enhanced group call equipment in order to ensure the operational reliability of such equipment and to avoid, as far as practicable, adverse interaction between such equipment and other communication and navigation equipment aboard the ship,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its [eighty-seventh] session,

1. ADOPTS the Recommendation on Revised Performance Standards for Enhanced Group Call Equipment, the text of which is set out in the Annex to the present resolution;
2. NOTES that Annex B "System specific guidelines for Inmarsat-C" of the Inmarsat design and installation guidelines is similar to the present performance standards for enhanced group call equipment and to the performance standards for shipborne radio equipment – general requirements (resolution A.694(17));
3. INVITES Inmarsat to ensure that any amendments to Annex B "System specific guidelines for Inmarsat-C" of the Inmarsat design and installation guidelines be agreed with the Organization prior to their implementation;
4. REQUESTS the Maritime Safety Committee to ensure that any proposed amendments to this resolution be agreed with IMSO prior to their adoption;
5. RECOMMENDS Governments to ensure that EGC equipment:
  - .1 if installed on or after [1 July 2012], conforms to performance standards not inferior to those specified in the annex to the present resolution; and
  - .2 if installed before [1 July 2012], conforms to performance standards not inferior to those specified in the Annex to resolution A.664(16).

## ANNEX

### RECOMMENDATION ON REVISED PERFORMANCE STANDARDS FOR ENHANCED GROUP CALL (EGC) EQUIPMENT

#### 1 INTRODUCTION

1.1 The EGC equipment to be used in the GMDSS should comply with the general requirements set out in Assembly resolution A.694(17); relevant IEC standards (IEC 61097-4 and IEC 60945) and the following minimum performance requirements.

1.2 The equipment should be capable of producing a printed copy of received information. Received EGC messages may be stored for later printing with an indication to the operator that the message has been received, except for the vital messages referred to in paragraph 3.2 which should be printed out upon receipt.

1.3 The EGC installation may be either separate or combined with other installations.<sup>1</sup>

#### 2 TECHNICAL REQUIREMENTS

The equipment should be type-approved by Inmarsat and should comply with the environmental conditions and electromagnetic compatibility requirements specified in IEC 60945.

#### 3 OPERATION

3.1 The equipment should provide a visual indication that the ship's position has not been updated during the last 12 hours. It should only be possible to reset this indication by revalidating the ship's position.

3.2 Means should be provided to enter the ship's position and current and planned NAVAREA/METAREA codes manually so that area group calls can be received. Means should also be provided to enter current and planned coastal warning service coverage areas and different classes of messages. Optionally, the ship's position, as determined by the navigational equipment, may be entered automatically and the NAVAREA/METAREA code automatically derived therefrom.

3.3 Provision should be made for a specific aural alarm and visual indication at the position from which the ship is normally navigated, to indicate receipt of a distress or urgency priority EGC message. It should not be possible to disable this alarm and it should only be possible to reset it manually and only from the position where the message is displayed or printed.

3.4 The equipment should indicate when it is not correctly tuned or synchronized to the EGC carrier.

3.5 Any message should be printed regardless of the character error rate of its reception. The equipment should print a low line mark if a character is received corrupted.

3.6 Acceptance or rejection of service codes<sup>2</sup> should be under the operator's control except that equipment should always receive navigational warnings, meteorological warnings

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<sup>1</sup> Elements of other installations, e.g., the antenna, low noise amplifier and down-converter of the ship earth station, may be shared for the reception of EGC messages.

<sup>2</sup> The meaning of the service codes is in accordance with the Recommendation ITU-R M.540-2 1990, Operational and technical characteristics for an automated direct-printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships.  
Note: ISO 2022, "Information technology – Character code structure and extension techniques" standards.



and forecasts, search and rescue information and shore-to-ship distress alerts, which are directed to a fixed or absolute geographical area within which the ship is operating.

3.7 Means should be provided to prevent the re-printing of a message once it has been received without error.

3.8 The printing device should be capable of printing at least the standard International Alphabet Number 5 (IA5) character set. Other character sets are optionally used according to ISO 2022<sup>3</sup> standards or CCITT Recommendation T.61.

3.9 The printing device should be able to print at least 40 characters per line.

3.10 The signal processor and printing device should ensure that if a word cannot be accommodated in full on one line, it should be transferred to the next line. The printing device should automatically feed five lines after completing the printed messages.

3.11 A local audible alarm should be sounded to give advanced warning of the printing device "paper low" condition. It should not be possible to confuse the sound of the "paper low" alarm with that of the distress or urgency alarm caused by the reception of a distress or urgency priority message.

#### **4 SOURCES OF ENERGY**

4.1 The EGC equipment should normally be powered from the ship's main source of electrical energy. In addition, it should be possible to operate the EGC equipment, and all other equipment necessary for its normal functioning, from an alternative source of energy.

4.2 Changing from one source of supply to another, or any interruption of up to 60 seconds' duration of the supply of electrical energy, should not require the equipment to be manually re-initialized and should not result in loss of received messages stored in the memory.

#### **5 ANTENNA SITING**

5.1 Where an omni-directional antenna is used, it is desirable that the antenna be sited in such a position that no obstacle likely to degrade significantly the performance of the equipment appears in the fore and aft directions down to  $-5^{\circ}$  and in the port and starboard directions down to  $-15^{\circ}$ .

5.2 Where a stabilized directive antenna is used, it is desirable that the antenna be sited in such a position that no obstacle likely to degrade significantly the performance of the equipment appears in any azimuth down to  $-5^{\circ}$ .

5.3 For omni-directional antennas, objects, especially those within 1 m of the antenna, which cause a shadow sector of greater than  $2^{\circ}$ , are likely to degrade significantly the performance of the equipment.

5.4 For directive antennas, objects, especially those within 10 m of the antenna, which cause a shadow sector of greater than  $6^{\circ}$ , are likely to degrade significantly the performance of the equipment.

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<sup>3</sup> Note: ISO 2022, "Information technology – Character code structure and extension techniques" standards.



## ANNEX 5

### DRAFT IMO POSITION ON WRC-12 AGENDA ITEMS CONCERNING MATTERS RELATING TO MARITIME SERVICES

**Note:** This document contains the draft IMO Position, as agreed upon at the fourteenth session of IMO's Sub-Committee on Radiocommunications and Search and Rescue (COMSAR 14), which took place from 8 to 12 March 2010.

It should be noted that further work on the draft IMO Position would be carried out at the sixth session of the Joint IMO/ITU Experts Group, scheduled to take place from 14 to 16 September 2010, at IMO Headquarters, London. The Supplementary advice on the IMO position, as developed at the Joint IMO/ITU Experts Group and approved by the eighty-eighth session of the Maritime Safety Committee (MSC 88), scheduled to take place from 1 to 10 December 2010, would be merged with the draft IMO position as set out in this document. The combined document would be submitted to the second session of ITU's Conference Preparatory Meeting (CPM), to take place from 14 to 25 February 2011.

#### Agenda item 1.2

1.2 *taking into account the ITU-R studies carried out in accordance with Resolution 951 (Rev.WRC-07), to take appropriate action with a view to enhancing the international regulatory framework;*

##### Background

This agenda item was adopted in order to develop concepts and procedures for enhancing the Radio Regulations to meet the demands of current, emerging and future radio applications, while taking into account existing services and usage. The studies related to the above task shall be limited to general allocation or procedural issues relating to general spectrum management solutions, such as those in Annex 1 of Resolution 951 (WRC-07), in line with the process in Annex 2 of the same Resolution. The objectives to be achieved by this agenda item are outlined in the *considering, noting, recognizing*, etc., of Resolution 951 (WRC-07).

##### IMO position

Ensure that measures taken at WRC-12 under Agenda item 1.2 do not have an adverse impact on the protection of spectrum currently in use for the maritime services.

#### Agenda item 1.3

1.3 *to consider spectrum requirements and possible regulatory actions, including allocations, in order to support the safe operation of unmanned aircraft systems (UAS), based on the results of ITU-R studies, in accordance with Resolution 421 (WRC-07);*

### **Background**

This agenda item is looking for spectrum requirements for command and control and for purposes of sense and avoid of UAS. A significant increase of the worldwide use of UAS is expected in the near future. The seamless operation of unmanned aircraft (UA) with piloted aircraft in non-segregated airspaces is becoming vital for the further development of UA applications that will fill many diverse requirements. It is, for instance, expected that these types of systems could also be employed for SAR in future. Therefore, globally harmonized spectrum would be required to satisfy this need.

### **IMO position**

Ensure that any allocation would take into account the interests of the maritime services.

## **Agenda item 1.5**

1.5 *to consider worldwide/regional harmonization of spectrum for electronic news gathering (ENG), taking into account the results of ITU-R studies, in accordance with Resolution 954 (WRC-07);*

### **Background**

Use of radio equipment by services ancillary to broadcasting (SAB), commonly described as electronic news gathering (ENG), operating terrestrially in appropriate fixed and mobile service bands is an element in the coverage of public events in all countries where the public interest is served by live news coverage of breaking events, especially disasters or potential disasters affecting public safety. There is increasing demand from the audiences for the quantity and quality of coverage of sound and television ENG and the similar applications of outside broadcasting (OB) and electronic field production (EFP). Under this agenda item a great number of bands are under consideration.

### **IMO position**

Ensure that any allocation would not affect the interests of the maritime services.

## **Agenda item 1.7**

1.7 *to consider the results of ITU-R studies in accordance with Resolution 222 (Rev.WRC-07) in order to ensure long-term spectrum availability and access to spectrum necessary to meet requirements for the aeronautical mobile-satellite (R) service, and to take appropriate action on this subject, while retaining unchanged the generic allocation to the mobile-satellite service in the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz;*

### **Background**

Resolution 222 (Rev.WRC-07) invites the ITU-R to study, as a matter of urgency, and among other things, the existing and future spectrum requirements of the aeronautical mobile-satellite (R) service. For that purpose, spectrum requirements have been estimated using certain methodologies. The results, contained in the draft new Report ITU-R M.[AMS(R)S SPECTRUM ESTIMATE], are derived from the aviation needs and existing and future satellite systems characteristics.

Resolution **222 (Rev.WRC-07)** further invites ITU-R that if studies indicate that these requirements cannot be met, studies should be carried out on existing MSS allocations or possible, new allocations only for satisfying the requirements of the aeronautical mobile satellite (R) service for communications with priority categories 1 to 6 of Article **44**, for global and seamless operation of civil aviation taking into account the need to avoid undue constraints on existing systems and other services.

Appendix **15** (Rev.WRC-07), list "Frequencies for distress and safety communications for the GMDSS", indicates that in addition to the availability for routine non-safety purposes, the bands 1530-1544 MHz (space-to-Earth) and 1626.5-1645.5 MHz (Earth-to-space) are used for distress and safety purposes in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in these bands.

### **IMO position**

In meeting the long-term requirements of the AMS(R)S within the existing allocations, 'No Change' should be made to the allocation or regulatory and operational provisions of the designated bands 1530-1544 MHz (space-to-Earth) and 1626.5-1645.5 MHz (Earth-to-space) available for distress and safety purposes in the maritime mobile-satellite service as well as for routine non-safety purposes, in which bands GMDSS distress, urgency and safety communications have priority (in particular No. **5.353A** and Table 15-2 of Appendix **15**). In this regard it should be noted that the L-band is currently already heavily used and increased usage is anticipated, taking into account that additional operators might be allowed to provide GMDSS services in the near future.

### **Agenda item 1.9**

1.9 *to revise frequencies and channelling arrangements of Appendix 17 to the Radio Regulations, in accordance with Resolution **351 (Rev.WRC-07)**, in order to implement new digital technologies for the maritime mobile service;*

#### **Background**

Appendix 17 outlines the frequencies and channelling arrangements in the high-frequency bands for the maritime mobile service (MMS). During WRC-03, changes were made to Appendix 17 to allow for the use of digital technology on a no-protection, non-interference basis in certain bands (footnote "p").

There is a requirement within the maritime mobile service for improving the utility of the present spectrum in the high-frequency bands for the maritime mobile service by allowing new digital technologies to use certain parts of Appendix **17** to provide additional flexibility and efficiency.

IMO has considered the potential for modern digital data exchange systems to replace NBDP at COMSAR 9, COMSAR 12 and COMSAR 13 and has noted that only certain core NBDP functions at HF need to be retained. These include the provision of communications in Sea area A4, particularly for MSI, and subsequent communications by NBDP following a DSC alert.

ITU has also been studying maritime digital data exchange systems for several years and has developed Recommendation ITU-R M.1798, "*Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service*". This Recommendation, approved in April 2007 and amended in 2009, describes 4 types of HF digital data exchange systems, 2 of which are already in widespread use.

Resolution 351 (revised WRC-07) invites WRC-12 to consider necessary changes and calls for studies to identify any necessary modifications to the frequency table contained within Appendix 17; to identify any necessary transition arrangements for the introduction of new digital technologies and any consequential changes to Appendix 17 and to recommend how digital technologies can be introduced whilst ensuring compliance with distress and safety requirements.

### **IMO position**

- 1 The frequencies currently allocated for use by the GMDSS need to be retained because IMO has no intention to change the requirements for NBDP and DSC at this time and these requirements should be retained in Appendix 15.
- 2 The frequencies for MSI within Appendix 15 need to be retained, recognizing their essential role in the promulgation of MSI in Sea Area A4.
- 3 It has to be noted that the spectrum that would have to remain dedicated to NBDP and DSC in order to support the functional requirements of distress communications and the promulgation of MSI, only amounted to a small fraction of the Appendix 17 bands, the major portion of which would then become available for new digital technologies for the maritime mobile service.
- 4 The frequency bands allocated for Morse may still be used for technologies within the maritime community giving in the same time the possibility for the Administrations who wish to continue to use them to do so without claiming protection.
- 5 IMO recognizes that the channel bandwidths within Appendix 17 are only adequate for narrow band systems. Therefore IMO supports the creation of wide band channels within Appendix 17 for new technologies.
- 6 IMO recognizes that the method presented in the draft CPM Report to date (Annex 6 to Document 5B/417), is consistent with the above considerations.

### **Agenda item 1.10**

1.10 *to examine the frequency allocation requirements with regard to operation of safety systems for ships and ports and associated regulatory provisions, in accordance with Resolution 357 (WRC-07);*

#### **Background**

There is a global requirement for application of radiocommunications to enhance ships and ports safety and security.

It is noted that the agenda item refers to safety systems, but that Resolution 357 (WRC-07) refers to safety and security systems. In the context of IMO the term safety has to be interpreted as the safe movement and integrity of ships and security to ensure the provision of protection from threats.

ITU-R has performed studies on the following topics, considered in the framework of ITU-R to be incorporated within the Agenda item.

- 1       Regulatory status of AIS 1 and 2  
IMO has raised the issue of the regulatory status of the AIS 1 and AIS 2 frequencies, by a liaison statement sent to ITU-R WP 5B in March 2009. In essence operations on the frequencies AIS 1 and AIS 2 should be regarded as supporting safety functions not merely when used in search and rescue operations.
- 2       Satellite-AIS  
Additional AIS channel or channels may be required to accommodate global ship-tracking capabilities and to enhance ships' safety and security.
- 3       HF Data  
The HF topic is covered under Resolution 351 (Rev. WRC-07) and dealt with under Agenda Item 1.9.
- 4       Cargo and Container Identification system (CCIS)  
Matters to be considered are management and identification of cargo; support for the electronic reporting requirements of the World Customs Organization (WCO); expedited transfer of pre-screened shipments; coordination of sensors and monitors; rapid detection of dangerous unauthorized or compromised shipments; and, enhanced interaction with both local and national public protection resources. Some Administrations as well as the International Standards Organization (ISO) are studying the spectrum and standardization requirements for a comprehensive intermodal supply chain integrity environment; some component technologies, such as, electronic seals used on freight containers, existing sensors and miscellaneous RFID. The requirement for CCIS is to aggregate various technologies and provide a secure communication gateway.
- 5       Broadcasts of safety and security information to and from ships and ports  
IMO and IHO recognize that the existing MSI services have limited capacity and will include only the promulgation of changes to the security levels in major ports and coastal waters. If additional security-related information needs to be promulgated, this will have to be transmitted using other systems. Therefore there may be a requirement for additional spectrum to be allocated for this purpose.
- 6       Monitoring the evolution of the concept of e-navigation and consequent consideration of related radio regulatory issues  
Definition of e-navigation: "E-navigation is the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment".

IMO is developing an e-navigation strategy implementation plan and has not identified definitive requirements yet. However, initial consideration shows that e-navigation would require a stable broadband VHF, MF, HF and satellite data communications system.

- 7 VHF Data (Resolution 342 (Rev.WRC-2000))  
Resolution 342 which is referred to in Resolution 357 considers the use of new technologies for the maritime mobile service in the band 156-174 MHz and the consequential revision of Appendix 18.
- 8 Port operations, for ship/port security and maritime safety systems, (Resolves 1 of Resolution 357 (WRC-07))  
A number of administrations have decommissioned VHF public correspondence networks and transmission sites. Also some Administrations have seen the demand for single frequencies for port operations exceed the current supply. The matter to be considered is the global implementation of a number of single frequency channels that are derived from two frequency channels. This would be for port operation use.
- 9 Maritime Mesh Networks  
Maritime mesh network technology could be developed by using existing spectrum efficient radio systems and could be used in many shipping lanes opportunistically to provide a means to disseminate hydrographical, meteorological and navigational information and facilitating communications, including data exchange, among ship to ship, ship to shore, shore to ship, shore to shore and other uses.

#### **IMO position**

- 1 Ensure that any allocation under Agenda item 1.10 would not affect the frequencies used by the GMDSS.
- 2 Regarding the regulatory status of AIS 1 and 2, IMO requests that regulatory protection is provided for these frequencies, taking into account that operations on these frequencies should be regarded as having a safety function not merely when used in search and rescue operations.
- 3 IMO has taken note of the result of the studies which have led to the revision of ITU-R M.1371 (currently version 3) in order to introduce a new message 27 dedicated to the satellite detection of AIS messages. Additionally, the new Report ITU.R M.[SAT-AIS] gives the justification for the need for new frequencies for the AIS satellite detection. Channels 75 and 76 have been identified and the protection of channel 16 has been confirmed.  
IMO supports a secondary allocation to the mobile satellite service (Earth-to-space) relating to the frequencies of Channel 75 and 76 of Appendix 18. IMO supports the modification of Appendix 18 and Article 5 to reflect this new allocation. However, IMO does not make any commitment regarding future requirements on the use of satellite detection of AIS.
- 4 IMO encourages ITU to identify technical solutions and spectrum requirements for these capabilities which will be suitable for the entire intermodal supply chain whilst not adversely affecting the complex maritime mobile spectrum environment. It is noted that this cannot be accomplished in the regime of SRD/RFID.



- 5 Taking into account (1) the possible requirement in future for the promulgation of additional security-related information, (2) the developments in IMO with regard to e-navigation and (3) a possible review of the elements and procedures of the GMDSS, IMO supports the future use of the band 415 kHz – 526.5 kHz for safety and security related systems, recognizing that this band is allocated on a world-wide basis for the use by the maritime community.
- 6 Initial consideration by IMO technical bodies have identified that e-navigation could not be deployed without additional frequency allocations for these advanced maritime systems. Based on respective future studies both in IMO and ITU, spectrum requirements will be refined and validated.
- 7 IMO supports a review of Appendix 18 for fulfilling additional requirements for VHF data services, if clearly identified at this stage.
- 8 Regarding the identification of more channels in Appendix 18 for availability as both single-frequency and two-frequency channels, IMO has not yet finalized its position.
- 9 IMO supports the identification of VHF bands for new usage for the maritime community, recognizing that these bands need to be within the range of Appendix 18 frequencies which means that the current equipment is fully tuneable on these bands.
- 10 IMO has noted with interest developments in mesh network technology.

#### **Agenda item 1.14**

1.14 *to consider requirements for new applications in the radiolocation service and review allocations or regulatory provisions for implementation of the radiolocation service in the range 30-300 MHz, in accordance with Resolution 611 (WRC-07);*

#### **Background**

Development of new applications in the radiolocation service closely related to significant growth of the number of space objects including artificial debris. These applications are planned for use of aerospace surveillance and tracking the launch and manoeuvring of spacecrafts. They are based on design of effective and economical radars that can be implemented in the VHF range.

Currently the only primary allocation is in Region 2 in the frequency band 138-144 MHz. This agenda item was adopted at WRC-07 in order to address existing lack of spectrum available for radiolocation service in VHF band required for large-scale air and space surveillance operations in accordance with Resolution 611 (WRC-07).

#### **IMO position**

Ensure that any allocation made as a result of this agenda item does not affect the operation of existing and planned maritime systems that operate in or adjacent to the frequency range 30-300 MHz. These maritime systems include distress, safety and AIS related operations on search and rescue aircraft and other high altitude craft.

### **Agenda item 1.15**

1.15 *to consider possible allocations in the range 3-50 MHz to the radiolocation service for oceanographic radar applications, taking into account the results of ITU-R studies, in accordance with Resolution 612 (WRC-07);*

#### **Background**

WRC-12 Agenda item 1.15 calls for the consideration of the creation of radiolocation allocations in the 3 to 50 MHz range. These allocations will be used for the operation of oceanographic radars that monitor the sea surface for wave heights, currents and tracking of large objects. These radars will have an operational range in the order of 200 km. Oceanographic radars have been operating in the 3 to 50 MHz range for more than 30 years on an experimental, non-interference basis. Increased reliance on the data from these systems for maritime safety, oceanographic, climatological, meteorological and disaster response operations have driven the need to improve the regulatory status of the spectrum which is used by oceanographic radars while taking into account the protection of existing allocated services. WRC-12 Agenda item 1.15 was established with the understanding that spectrum would be allocated on a shared basis.

#### **IMO position**

It should be noted that HF ocean sensing radar capable of measuring wave and current information, including detecting Tsunami waves and assisting authorities in search and rescue planning, benefits the safety of life.

Ensure that any allocation made as a result of this agenda item does not affect the operation of existing and planned maritime systems that operate in or adjacent to the frequency range 3 to 50 MHz.

### **Agenda item 1.17**

1.17 *to consider results of sharing studies between the mobile service and other services in the band 790-862 MHz in Regions 1 and 3, in accordance with Resolution 749 (WRC-07), to ensure the adequate protection of services to which this frequency band is allocated, and take appropriate action;*

#### **Background**

The band could have application for new maritime purposes. This band has good propagation characteristics and could have application for coastal maritime information systems.

#### **IMO position**

IMO wishes to consider maritime use in this mobile band.

### **Agenda item 1.18**

1.18 *to consider extending the existing primary and secondary radiodetermination-satellite service (space-to-Earth) allocations in the band 2 483.5-2 500 MHz in order to make a global primary allocation, and to determine the necessary regulatory provisions based upon the results of ITU-R studies, in accordance with Resolution 613 (WRC-07);*

#### **Background**

This band is intended to facilitate navigation signals for existing RDSS systems in this band to be used globally and to support potential signals from new RDSS systems, which because of this band's proximity to mobile service allocations above 2.5 GHz, may offer attractive synergies with terrestrial mobile systems due to improved antenna efficiencies and use of shared hardware not possible with other RNSS bands.

#### **IMO position**

The primary global allocation for the radiodetermination-satellite service (space-to-Earth) is supported because the system may have application for the precise positioning of ships.

### **Agenda item 1.19**

1.19 *to consider regulatory measures and their relevance, in order to enable the introduction of software-defined radio and cognitive radio systems, based on the results of ITU-R studies, in accordance with Resolution 956 (WRC-07);*

#### **Background**

Software defined radios (SDR) and cognitive radio systems (CRS) are technologies, which may offer better spectrum efficiency and flexible spectrum access. Radiocommunication systems using applications of SDR are already being fielded. Cognitive radio systems, whereby features of cognition based on artificial intelligence are used, are being researched and applications are still under trial.

Fundamental to the understanding of this topic is the development of acceptable definitions of SDR and CRS, since several exist, and this will be addressed in various studies within ITU.

IMO notes that these technologies should not require any modifications to the Radio Regulations.

IMO expects SDR technology in future maritime mobile service systems. Any implementation of SDR needs to ensure there will be no adverse effects to the maritime safety services and the interests of the maritime services.

#### **IMO position**

IMO in principle supports the efforts of the ITU to obtain spectrum efficiency, and recognizes the potential wide application. IMO seeks to ensure that any implementation plan for software defined radio or cognitive radio systems will not adversely affect the interests of the maritime services.

IMO considers that, given the safety nature of maritime services, IMO and Administrations should be involved in any decisions to implement CRS and/or SDR systems which could have the potential to impact frequency bands used by the maritime services.

## **Agenda item 1.22**

1.22 *to examine the effect of emissions from short-range devices on radiocommunication services, in accordance with Resolution 953 (WRC-07);*

### **Background**

This agenda item seeks to study emissions from short-range devices (SRD)s, in particular radio frequency identification (RFID), inside and outside the frequency bands designated in the radio regulations for industrial, scientific and medical (ISM) applications to ensure adequate protection of radiocommunication services.

The scope of Agenda Item 1.22 appears to be very broad which is therefore of concern to the maritime community as it is not clear whether maritime bands will be affected. From the wording of the resolution, it is uncertain whether it seeks to find new non-ISM bands for SRDs or to make regulatory provisions to protect other services including maritime services from SRDs.

Furthermore, in ITU-R the term SRD is largely undefined. For example, Recommendation **SM.1538-2**, "for the purpose of the Recommendation" defines SRDs as "intended to cover radio transmitters which provide either unidirectional or bidirectional communication and which have low capability of causing interference to other radio equipment".

### **IMO position**

Oppose operation of short-range devices in any bands allocated for use by the maritime services.

## **Agenda item 1.23**

1.23 *to consider an allocation of about 15 kHz in parts of the band 415-526.5 kHz to the amateur service on a secondary basis, taking into account the need to protect existing services;*

### **Background**

WRC-07 adopted Agenda item 1.23 for WRC-12, to consider an allocation of about 15 kHz in parts of the band 415-526.5 kHz to the amateur service on a secondary basis, taking into account the need to protect existing services. This part of the spectrum is interesting to radio amateurs because of its unique propagation properties.

The band 415 to 526.5 kHz is allocated on a primary basis to the maritime mobile service. Administrations authorizing the use of frequencies in the band 495 to 505 kHz by services other than the maritime mobile service shall ensure that no harmful interference is caused to the maritime mobile service.

## **IMO position**

The allocations for the NAVTEX Service at 490 kHz and 518 kHz will remain important for maritime purposes and should not be changed.

With respect to the band 415 kHz to 526.5 kHz, under Agenda item 1.10, IMO supports the future use of the band 415 kHz to 526.5 kHz for safety- and security-related systems, recognizing that this band is allocated on a worldwide basis for use by the maritime community. Due to the technology today, these systems will not be operated manually and automatic transmissions can be carried out at any time, if required. Interference by transmissions from services with secondary status would prevent reception of information from the primary user.

Therefore, IMO has concerns that, based on existing studies, a secondary allocation for the amateur service will cause harmful interference and recommends that this allocation is not made

## **Agenda item 2**

2 *to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with Resolution 28 (Rev.WRC-03), and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in Annex 1 to Resolution 27 (Rev.WRC-07);*

### **Background**

There are a number of Recommendations incorporated by reference in the Radio Regulations. IMO has reviewed all these Recommendations.

### **IMO position**

- 1 IMO has studied the Recommendations of relevance and commented on each as given at annex 1.
- 2 Incorporation by reference is of importance to IMO because of the close relationship between many of the ITU-R Recommendations related to GMDSS equipment and its operation, to IMO performance standards.
- 3 IMO requests early indication of any changes proposed by ITU to the mechanism of incorporation by reference and to the list of incorporated Recommendations.

## **Agenda item 4**

4 *in accordance with Resolution 95 (Rev.WRC-07), to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation;*

### **Background**

There are number of Resolutions and Recommendations of previous conferences which are of interest of IMO. IMO has reviewed all these Resolutions and Recommendations.

### **IMO position**

IMO has studied the Resolutions and Recommendations of relevance and commented on each as given at annex 2.

### **Agenda item 8.2**

8.2 *to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution 806 (WRC-07);*

### **Background**

TBD

### **IMO position**

TBD

ANNEX 1

RECOMMENDATION ITU-R M.476-5

Direct-printing telegraph equipment in the maritime mobile service\*

(Question ITU-R 5/8)

(1970-1974-1978-1982-1986-1995)

*No longer needed by IMO. Probably no longer needed by the maritime community.*

RECOMMENDATION ITU-R M.489-2

Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz

(1974-1978-1995)

*Needed by IMO to support the carriage requirements of SOLAS IV and needed by the maritime community in general. Will likely be needed into the foreseeable future.*

RECOMMENDATION ITU-R M.492-6

Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service

(Question ITU-R 5/8)

(1974-1978-1982-1986-1990-1992-1995)

*Currently needed by IMO to support the NBDP carriage requirement in SOLAS IV although the system is little used.*

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\* This Recommendation was retained in 1995 and afterwards in order to provide information concerning existing equipment, but was expected to be deleted at a later date. New equipment should conform to Recommendation ITU-R M.625 which provides for the exchange of identification signals, for the use of 9-digit maritime mobile service identification signals and for compatibility with existing equipment built in accordance with this Recommendation.

RECOMMENDATION ITU-R M.541-9

Operational procedures for the use of digital selective-calling equipment  
in the maritime mobile service

(Question ITU-R 9/8)

(1978-1982-1986-1990-1992-1994-1995-1996-1997)

*Needed by IMO. Likely to be needed into the foreseeable future.*

RECOMMENDATION ITU-R M.585-4

Assignment and use of maritime mobile service identities

(1982-1986-1990-2003-2007)

*Expected to be replaced by M.585-5, approved by SG 5 during this study period.  
Needed by IMO. Likely to be needed into the foreseeable future.*

RECOMMENDATION ITU-R M.625-3

Direct-printing telegraph equipment employing automatic identification  
in the maritime mobile service\*\*

(Question ITU-R 5/8)

(1986-1990-1992-1995)

*Currently needed by IMO to support the NBDP carriage requirement in SOLAS IV although  
the system is little used.*

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\*\* Newly developed equipment should conform to the present Recommendation which provides for compatibility with existing equipment built in accordance with Recommendation ITU-R M.476.



RECOMMENDATION ITU-R M.690-1

Technical characteristics of emergency position-indicating radio beacons (EPIRBs) operating on the carrier frequencies of 121.5 MHz and 243 MHz

(Question ITU-R 31/8)

(1990-1995)

*Required by IMO to define the homing signal characteristics for the satellite EPIRB required by SOLAS IV. Likely to be used by the maritime community for some time to come for EPIRBs and man overboard devices. Cospas-Sarsat provided a service which detected 121.5 MHz signals by satellite until 2009.*

RECOMMENDATION ITU-R M.1171

Radiotelephony procedures in the maritime mobile service

(1995)

*Required by IMO and the maritime community as long as coast stations offer a public correspondence service. The number of such coast stations is however declining.*

RECOMMENDATION ITU-R M.1172

Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service

(1995)

*No longer required by IMO which uses the Standard Marine Communication Phrases but required by the maritime community.*

RECOMMENDATION ITU-R M.1173

Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz

(1995)

*Required by IMO and the maritime community and likely to be required into the foreseeable future.*

RECOMMENDATION ITU-R M.1174-2

Technical characteristics of equipment used for onboard vessel communications in the bands  
between 450 and 470 MHz

(1995-1998)

*Required by the maritime community and useful to IMO.*

RECOMMENDATION ITU-R M.1638

Characteristics of and protection criteria for sharing studies for radiolocation, aeronautical  
radionavigation and meteorological radars operating in the frequency bands  
between 5 250 and 5 850 MHz

(2003)

*Not required by IMO but may be required by the maritime community where radars in this  
band are used.*

ANNEX 2

RESOLUTION 13 (REV.WRC-97)

Formation of call signs and allocation of new international series

*Retain.*

RESOLUTION 18 (REV.WRC-07)

Relating to the procedure for identifying and announcing the position of ships and aircraft of States not parties to an armed conflict

*Retain.*

RESOLUTION 205 (REV.MOB-87)

Protection of the band 406-406.1 MHz allocated to the mobile-satellite service

*Retain.*

RESOLUTION 207 (REV.WRC-03)

Measures to address unauthorized use of and interference to frequencies in the bands allocated to the maritime mobile service and to the aeronautical mobile (R) service

*Retain.*

RESOLUTION 222 (REV.WRC-07)

Use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite service

*Subject of Agenda item 1.7.*

RESOLUTION 331 (REV.WRC-07)

Transition to the Global Maritime Distress and Safety System (GMDSS)

*Retain.*

RESOLUTION 339 (REV.WRC-07)

Coordination of NAVTEX services

*Retain.*

RESOLUTION 342 (REV.WRC-2000)

New technologies to provide improved efficiency in the use of the  
band 156-174 MHz by stations in the maritime mobile service

*Retain.*

RESOLUTION 343 (WRC-97)

Maritime certification for personnel of ship stations and ship earth stations  
for which a radio installation is not compulsory

*Retain to ensure common operations between Convention and non-Convention ships.*

RESOLUTION 344 (REV.WRC-03)

Management of the maritime mobile service identity  
numbering resource

*Retain and review in 2015 as there is now no evidence of lack of capacity of MMSIs.*

RESOLUTION 345 (WRC-97)

Operation of Global Maritime Distress and Safety System  
equipment on and assignment of maritime mobile service  
identities to non-compulsory fitted vessels

*Revise. Resolves 1 has been carried out through Res. 340. Resolves 2 has been carried  
out through Res. 340, Res. 344 and Agenda item 1.16. In Resolves 2 and 3, Res. 344  
removed ITU-T role.*

RESOLUTION 349 (WRC-97)

Operational procedures for cancelling false distress alerts in the  
Global Maritime Distress and Safety System

*Retain.*

RESOLUTION 351 (REV.WRC-07)

Review of the frequency and channel arrangements in the MF and HF bands allocated to the maritime mobile service with a view to improving efficiency by considering the use of new digital technology by the maritime mobile service

*Subject of Agenda item 1.9.*

RESOLUTION 352 (WRC-03)

Use of the carrier frequencies 12 290 kHz and 16 420 kHz for safety-related calling to and from rescue coordination centres

*Retain.*

RESOLUTION 354 (WRC-07)

Distress and safety radiotelephony procedures for 2 182 kHz

*Retain.*

RESOLUTION 355 (WRC-07)

Content, formats and periodicity of the maritime-related service publications

SUP

*IMO expects that this resolution will be suppressed at this Conference, as the actions are expected to be completed by 2010.*

RESOLUTION 356 (WRC-07)

ITU maritime service information registration

*Retain.*

RESOLUTION 357 (WRC-07)

Consideration of regulatory provisions and spectrum allocations for use by enhanced maritime safety systems for ships and ports

TBD

*IMO expects that this resolution will be suppressed at this Conference, assuming the corresponding Agenda item 1.10 is completed.*

RESOLUTION 611 (WRC-07)

Use of portion of the VHF band by the radiolocation service

*IMO expects that this resolution will be suppressed at this Conference, assuming the corresponding Agenda item 1.14 is completed.*

RESOLUTION 612 (WRC-07)

Use of the radiolocation service between 3 and 50 MHz to support high-frequency oceanographic radar operations

*IMO expects that this resolution will be suppressed at this Conference, assuming the corresponding Agenda item 1.15 is completed.*

RECOMMENDATION 7 (REV.WRC-97)

Adoption of standard forms for ship station and ship earth station licences and aircraft station and aircraft earth station licences

*Retain.*

RECOMMENDATION 37 (WRC-03)

Operational procedures for earth stations on board vessels (ESVs) use

*Retain.*

RECOMMENDATION 316 (REV.Mob-87)

Use of ship earth stations within harbours and other waters under national jurisdiction

*Retain.*

\*\*\*

## ANNEX 6

### LIAISON STATEMENT TO ITU-R WORKING PARTY 5B

#### RECOMMENDATION ITU-R M.493-13 ON DIGITAL SELECTIVE CALLING SYSTEM FOR USE IN THE MARITIME MOBILE SERVICE AND MMSI NUMBERING SYSTEMS FOR HAND HELD VHF DSC RADIOS

1 IMO would like to thank ITU-R WP 5B for the development of a new version of Recommendation ITU-R M.493 and also the liaison statement contained in annex 30 of document 5B/417 proposing a revised format for MMSI numbering for handheld DSC VHF radios.

#### **Digital Selective Calling System for use in the Maritime Mobile Service**

2 The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR), at its fourteenth session (8 to 12 March 2010) studied the latest revision to the Recommendation on Digital Selective Calling System for use in the Maritime Mobile Service (Recommendation ITU-R M.493-13). It was noted that the option of transmitting urgency and safety calls at MF/HF to "all ships" is not available and that DSC urgency and safety announcements are forced to a geographic area call only. This operation is inconsistent with all existing DSC radios in service which do permit an "all ships" call. The situation that will arise is that an "all ships" call transmitted by an existing radio will not be received by a radio adopting this new Recommendation.

3 Moreover the training provided to operators of GMDSS stations includes training for the option for the operator to make a decision on whether to restrict the call to a geographic area or send the call to "all ships" and select the appropriate frequency for transmitting the message. The lack of the "all ships" facility therefore creates an incompatibility with existing ships. This will cause confusion to operators and result in urgency and safety calls not being received.

4 On the other hand, the COMSAR Sub-Committee also noted that permitting "all ships" calls on MF/HF with an urgency or safety priority will cause alarming to return to a large number of ships.

5 ITU-R is requested to address this matter by considering, after review, ITU-R M 493-13 at the earliest opportunity and as an interim measure ITU-R consider, after review, that MF/HF equipment continues to be capable of permitting urgency and safety calls to be received for "all ships" and those in a geographical area.

6 ITU-R is also kindly requested to check other aspects of ITU-R M.493-13 to ensure compatibility with existing equipment. Digital Selective Calling is a well-established system of some 30 years standing and any changes introduced at this time are liable to cause confusion to the detriment of safety at sea.

#### **MMSI Numbering Systems for Hand Held VHF DSC Radios**

7 The COMSAR Sub-Committee also considered the liaison statement contained in annex 30 of document 5B/417 and considers the optimal format to be PMIDXXXXX where P=8.

8 Working Party 5B is however requested to consider the impact of this new number format on coast stations and on the ability of DSC equipment to receive "all ships" calls.

9 The prefix 9 (P=9) is considered inappropriate due to its extensive use elsewhere.

10 With the proposal above, it would be possible to create a number with a maximum of 100 000 numbers per country code which, given the increasing adoption of DSC in handheld radios, may be insufficient.

11 Some Administrations expressed difficulty in implementing the proposed format and some Administrations had national arrangements already in place for handheld radios.

12 IMO recognizes that further considerations are necessary to address the issue:

- .1 where relevant, whether the VHF DSC hand held radio should be linked to the parent vessel through database administration;
- .2 the scope of the information that needs to be submitted to the ITU; and
- .3 amendment of Recommendation ITU-R M.585-5.

\*\*\*



## **ANNEX 7**

### **LIAISON STATEMENT TO ITU-R WORKING PARTY 5B**

#### **IMPLEMENTATION OF RESOLUTION 355 (WRC-07)**

1 IMO would like to thank ITU-R WP 5B for the liaison statement (Document 5B/417/Annex 32) on the implementation of Resolution 355 (WRC-07) dealing with the revision of the ITU Service Publications.

2 The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) considered the liaison statement at its fourteenth session (8 to 12 March 2010) and wishes to compliment ITU-R WP 5B on the successful outcome of the discussions on the implementation of Resolution 355, envisaged as a new Volume 1 of the Maritime Manual, as well as on the conclusions with regard to the content, format and periodicity of the new List IV (containing the List of Coast stations and Special Service Stations) and the new List V (containing the List of Ship stations and Maritime Mobile Service Identity Assignments).

3 The COMSAR Sub-Committee noted that in 2011 the new Lists IV and V will be published by the ITU Radiocommunication Bureau (BR) and recognized that it is crucial for the maritime community to have accurate and up-to-date information available for the safe transport of persons and goods. To this extent IMO Member Governments have been encouraged to regularly notify to the BR any modifications relating to the new Lists IV and V, taking also into account Article 20 of the Radio Regulations.

4 The COMSAR Sub-Committee noted further that by mid-2010 the ITU Radiocommunication Bureau (BR) will send out a Circular Letter to inform Administrations the details with regard to the implementation of the new Lists IV and V. IMO Member Governments have been invited to carefully note this Circular Letter when published and where necessary adapt their own internal procedures in order to comply adequately with requirements, relating to the new Lists IV and V.

\*\*\*



## ANNEX 8

### LIAISON STATEMENT TO ITU-R WORKING PARTY 5B

#### SPECIFICATIONS OF "MAN OVERBOARD" DEVICES

1 IMO would like to thank ITU-R for the opportunity to comment on the issue of specifications for "man overboard" devices.

2 The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) at its fourteenth session (8 to 12 March 2010) considered document ITU-R 5B/417/Annex 31 (COMSAR 14/4/4) and also took during its deliberations into account information given on the use of man overboard devices which can broadcast automated MAYDAY calls on VHF Channel 16 and DSC distress alerts on VHF Channel 70 (document COMSAR 14/INF.9).

3 The Sub-Committee provides the following information to ITU to assist it in its deliberations. COMSAR is of the view that the general operational requirements for "man overboard" devices are to:

- .1 provide immediate notification to the parent vessel relating to the man overboard incident;
- .2 provide a means of location to determine the position of the man overboard;
- .3 optionally provide a means of notifying vessels in the vicinity of the man overboard;
- .4 ensure that the integrity of the GMDSS is not jeopardized.

4 COMSAR noted that there are many applications for man overboard systems and probably no one solution is suitable to address all cases. Systems can be both closed loop (alerts limited to the parent vessel) and open loop (alerts to all stations in the vicinity) or a combination of these and may operate in either stand-by mode (transmission in the event of a man overboard) or polling mode (transmissions cease in the case of a man overboard incident).

5 COMSAR also noted that man overboard systems are available on the market that operate on a range of frequencies including internationally designated frequencies (e.g., GMDSS distress and safety frequencies, AIS channels or 121.5 MHz homing frequency).

6 COMSAR is of the view that the optimum operational requirements for "man overboard" devices using VHF DSC should include a GNSS receiver in order to ensure that a position of the man overboard is immediately available, thus facilitating recovery and minimizing the duration of repeated alerts. In addition these devices should:

*Within Sea Area A1:*

- inform the parent or other concerned ships via a **closed loop** transmission (addressed MMSIs or Group MMSI) transmission. The duly authorized person on board the parent ship would declare, if and when appropriate, a distress situation and alert all ships and SAR services as necessary.

*Outside Sea Area A1:*

- inform the parent or other concerned ships via an "**open loop**" transmission (via an "all ships" distress alert) and other ships in the area or SAR services.

NB: Requirements for devices not using DSC may be similar depending on the technological solution.

7 With regard to single handed operation of a vessel, the use of a 406 MHz PLB may be a suitable solution in such situations.

8 The COMSAR Sub-Committee is of the view that the advantages and disadvantages of the use of distress and safety frequencies and systems in handling man overboard incidents are as follows:

.1 Advantages in the case of a **closed loop** system:

- .1 the vessel best positioned to respond to the incident is immediately notified;
- .2 the use of a Group Call would permit notification of the incident to a dedicated Group;

.2 Advantages in the case of an **open loop** system:

- .1 ships and shore SAR services in the area will already be monitoring the distress frequency;
- .2 immediate indication to SAR services of a potential distress incident, thus ensuring rapid response;

.3 Disadvantages in the case of a **closed loop** system:

- .1 a potential delay in notifying SAR services;
- .2 method of alerting may not comply with certain provisions of the current ITU-R Recommendation M.493 or the Radio Regulation;
- .3 stringent need to programme the correct MMSIs into DSC controllers;

- .4 Disadvantages in the case of an **open loop** system:
- .1 burden on coast stations, ship stations and MRCC who will have to check each alert alarm, which will probably repeat several times for each man overboard device activated (noting that several people may be in the water at the same time following some types of incident);
  - .2 a potential increase of false alerts as a result of mis-activation;
  - .3 a cancellation/acknowledgement of DSC alerts is not possible;
  - .4 incorrect responses by well-intentioned operators in relaying the distress alert;
  - .5 a possible overload of distress and safety channels in congested areas and sea lanes which may impact the integrity of the Global Maritime Distress and Safety System, especially in Sea Area A1.

9 It should be noted that similar considerations could apply to offshore working environments such as petroleum installations.

10 It should also be noted that use of DSC and AIS technology will require use of MMSI resources.

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## ANNEX 9

### TERMS OF REFERENCE FOR THE JOINT IMO/ITU EXPERTS GROUP ON MARITIME RADIOCOMMUNICATION MATTERS

#### Purpose

To develop the future requirements for maritime radiocommunications taking into account the operational needs as defined by IMO and the regulatory needs as defined by ITU.

#### Structure

The experts group has been established from people active in IMO and ITU with a representative range of viewpoints.

Contact points:

IMO Secretariat	–	Mr. H. van der Graaf
ITU Secretariat	–	Mr. K. Bogens

The Secretariats of IMO and ITU will liaise with each other and interested Administrations to determine the optimum composition of the group, regarding representation of various interests, geographic distribution and efficiency of working. IMO is prepared to provide the group leader.

#### Terms of reference

The Joint IMO/ITU Experts Group on Maritime radiocommunication matters is instructed to:

- 1 consider the need for updating the draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services as approved by MSC 87 (12 to 21 May 2010) and
  - .1 propose necessary updates to the document in the light of developments in IMO and ITU; and
  - .2 formulate substantive material to support the development of proposals, by Member Governments of ITU, for agenda items for the next World Radiocommunication Conference (WRC-[16]);
- 2 prepare a Supplementary advice on the IMO position, as appropriate, for approval by MSC 88 (1 to 10 December 2010), with a view to merge it with the IMO position already approved by MSC 87 for submission to the second session of ITU's Conference Preparatory Meeting (CPM), which is scheduled to take place from 14 to 25 February 2011;
- 3 consider the issue of a "Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS" on the basis of document COMSAR 14/WP.5/Add.1 and proposals received; and
- 4 prepare a detailed report, containing comments, recommendations and proposals, to COMSAR 15 and, as appropriate, to meetings of the relevant Study Groups and/or Working Parties of ITU-R.

**Suggested method of working**

To meet at IMO Headquarters, London, from 14 to 16 September 2010 to:

- 1 consider the outcome, and in particular the draft CPM text on relevant agenda items, of recent meetings of ITU-R WP 4C, WP 5B and meetings of other relevant Study Groups and/or Working Parties of ITU;
- 2 consider the outcome of COMSAR 14, MSC 87, NAV 56 and other IMO bodies, as appropriate; and
- 3 work by correspondence and meet again, if necessary.

\*\*\*



**ANNEX 10**

**DRAFT MSC CIRCULAR**

**COMMERCIALLY AVAILABLE LOCATING, TRACKING  
AND EMERGENCY NOTIFICATION DEVICES**

1 The Maritime Safety Committee (MSC), at its [eighty-seventh session (12 to 21 May 2010)], recognizing the recent proliferation of non-406 MHz locating, tracking and emergency notification devices and the challenges these devices present to SAR services, approved the information on the availability of commercially available locating, tracking and emergency notification devices and services, prepared by the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR), at its fourteenth session, as set out in the annex.

2 Member Governments are invited to bring the annexed guidance to the attention of all parties concerned.

ANNEX

**COMMERCIALLY AVAILABLE LOCATING, TRACKING  
AND EMERGENCY NOTIFICATION DEVICES**

RECOGNIZING the recent proliferation of non-406 MHz locating, tracking and emergency notification devices, and

CONSIDERING the challenges these devices present to SAR services, ICAO and IMO wish to provide the following information to IMO Member Governments and ICAO Contracting States.

These commercially available locating, tracking and emergency notification devices are not compliant with internationally accepted performance standards and operational criteria for global distress alerting and therefore may be ineffective in emergency situations.

The following information may be made available to providers, users<sup>1</sup> and potential users of emergency notification devices by ICAO Contracting States and IMO Member Governments, and may be included in State public relations campaigns on the subject.

1 Users subject to IMO/ICAO regulations carry as a minimum a 406 MHz distress beacon that is compatible with the established international Cospas-Sarsat system and compliant with ICAO and IMO provisions.

2 Non-regulated users may, as a matter of choice and in lieu of a 406 MHz distress beacon, carry emergency notification devices. These devices, and the services offered in conjunction with them, should meet performance standards and operational criteria equivalent to 406 MHz beacons if they are expected to provide equivalent functionality.

3 If an emergency notification device or service falls short of these performance standards and operational criteria, transparency would require that the limitations are clearly indicated to the user by the manufacturer. These limitations may include, but not be limited to reduced, diminished or lack of:

- .1 global coverage;
- .2 timeliness of alert to the responsible SAR authority;
- .3 location accuracy and homing signal;
- .4 automatic activation and survivability in the aeronautical and maritime environments; and
- .5 distressed user identifier capability.

4 In order to ensure seamless, timely and effective alert notification to the responsible SAR authority<sup>2</sup>, States may require providers of non-406 MHz emergency notification devices and services to:

---

<sup>1</sup> The "provider" is the commercial operator marketing the emergency notification device or service. The "user" is the person buying/ leasing the device or service.

<sup>2</sup> "SAR authority" is the organization with State-recognized responsibility for aeronautical, maritime and/or terrestrial response coordination. This includes a JRCC, ARCC, or MRCC as appropriate and if available.

- .1 establish and maintain a user database that can be correlated with the transmitted data;
- .2 establish and maintain reliable contacts with relevant SAR authorities;
- .3 agree to procedures and protocols with the State concerned, including but not limited to test procedures, provision of SAR and user data on demand, acceptable information format and efficient resolution of false alerts;
- .4 demonstrate that they can alert the relevant SAR authorities 24/7/365 within 5 minutes of a confirmed distress situation, with positive confirmation of receipt by the responsible SAR authority; and
- .5 demonstrate that they have robust processes and effective procedures for distribution of alert notifications. This would appropriately include training processes and back-up systems to ensure resilience.

5 In order to give users a clear indication of actual effectiveness in emergency situations in specific areas, States may require providers of non-406 MHz emergency notification devices and services to provide potential users with a list of those States with which systemized arrangements have been made and in whose territories claims of coverage have been made.

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**ANNEX 11**

**DRAFT MSC CIRCULAR**

**MEDICAL ASSISTANCE AT SEA – YACHT RACING**

1 The Maritime Safety Committee (MSC), at its [eighty-seventh session (12 to 21 May 2010)], approved the attached Guidance on the issue of medical assistance at sea with respect to yacht racing. The guidance contains recommendations for the organization of medical assistance for offshore racing to ensure that the telemedical assistance service (TMAS) can provide the best possible telemedical assistance together with the MRCC in charge of a SAR operation.

2 Member Governments are invited to bring the information to the attention of all parties concerned.

ANNEX

**"MEDICAL ASSISTANCE AT SEA – YACHT RACING"**

**Offshore and oceanic yacht races**

A race organizer when appropriate should, in addition to supplying relevant SAR authorities in advance of the event with details of a race including the dates, the course, the boats, their equipment and the crews, also supply:

- to a telemedical assistance service (TMAS) or inform a TMAS that the organizers have available on demand the following information:

**for each boat**

- a list of medicines and medical equipment
- details of any TMAS or private medical service arranged by the boat

**for each crew member**

- name and contact details of physician who certified the person fit for the race
- name and contact details of the crew member's home physician
- method for gaining quick access to medical records if necessary
- details of first aid and medical training received.

\*\*\*

## ANNEX 12

### TERMS OF REFERENCE AND PROVISIONAL AGENDA FOR THE SEVENTEENTH SESSION OF THE ICAO/IMO JOINT WORKING GROUP

#### 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.

- 9 The guidelines for the conduct of the JWG are:
- (a) members are expected to serve as individual SAR experts rather than State representatives;
  - (b) the JWG has no power to make recommendations to States, nor to any organization other than IMO and ICAO;
  - (c) recommendations from the JWG are made directly to both organizations; and
  - (d) representatives of other organizations or States may attend the JWG and participate as observers, however, meeting announcements and documentation relating to the JWG will only be distributed to the members, observers invited to attend by the group and others who request advance notification.



**DRAFT PROVISIONAL AGENDA JWG 17 [27 SEPTEMBER-1 OCTOBER 2010]**

- 1. Adoption of the agenda**
- 2. Decisions of ICAO and IMO bodies related to the Joint Working Group work, for instance:**
  - *briefing on the outcome of COMSAR 14 and MSC 87; and*
  - *briefing on the outcome of ICAO activities.*
- 3. Conventions, plans, manuals and other documents affecting SAR, for instance:**
  - *status of the Maritime SAR Convention and Annex 12 to the Convention on International Civil Aviation;*
  - *alignment of the IMO Area SAR Plans, GMDSS Master Plan and ICAO Regional Air Navigation Plans;*
  - *progress report on work by the ANC and provisions pertaining to airborne carriage of crash alert and signalling equipment; and*
  - *amendments to the IAMSAR Manual, including changes to facilitate use by training institutions.*
- 4. SAR operational principles, procedures and techniques, for instance:**
  - *development of operational guidelines for safe and effective rescue operations, taking account of experience gained from past SAR events;*
  - *mass rescue operations, taking account of experiences gained from major disasters;*
  - *medical assistance in the context of SAR services;*
  - *effects of measures to enhance maritime and aeronautical security on SAR services, including the implementation of the Long-range Identification and Tracking (LRIT) system;*
  - *development of new and revised procedural strategies for the practical provision of SAR services; and*
  - *development of a structured process to review SAR alerting procedures between ATC services and SAR authorities.*
- 5. SAR system administration, organization and implementation methods, for instance:**
  - *regional SAR databases;*
  - *development of guidelines for sub-regional SAR organizations;*
  - *quality assurance, systems improvement, needs assessment, risk management, safety management and resource allocation;*
  - *implementation and operation of the "International SAR Fund"; and*
  - *evaluating the effect of various technical co-operation projects in conjunction with relevant governments, organizations and agencies with a view to assessing their impact on implementing and maintenance of effective SAR services.*
- 6. RCC/RSC equipment and facility designations and standards, for instance:**
  - *establishment of RCCs and in particular JRCCs; and*
  - *status of AIS and related systems in aeronautical and maritime SAR.*

**7. SAR communications, for instance:**

- *status of the GMDSS;*
- *elements and procedures of the GMDSS;*
- *status of aeronautical communications systems for distress and SAR;*
- *status of the Cospas-Sarsat system;*
- *future trends in SAR communications; and*
- *non-GMDSS Communications systems which may be used for maritime distress alerting.*

**8. SAR personnel staffing and training, for instance:**

- *development of RCC Staff Certificates; and*
- *development of joint SAR training courses based on the IAMSAR Manual.*

**9. Any other business**

**10. Draft terms of reference and provisional agenda for JWG 18**

**11. Reports to ICAO and the COMSAR Sub-Committee**

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**ANNEX 13**

**DRAFT MSC CIRCULAR**

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

1 The Maritime Safety Committee (MSC), at its [eighty-seventh session (12 to 21 May 2010)], having been informed that the International Civil Aviation Organization (ICAO) had approved the amendments to the IAMSAR Manual prepared by the ICAO/IMO Joint Working Group on Harmonization of Aeronautical and Maritime Search and Rescue, and that they had been endorsed by the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) at its fourteenth session, approved the annexed amendments in accordance with the procedure laid down in resolution A.894(21).

2 The Committee decided that the amendments should become applicable on [1 June 2011].

ANNEX

SECTION I

AMENDMENTS TO IAMSAR MANUAL – VOLUME I

1 Abbreviations and Acronyms

- Add the following text on page vii:

**AIS** ..... Automatic Identification System  
**LRIT** ..... Long-range Identification and Tracking

- Add the following text on page viii:

**SRS** ..... Ship Reporting System  
**VMS** ..... Vessel Monitoring System  
**VTS** ..... Vessel Traffic Services

2 Glossary

- Add the following text on page ix:

**Automatic Identification System (AIS)** A system used by ships and vessel traffic services (VTS), principally for identifying and locating vessels.

**Geographic Information System (GIS)** A system which captures, stores, analyses, manages and presents data that is linked to location.

**Long-range Identification and Tracking (LRIT)** A system which requires certain vessels to automatically transmit their identity, position and date/time at 6-hour intervals in accordance with SOLAS regulation V/19-1.

**Maritime Domain Awareness (MDA)** The effective understanding of any activity associated with the maritime environment that could impact upon the security, safety, economy or environment.

**Ship Reporting System (SRS)** Reporting systems which contribute to safety of life at sea, safety and efficiency of navigation and/or protection of the marine environment. They are established under SOLAS regulation V/11 or for SAR purposes under chapter 5 of the International Convention on Maritime Search and Rescue, 1979.

**Vessel Tracking** A generic term applied to all forms of vessel track data derived from multiple sources such as ship reporting systems, AIS, LRIT, SAR aircraft, VMS and VTS.

**Vessel Monitoring System (VMS)** A tracking system which provides for environmental and fisheries regulatory organizations to monitor the position, time at a position, course and speed of commercial fishing vessels.

**Vessel Traffic Services (VTS)** A marine traffic monitoring system established by harbour or port authorities to keep track of vessel movements and provide navigational safety in a limited geographical area.

**3 Chapter 2**

- Add the following text in paragraph 2.3.7, Table, "Desired" column:
  - Vessel tracking information including: AIS, LRIT, VMS and SRS
- Add the following text in paragraph 2.7.2, at the end of first sentence after "search plan":
  - and gaining access to vessel tracking information such as AIS, LRIT, VMS used by fisheries and Ship Reporting Systems (SRS).

**4 Chapter 3**

- Add the following text in paragraph 3.2.11, at the bottom of second column:
  - Vessel tracking systems (AIS, LRIT, VMS)

**5 Chapter 4**

- Delete the last sentence on page 4-4 (a), which reads:
  - "Satellite beacons have demonstrated superior performance to those that alert on 121.5 MHz"
- Amend the title of paragraph 4.5.25 by adding after "Ship Reports for SAR":
  - "and Vessel Tracking"
- Add new paragraph after paragraph 4.5.26:

"4.5.27 As well as ship reporting systems, other vessel tracking systems and services are valuable for search and rescue. AIS, LRIT, VMS and Vessel Traffic Services (VTS) are all valuable sources of vessel position data and can be displayed to provide a surface picture (SURPIC). The surface picture can assist in the identification and location of suitable rescue vessels and be used to locate potential rescue vessels. In accordance with SOLAS regulation V/19-1, Contracting Governments should make provision to receive LRIT vessel position data for SAR in accordance with applicable IMO guidance."

**6 Chapter 5**

- Add in paragraph 5.4.4, dash point 7, after "ship reporting systems":
  - and vessel tracking systems

**7 Chapter 6**

- Add in paragraph 6.5.3, after dash point 3, new dash point:
  - "- provide access to ship reporting and vessel tracking systems (AIS, LRIT, VMS, VTS)"

## **8 Appendix C**

- Add in paragraph C.5.2, third sentence, after "Ship reporting systems":
  - "- and vessel tracking systems enable"

## **9 Appendix G**

- Delete in paragraph G.6.1 the second dash point referring to Inmarsat-E.
- Reword G.6.1 to read:
  - Maritime Satellite Emergency Position Indicating Radio Beacons (EPIRBs) have been accepted into the GMDSS. These beacons operate on 406 MHz and may have a 121.5 MHz final homing signal. The signals are relayed via Cospas-Sarsat satellites, local user terminals (LUTs) and mission control centres (MCCs) to SAR Points of Contact (SPOCs) which include RCCs.
- Delete the second sentence of paragraph G.6.2.
- Delete in paragraph G.7.2, third sentence:
  - "A" and "E (E is the EPIRB)"; and
- Add in paragraph G.7.2, third sentence:
  - "Mini-C" and "F77".

## SECTION II

### AMENDMENTS TO THE IAMSAR MANUAL – VOLUME II

#### 1 Content

- Add on page vii (new last appendix):
  - Appendix [X] Search Planning for 121.5 MHz Distress Beacon Alerts

#### 2 Abbreviations and Acronyms

- Add the following text on page ix:

"AIS ..... Automatic Identification System"
- Add the following text on page xi:

"LRIT ..... Long-range Identification and Tracking"
- Add the following text on page xiii:

"SRS ..... Ship Reporting System"
- Add the following text on page xiv:

"VMS ..... Vessel Monitoring System  
VTS ..... Vessel Traffic Services"

#### 3 Glossary

- Add the following text on page xv:

**"Automatic Identification System (AIS)** A system used by ships and vessel traffic services (VTS), principally for identifying and locating vessels.

**Geographic Information System (GIS)** A system which captures, stores, analyses, manages and presents data that is linked to location.

**Long-range Identification and Tracking (LRIT)** A system which requires certain vessels to automatically transmit their identity, position and date/time at 6-hour intervals in accordance with SOLAS regulation V/19-1.

**Maritime Domain Awareness (MDA)** The effective understanding of any activity associated with the maritime environment that could impact upon the security, safety, economy or environment.

**Ship Reporting System (SRS)** Reporting systems which contribute to safety of life at sea, safety and efficiency of navigation and/or protection of the marine environment. They are established under SOLAS regulation V/11 or for SAR purposes under chapter 5 of the International Convention on Maritime Search and Rescue, 1979.

**Vessel Tracking** A generic term applied to all forms of vessel track data derived from multiple sources such as ship reporting systems, AIS, LRIT, SAR aircraft, VMS and VTS.

**Vessel Monitoring System (VMS)** A tracking system which provides for environmental and fisheries regulatory organizations to monitor the position, time at a position, course and speed of commercial fishing vessels.

**Vessel Traffic Services (VTS)** A marine traffic monitoring system established by harbour or port authorities to keep track of vessel movements and provide navigational safety in a limited geographical area."

#### 4 Chapter 1

- Add on page 1-4 to heading "Ship Reporting System":

"- and Vessel Tracking"

- Add new paragraph 1.3.6:

"1.3.6 As well as ship reporting systems (SRS), RCCs can use vessel position data from various vessel tracking systems to support SAR operations. These may include the Long-range Identification and Tracking (LRIT) system, the Automatic Identification System (AIS) system, fisheries and other Vessel Monitoring Systems (VMS) and Vessel Traffic Services (VTS) established to monitor port operations or to cover focal areas or sensitive areas. Data from each of these systems can be displayed by RCCs using Geographic Information Systems (GIS) to produce a surface picture (SURPIC). SURPICS can be used to identify and locate potential rescue vessels as well as improve maritime domain awareness (MDA). In accordance with SOLAS regulation V/19-1, Contracting Governments should make provision to receive LRIT vessel position data for SAR. In accordance with IMO guidance material, RCCs can request LRIT data for SAR operations within their own SRR and for SAR coordination requirements outside it as appropriate. Data on all vessels can be requested within a circular or rectangular area at no charge to the RCC."

- Add in paragraph 1.3.11, to final sentence:

"- and operate on 406 MHz and 121.5 MHz for final homing."

- Add in paragraph 1.8.15, to "Ship reporting systems for SAR":

"- and Vessel tracking (AIS, LRIT, VMS and VTS)"

- Add new paragraph after paragraph 1.11.9:

"1.11.10 *Display of Vessel Tracking Data*

A computer system with Geographic Information System (GIS) display capability is important for displaying vessel tracking data sourced from AIS, LRIT, VMS, VTS and other sources. The location of SAR Units can also be tracked and displayed, as can search areas and other information."



## 5 Chapter 2

- Delete in paragraph 2.6.1 the second dash point about Inmarsat-E.
- Reword the remainder of paragraph 2.6.1 to read:
  - "- Maritime Satellite Emergency Position Indicating Radio Beacons (EPIRBs) have been accepted into the GMDSS. These beacons operate on 406 MHz and may have a 121.5 MHz final homing signal. The signals are relayed via Cospas-Sarsat satellites, local user terminals (LUTs) and mission control centres (MCCs) to SAR Points of Contact (SPOCs) which include RCCs."
- Amend second sentence of paragraph 2.6.3 as follows:
  - "- Signals are also relayed via over flying aircraft and satellite from 121.5 and 243 MHz ELTs and EPIRBs, but signals from these beacons are not processed by satellites and are not specifically designed for satellite compatibility nor considered part of GMDSS."
- Delete final sentence in brackets of paragraph 2.6.6.
- Delete whole paragraph 2.6.9.
- Renumber paragraph 2.6.10 as 2.6.9.
- Delete whole paragraph 2.6.11.
- Renumber paragraph 2.6.12 as 2.6.10.
- Delete in paragraph 2.7.6 at start of first sentence after the word Inmarsat:
  - "-A and" At the end of the last sentence, Delete: "and E (E is the EPIRB)" and Add after the letter "M" ", Mini-C and F77."
- Delete in paragraph 2.9.2 second sentence about Inmarsat-E.
- Amend in paragraph 2.9.4 the first sentence to read:
  - "- Many civil aircraft world-wide, especially operating over ocean areas, carry an ELT which operates on 406 MHz for alerting and 121.5 MHz for final homing."
- Delete in paragraph 2.9.4, third sentence, the words:
  - "alert and", so that the sentence reads: "Many ELTs also provide homing signals on 243 MHz ..."
- Delete in paragraph 2.9.4 the final sentence.
- Amend in paragraph 2.9.7 the first sentence to read:
  - "- When carried aboard vessels or other craft, EPIRBs can send signals on 406 MHz for alerting and 121.5 and 243.0 MHz for final homing."

- Delete in paragraph 2.9.7 the final sentence.
- Amend in paragraph 2.13.1 the end of the first sentence to read:
  - "- ... or a seven or nine digit identity for Inmarsat terminals."
- Delete in paragraph 2.13.1 the second last sentence.
- Add at the end of paragraph 2.13.2 the following:
  - MMSIs are also used in the AIS for vessels, base stations, aids to navigation, SAR aircraft and AIS SARTs. The various platforms can be differentiated by reference to the MMSI format and from databases.
- Add new paragraph after paragraph 2.32.4:
  - "2.33 Vessel Tracking Communications  
Various forms of communication can be used for vessel tracking. Ship reporting systems can use voice reporting over VHF and HF, DSC and Inmarsat. Many ship reporting systems use Inmarsat-C polling or Inmarsat automated position reporting (APR). AIS uses a time-division multiple access (TDMA) scheme to share the VHF frequency, also known as the VHF Data Link (VDL). There are two dedicated frequencies used for AIS – AIS 1 (161.975 MHz) and AIS 2 (162.025 MHz). LRIT can employ any form of communication which meets the required functional specification, but most vessels use Inmarsat equipment to report every six hours to their Data Centre via a communications provider and application service provider. Vessel Monitoring Systems (VMS) can use various systems for tracking, including Inmarsat, Iridium and Argos."

## **6 Chapter 3**

- Add in paragraph 3.5.3(b), second paragraph, after the words "ship reporting systems":
  - "and vessel tracking systems."
- Add in paragraph 3.5.9(c), a second sentence as follows:
  - "- Check vessel tracking systems (AIS, LRIT, VMS, VTS) for vessels which may be able to assist."

## **7 Chapter 5**

- Renumber existing subparagraph 5.6.4(b) as 5.6.4(c).
- Add new subparagraph 5.6.4(b):
  - "5.6.4(b) When reports are received of detections of 121.5 MHz or 243 MHz from over flying aircraft (these signals are not processed by Cospas-Sarsat), a search area will need to be established so that an electronic search can be conducted for the beacon. Appendix [X] can be used for guidance on determining a search area and how that area should be searched."

## 8 Appendix B

- Delete on Page B-7 "Sample 121.5 MHz Initial Alert" and the format.
- Delete on Page B-10 "Inmarsat-E Format".

## 9 Add new last appendix:

### Appendix [X]

#### Search Planning for 121.5 MHz Distress Beacon Alerts

1. Searching for beacons is often difficult, and may be impossible without additional information. However, the methods in this Appendix should be followed as practicable.
2. Search planning for 121.5 MHz beacon alerts typically result from reports received from commercial aircraft flying at high altitude. The beacon could be located anywhere within a large search area. Reports might also be received via low-flying aircraft and ground stations. The methods that follow will help define and reduce beacon search areas. Maximum detection ranges for beacon signals are assumed to be limited by line-of-sight.
3. Figure 1 depicts the geometry when an aircraft receives a beacon signal, and shows labelling used in planning a search for the beacon. *However, potential scenarios discussed in the cautionary notes below may limit the applicability of Figure 1 and should be taken into account when deemed appropriate.*

#### CAUTIONARY NOTES:

**Only a single report and reporting aircraft location might be received.** Unless the aircraft can provide additional information, the search area would have to be assumed to include the area within a single circle centred on the reporting aircraft's location.

**Reports of *first heard* and *last heard* information may not be accurate.** The person monitoring the radio may not immediately hear or recognize the 121.5 MHz distress beacon swept tone, causing the reported time and location to be incorrect.

- The beacon may have started transmitting after the reporting aircraft was already well within the maximum detection range, or the beacon may cease transmitting well before the aircraft is beyond the maximum detection range. Try to determine whether the signal: seemed strong when first acquired and then faded; was getting stronger and then abruptly ceased; or started suddenly, stopped suddenly, and seemed to be about the same strength the whole time it was heard. In such cases, the search planning procedure in this Appendix should still work, although the overlapping area where the two circles intersect will be enlarged; the centres of the circles would be closer together than they would be if signal acquisition and loss were solely due to the reporting aircraft coming within and then moving beyond maximum detection range while the beacon was transmitting.
- As a part of the report data gathering process it should also be ascertained that the receiving radio was already on (did not receive the signal when it was first turned on) and that detection of the signal did not occur while squelch was being adjusted. These situations may occur when seeking reports from

additional aircraft when they first turn on or adjust their radios to listen. In such cases, the position for the last heard point could be more useful than the position of when the beacon was first heard.

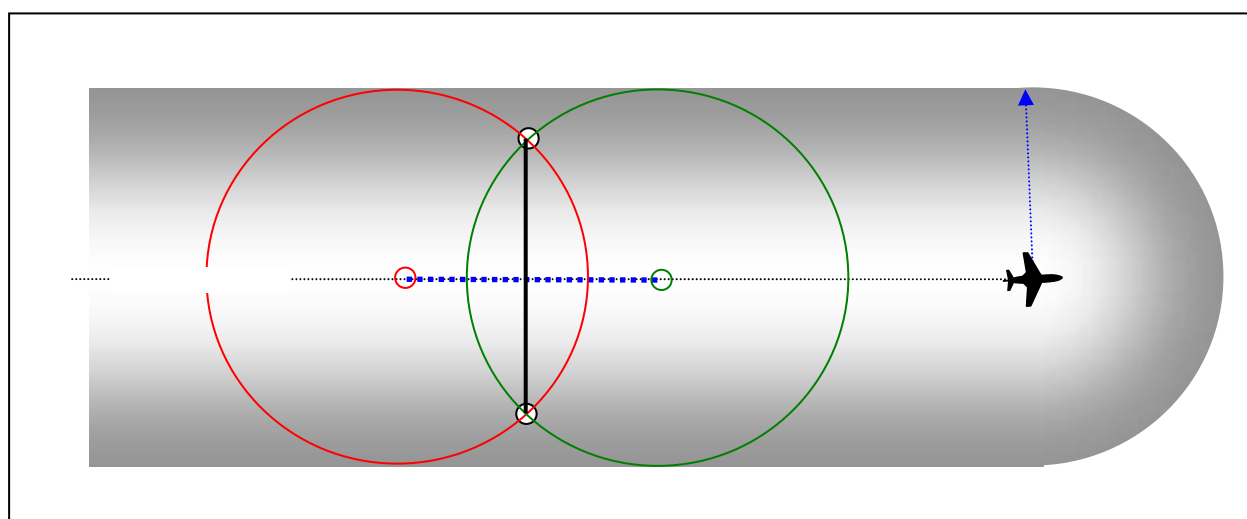
**Reports from a single aircraft may occur at different altitudes or courses.** Aircraft, particularly those under instrument flight rules, may be ascending, descending and/or changing course according to their flight plan and air route traffic control needs. The first heard and last heard reports could be from different altitudes or on different courses. For a course change, knowing the turn point would allow drawing another range circle to combine with the first heard and last heard generated range circles to more narrowly define the area. When the reports occur at different altitudes, range circles should be drawn for each altitude to identify their intersect points.

**The transmitting beacon antenna may have some height above sea level or above its surrounding terrain.** The height of the sending antenna should be added to the height of the radio receiver when estimating the detection range.

**In areas involving an island, the island should be considered as a possible forced landing site.** The first heard and last heard positions may be affected by the forced landing site's altitude and the terrain surrounding the site, which could block the signal in some directions.

**The radio horizon range circle may cross land.** The altitude of the reporting aircraft should be assumed to be the aircraft altitude above that elevation of the terrain at the lowest land horizon rather than above sea level, as discussed below in this Appendix.

**The detected beacon may be aboard an in-flight aircraft, and the aircraft, course, speed or altitude could change.** The procedures in this Appendix do not account for an in-flight beacon scenario, but the search planner should be aware that apparently conflicting data or unexpected search planning outcomes could be caused by this situation.



**Figure 1 – Geometry where reporting aircraft passes within reception range of beacon signal**

## SEARCH PLANNING PROCEDURE

4. **Record reported data.** Use Table 1 to record data received about a transmitting 121.5 MHz beacon. Of all data collected about the beacon signal, the position and height of the receiving antenna for points first heard (PFH) and last heard (PLH) are most important.

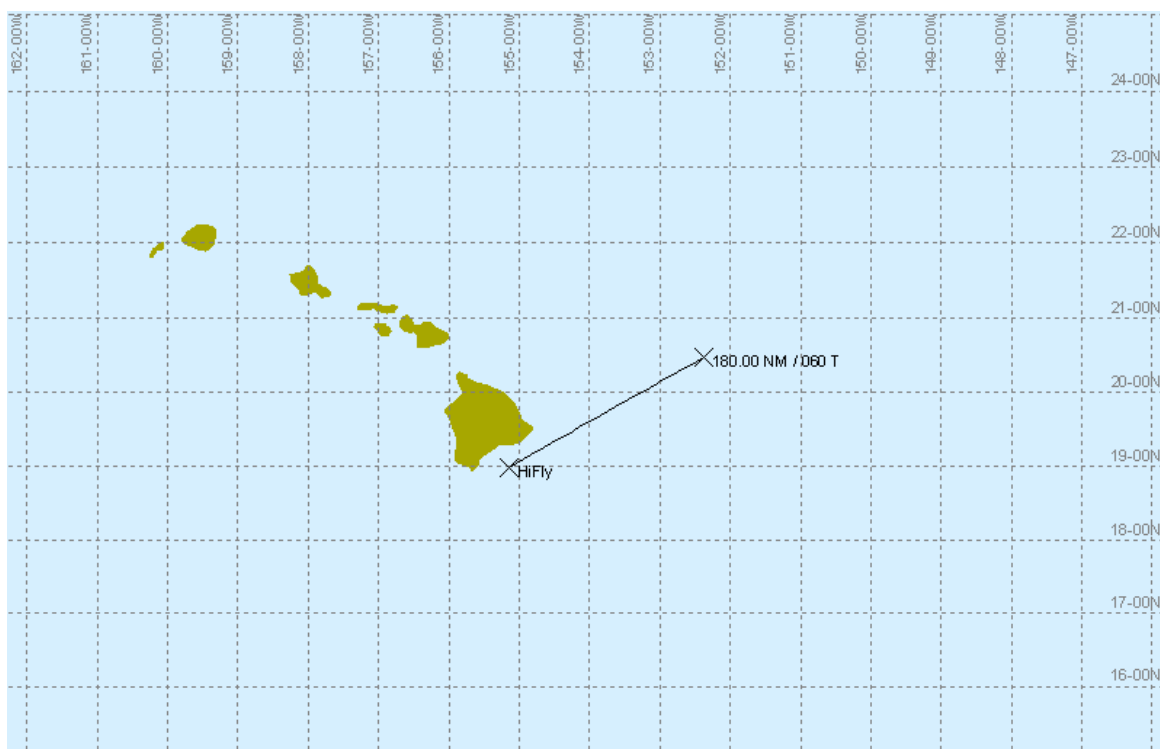
**Note:** Obviously, reports from multiple sources can help substantially in narrowing down the search area for a 121.5 MHz beacon. The SAR Mission Coordinator (SMC) should use all reports, and also solicit additional reports from other aircraft in the area, either directly or via the appropriate flight services as appropriate. Aircraft should be asked to report their own altitudes and positions where the signal was first heard, when the maximum signals was heard, and when the signal faded or was lost. Flight services, communications authorities, maritime SAR authorities or others might also be able to obtain fixes or bearings on activated beacons. When receiving multiple reports, consider the possibility that more than one activated 121.5 MHz beacon might be heard. The authorities might also be able to help locate and silence an inadvertently activated beacon.

Point	Date-Time	Position (lat/long)	Aircraft Altitude (h) (ft)	Course (degrees true)
PFH (first heard)		N/S E/W		
PLH (last heard)		N/S E/W		

**Table 1 – 121.5 MHz beacon alert report data**

5. **Plot the reporting aircraft track.** Use a rhumb line or great circle navigation depending on the track being followed by the reporting aircraft, as depicted in Figure 2.

**NOTE:** The geographic area used as an example in Figures 2, 3, 4, 5, 8 and 10 is Hawaii and the surrounding area. The illustration shows a Lockheed C-130 search aircraft from Air Station Barbers Point in response to a report from an aircraft at high altitude, but similar plots could be developed for any area and other situations.



**Figure 2 – Plot of PFH and PLH**

6. **Plot the radio horizons.** Compute and plot the distance to the radio (VHF/UHF) horizon for the reporting aircraft at PFH and PLH.

a. The radio horizon distance is estimated using Table 3 at the end of this appendix or by using the following equation:

$$d = 1.23 \times \sqrt{h}$$

Where:

***h*** is the antenna height in feet above the water (e.g., mean sea level) or above ground level (AGL); and

***d*** is the Radio Horizon Distance (reception range) for the reporting aircraft in nautical miles (nm).

b. Use Table 3 and its associated equations to determine the radio range to the horizon from a receiving antenna at various altitudes, where the altitude is measure above Mean Sea Level (MSL) in oceanic environments. If the elevation of the horizon varies in different directions from the aircraft, perfect circles will not accurately represent the potential areas containing the beacon. The conservative approaches are as follows:

- When the horizon is only partly over an oceanic area, plot a circle using altitude above MSL;

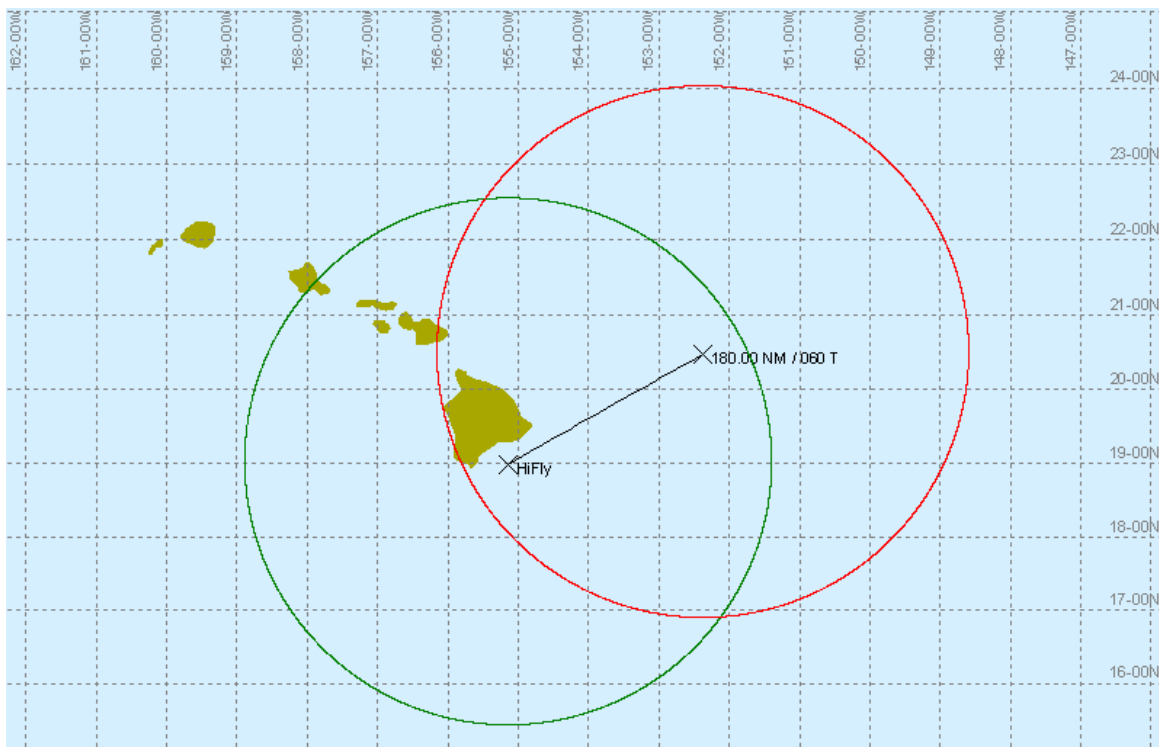
- When the horizon is entirely over land, use the Above Ground Level (AGL) altitude, where AGL is the altitude of the reporting aircraft above the elevation of the horizon at its lowest point; and
- Be aware that over jungle areas, mountainous terrain, or where similar signal obstructions exist, the radio detection range may be as little as one-tenth of the horizon range (in mountainous terrain or areas covered with dense vegetation, the range of the signal will be reduced considerably compared to the range over water or flat land as discussed in the IAMSAR Manual, Volume 2, Section 5.6.)

c. Record the results in Table 2 below.

Point	Aircraft Altitude (h) (ft)	Radio Horizon Distance (d) (nm)
PFH		
PLH		

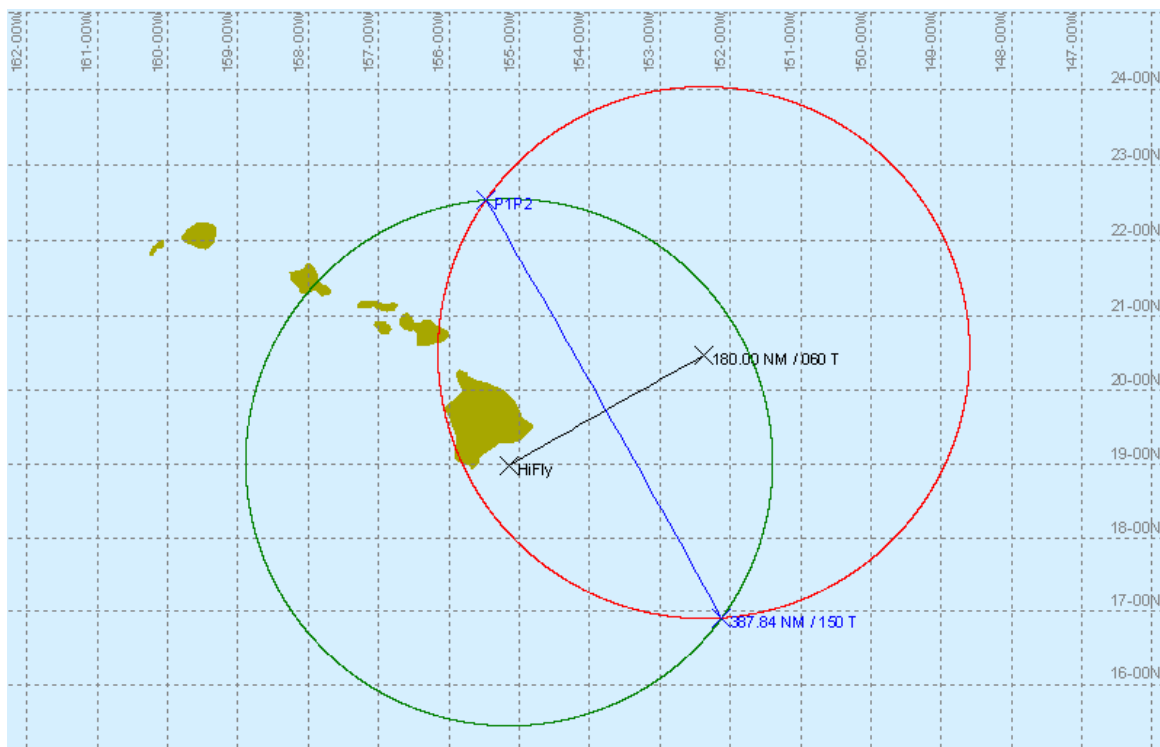
**Table 2 – Radio horizon distance**

d. Draw circles centred on the PFH and PLH with a radius equal to the computed radio horizon distance for each point at the given altitude for each as recorded in Table 2 (shown in Figure 3).



**Figure 3 – Plot of computed radio horizon distances for PFH and PLH**

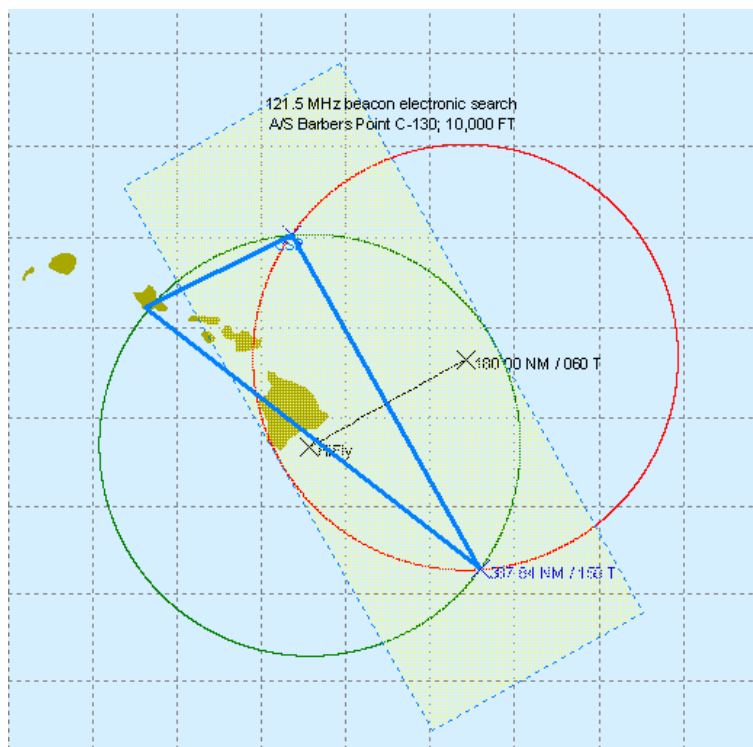
7. **Plot the intersect line.** The circles should intersect in two places. Draw a line between the two points where the circles intersect. This line will bisect the line connecting PFH and PLH positions as indicated in Figure 4.



**Figure 4 – Plot of the intersect line**

8. **Plan the search.** With only a single report from a high-flying aircraft and the associated long distances, large search areas will result and search options will be limited.
  - a. Generally, with a single report, an electronic search will be needed to attempt to reacquire and home on the beacon signal. An electronic search can often be accomplished reasonably fast with a single aircraft SAR unit (SRU) search track.
  - b. The aircraft SRU should proceed to the nearest point where the two circles intersect and then fly at a high altitude to the other point where the two circles intersect as illustrated in Figure 5. This should allow the beacon signal to be detected so the SRU can home on it.



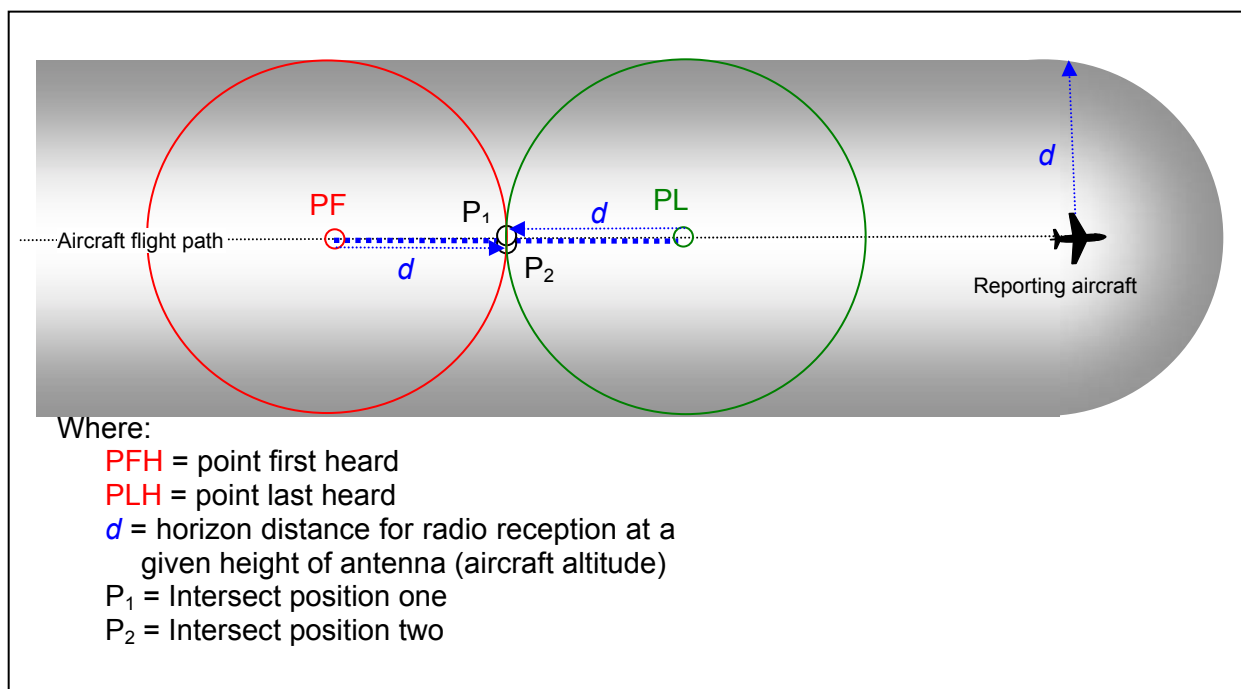


**Figure 5 – Aircraft SRU search down the intersect line at an altitude of 10,000 feet with a radio horizon range of 123 nm**

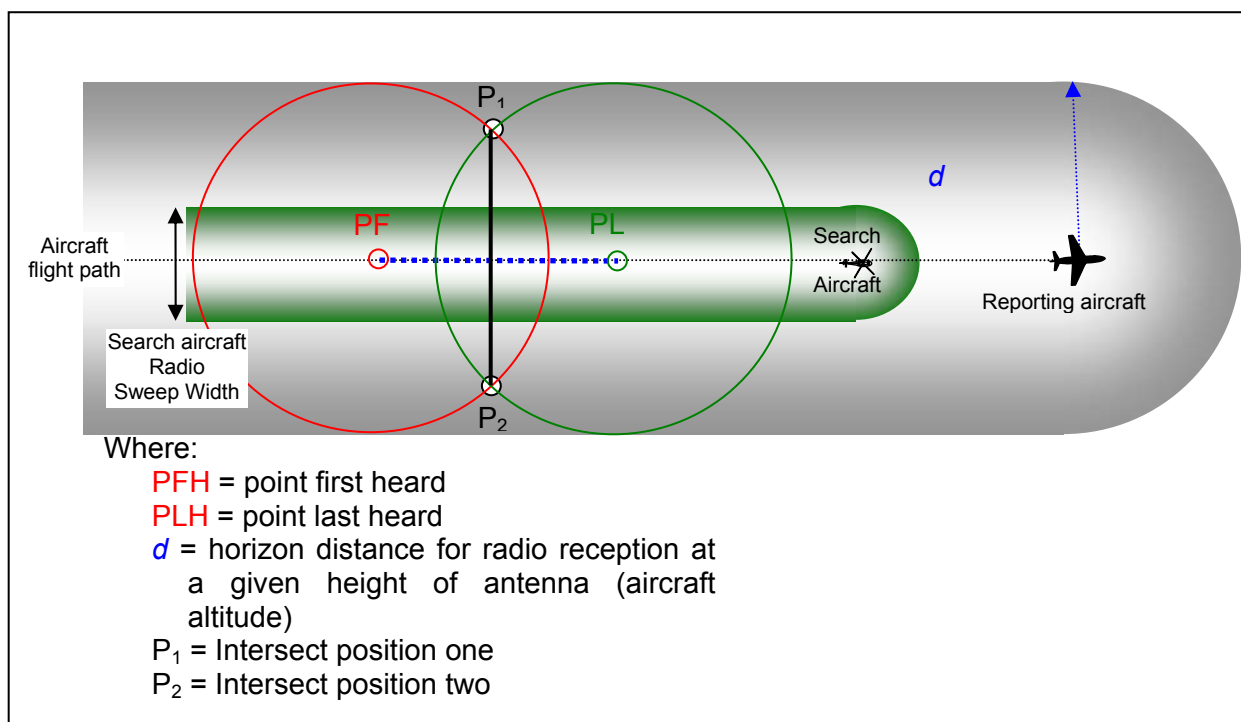
**NOTE:** The other two blue legs are flight from the base to commence search point (CSP) and also return to base from the second intersection point/end of the intersect line.

- c. The area where the two circles overlap could also be covered with a multi-leg track line pattern. This might be necessary if the maximum altitude of the SRU limits its detection range to less than half the width of the overlapping area of the two circles. A parallel sweep or creeping line search pattern could also be used as discussed in Section 5.6 of this Volume of the IAMSAR Manual.
9. **Reporting aircraft position.** When the reporting aircraft passes directly over or nearly over the beacon position as shown in Figure 6, the search aircraft may proceed along the reporting aircraft's trackline. This special case is indicated when the distance over which the beacon was heard is twice (or nearly so) the radio horizon distance *d*. However, if the reporting aircraft was not near the beacon position and the search aircraft's altitude is substantially lower than the reporting aircraft's altitude, a simple trackline electronic search may provide inadequate coverage to detect the beacon signal.
- a. As shown in Figures 7 and 8, with the reporting aircraft at 30,000 feet and the search aircraft at 10,000 feet, two primary locations would be missed by a search along the reporting aircraft's track; even a search at 20,000 feet would not cover the entire area.
  - b. In most situations it would be best to search along the intersect line (Figures 5 and 9), with the search aircraft at 10,000 feet.

- c. If searching along and perpendicular to the track does not succeed, a decision will be needed on if conducting a multiple leg track search is warranted based on all available information.



**Figure 6 – Basic geometry for special case where reporting aircraft passes directly over the beacon position**



**Figure 7 – Search aircraft at lower altitude than reporting aircraft – same track; beacon signal not heard**

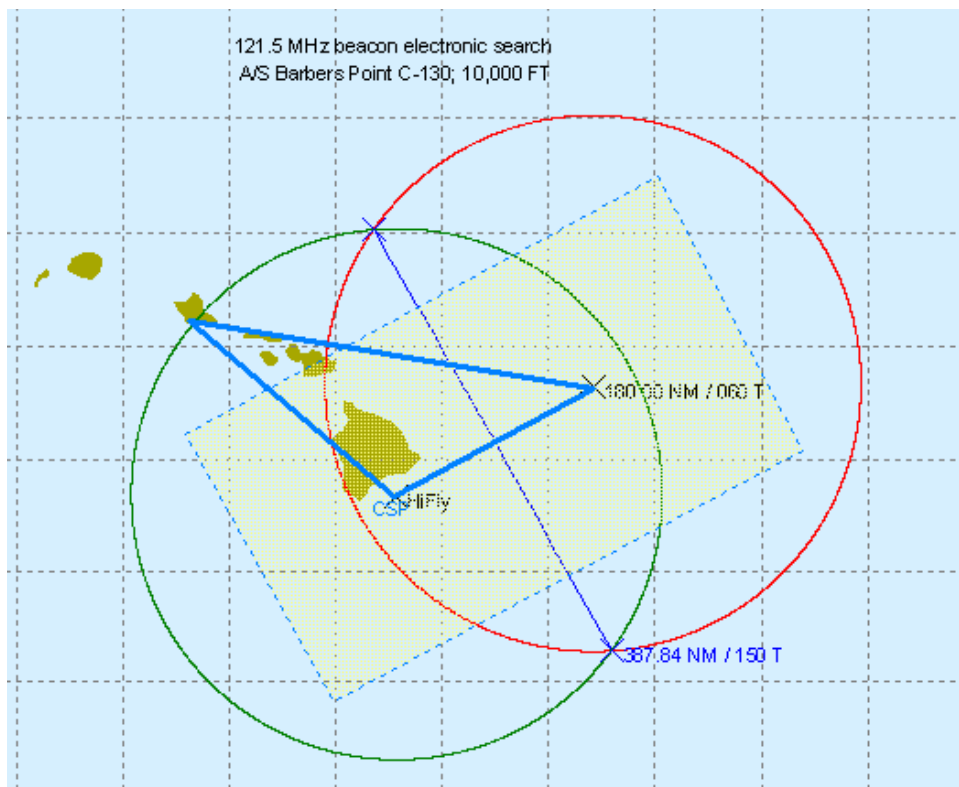


Figure 8 – Search aircraft at 10,000 feet, reporting aircraft at 30,000 feet – same track; beacon signal not heard

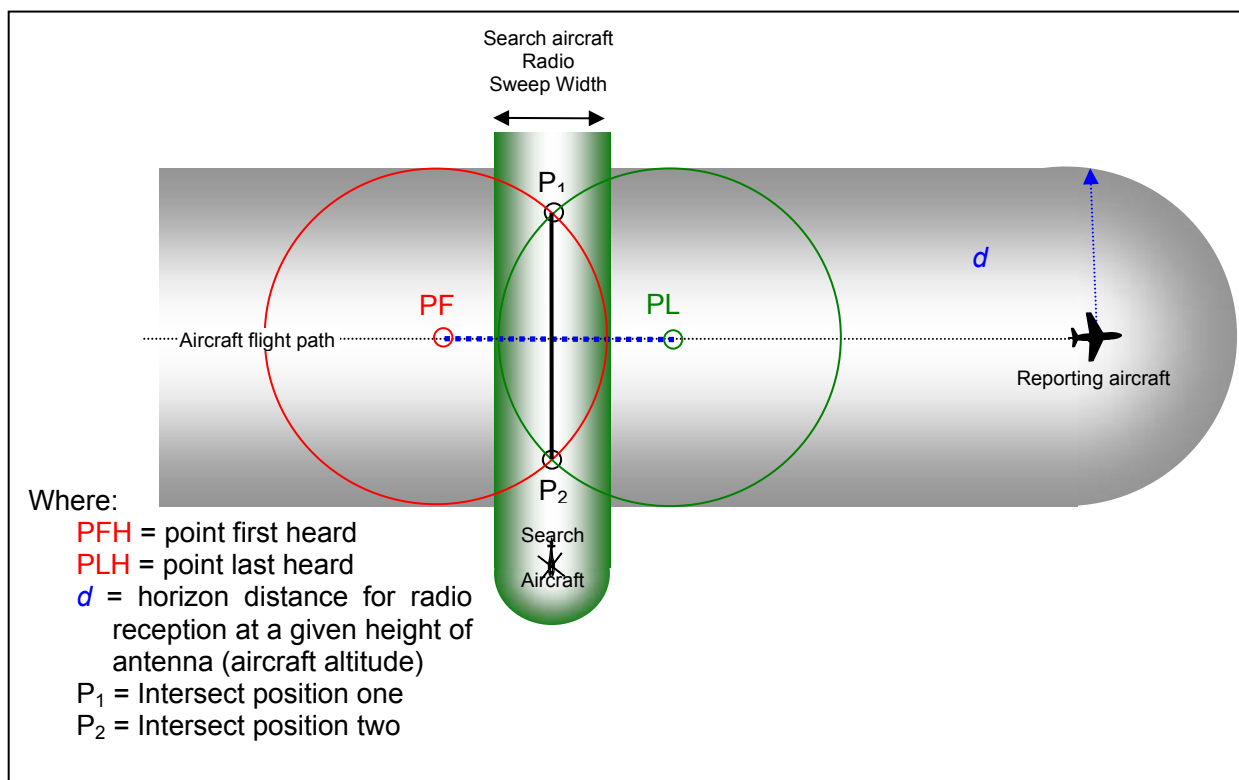
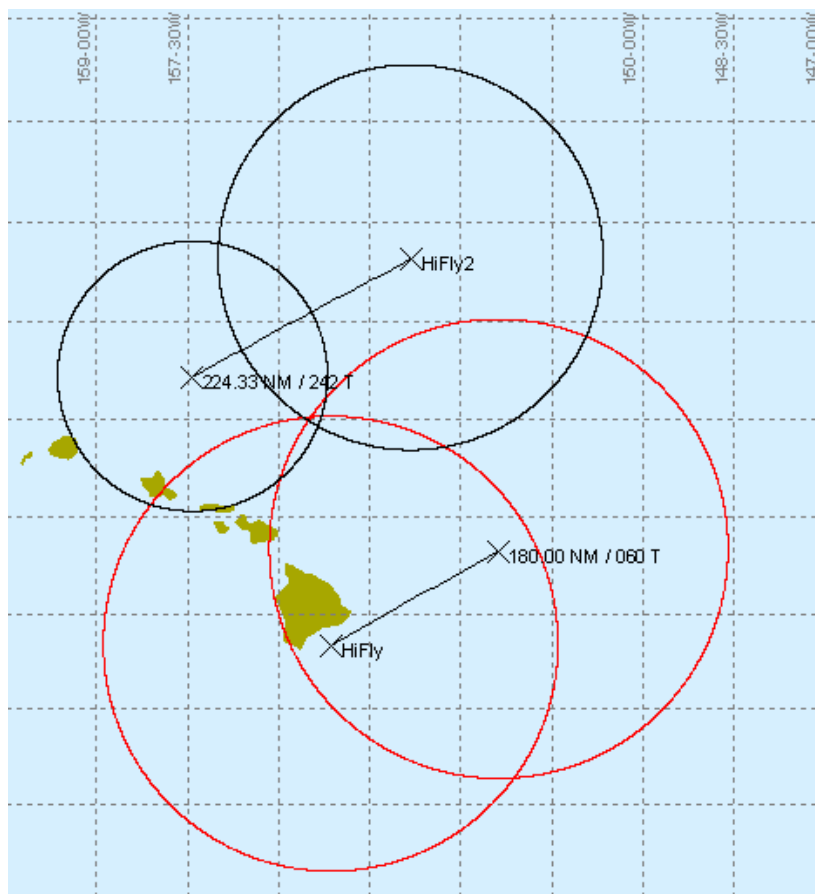


Figure 9 – Searching the intersect line by search aircraft at lower altitude than the reporting aircraft

10. **Visual search.** If no beacon signal is detected by the search aircraft conducting an electronic search or by other high-flying aircraft, a visual search will usually be impractical based on a single report. A visual search may be practical when the report comes from a low-flying aircraft which results in a smaller search area. If no other information is available besides a single report, the SMC should follow the SAR agency's guidance for responding to uncorrelated reports.
11. **Multiple Reports.** Multiple reports make it easier to reduce the area of the probable location for the distress beacon. (This situation is very similar to uncorrelated distress calls on VHF-FM and the reception by multiple radio towers (without direction finding).)
  - a. Plot each report; identify the intersections and areas of overlap of the pairs of radio horizon circles; and, eliminate those areas not covered by the multiple reports.
  - b. Figure 10 shows a plot of reports from two aircraft. The first report is from an aircraft at 30,000 feet on a course of 060 degrees T, and the second report is from a descending aircraft on a course of 242 degrees T from 20,000 feet to 10,000 feet when the signal is last heard. (The smaller search area in this case would reduce the search time needed for an electronic search and could result in a reasonable visual search.)



**Figure 10 – Plot of PFH, PLH and respective radio horizon range circles; HiFly at 30,000 feet and course of 060 degrees T; HiFly2 at 20,000 feet and descending to 10,000 feet and course of 242 degrees T**

Altitude in feet	Radio distance in nautical miles	Altitude in metres	Radio distance in kilometres
500	28	152	52
1000	39	305	72
2000	55	610	102
3000	67	914	124
4000	78	1219	145
5000	87	1524	161
6000	95	1829	176
7000	103	2134	191
8000	110	2438	204
9000	117	2743	217
10 000	123	3048	228
11 000	129	3353	239
12 000	135	3658	250
13 000	140	3962	259
14 000	146	4267	271
15 000	151	4572	280
16 000	156	4877	289
17 000	160	5182	297
18 000	165	5486	306
19 000	170	5791	315
20 000	174	6100	322
21 000	178	6400	330
22 000	182	6706	337
23 000	187	7010	347
24 000	191	7315	354
25 000	195	7620	361
26 000	198	7925	367
27 000	202	8230	374
28 000	206	8534	382
29 000	210	8839	389
30 000	213	9150	395
31 000	217	9450	402
32 000	220	9754	408
33 000	223	10 058	413
34 000	227	10 363	421
35 000	230	10 668	426
36 000	233	10 973	432
37 000	237	11 278	439
38 000	240	11 582	445
39 000	243	11 887	450
40 000	246	12 192	456

Table 3 – Distance to Radio Horizon

## SECTION III

### AMENDMENTS TO THE IAMSAR MANUAL – VOLUME III

#### 1 Glossary

- Amend the following text on page xi:

**Cospas-Sarsat System** A satellite system designed to detect distress beacons transmitting on the ~~frequencies of 121.5 MHz and~~ frequency of 406 MHz

#### 2 Section 1

- Amend on page 1-4, the heading "Ship Reporting Systems" to read:
  - Ship Reporting Systems and Vessel Tracking
- Add on page 1-4, new dot point:
  - Automatic Identification System (AIS) and Long-range Identification & Tracking (LRIT) transmissions are also important for providing shore authorities with vessel tracking data to support search and rescue.

#### 3 Section 2

- Amend on page 2-2, the first two entries at the top as follows:
  - maintain a continuous watch on the associated distress frequencies, if equipped to do so:
    - ~~500 kHz (radiotelephony)~~
    - 2182 kHz (radiotelephony)
    - 156.8 MHz FM (Channel 16, radiotelephony) for vessel distress
    - 121.5 MHz AM (radiotelephony) for aircraft distress
  - ~~After 1 February 1999~~, Vessels subject to the SOLAS Convention must comply with applicable equipment carriage and monitoring requirements
- Delete on page 2-53, second dot point:
  - "500 kHz"

#### 4 Section 3

- Delete on page 3-11, in table, Alerting frequencies:
  - "Inmarsat-E EPIRB 1644.3-1644.5 MHz (earth to space)"
- Delete on page 3-11, in Maritime Safety Information (MSI) row:
  - footnote 8 on 490<sup>8</sup> kHz
- Renumber footnote 9 as number 8 (4209.5 kHz<sup>8</sup>)

- Delete on page 3-12, at the bottom of the page:
  - <sup>8</sup> Frequency 490 kHz cannot be used for MSI employing NBDP transmission until 1 February 1999"
- Renumber footnote 9 as 8
- Delete on page 3-13:
  - "\*" from the 490.0 kHz\* entry in the Table; and
  - its entire associated footnote shown as the second line from bottom of the page ("\* For use after full implementation of GMDSS (1 February 1999).")
- Amend on page 3-13, second row from bottom of table "406.025" to read:
  - 406.0-406.1 band
- Delete on page 3-37, last dot point:
  - "L-band is used for Inmarsat-E EPIRBs"
- Delete on page 3-38, first bullet from the top:
  - "500 kHz (telegraphy)"
- Amend on page 3-38, second bullet from the top:
  - Many civil aircraft worldwide, especially operating on international flights and over ocean areas, carry a 121.5 MHz ELT for alerting and homing the 406 MHz distress beacon for alerting and homing. Some national regulations may allow for 121.5 MHz distress beacons on domestic flights.
    - o SAR aircraft should be able to home ~~on this frequency to locate survivors~~ the 121.5 MHz homing frequency on the 406 MHz distress beacon, and the capability exists to home on the 406 MHz signal itself.
    - o ~~an increasing number of ELTs use 406 MHz alerting signals with 121.5 MHz or 243.0 MHz or both for homing signals.~~
- Add on page 3-38, a new bullet 3 from the top:
  - EPIRBs and ELTs operate on the 406 MHz frequency and are required to be carried on board certain vessels and aircraft, respectively. The 406 MHz PLB is not required internationally but can be carried on a person.
- Amend on page 3-38, third bullet (which becomes bullet 4):
  - ~~406 MHz ELTs and 406 MHz and Inmarsat E satellite EPIRBs~~ distress beacons (ELTs, EPIRBs and PLBs) offer coded identities and other advantages which can reduce SAR response time by up to several hours over what would be possible with non-coded ELTs beacons.

- Amend on page 3-38, fourth bullet (which becomes bullet 5):
  - ~~After January 1999: Additional capability on board vessels:~~
- Amend on page 3-38, fourth bullet (which becomes bullet 5), second sub-bullet:
  - Ships of 300 gross tons and over are not will no longer be required by SOLAS to carry radio apparatus for survival craft capable of transmitting and receiving on ~~500 kHz (telegraphy)~~ 2182 kHz (telephony), but ~~these frequencies~~ this frequency can be expected to still be used.
- Amend on page 3-39, first bullet entry at the top of the page as follows:
  - ~~EPIRB~~ Distress beacon (ELT and EPIRB) signals indicate that a distress exists and facilitate location of survivors during SAR operations. To be effective, searching craft should be able to home on signals intended for this purpose, or on the alerting frequency itself (which will be non-continuous if it is 406 MHz).

## 5 Section 4

- Amend on page 4-3, first full bullet entry at the top of the page as follows:
  - Use any one or more of the following international maritime distress frequencies to transmit a distress call:
    - ~~500 kHz (radio telegraphy), the use of which will be phased out when GMDSS is implemented~~
    - 2182 kHz (radiotelephony)
    - 156.8 MHz FM (VHF, channel 16)
      - any distress transmissions on the frequency ~~500 kHz or~~ 2182 kHz could be preceded by ~~the appropriate~~ a digital selective call
      - in remote oceans areas, the distress call should also be transmitted on a ship-to-shore HF circuit to a CRS, especially when distress calls on ~~500 kHz~~, 2182 kHz, or channel 16 are not replied to by other stations.
- Amend on page 4-4 and page 4-5, the entire sub-section called "EPIRBS and ELTs" as follows:
  - ~~EPIRBS and ELTs~~, ELTs and Personal Locator Beacons (PLBs) Distress Beacons
    - ~~EPIRBS and ELTs~~, ELTs and PLBs are another means of alerting. They are distress beacons intended for alerting when other available means of alerting are inadequate.
    - **EPIRB:** An EPIRB transmits a signal that alerts SAR authorities and allows rescue facilities to home in on the distressed vessel.
      - activated automatically upon exposure to the sea, or manually
      - 406 MHz EPIRB for use with Cospas-Sarsat satellites and is required on board certain vessels



- ~~o types of maritime satellite EPIRBs:  
406 MHz satellite EPIRBs whose signals are relayed via Cospas-Sarsat satellites  
InmarsatE EPIRBs whose signals are relayed via Inmarsat satellites  
Non-satellite VHF EPIRBs on channel 70, used close to shore in lieu of satellite EPIRBs where receiving stations are available.~~
- **ELT:** Most civil aircraft carry one of two types of ELT to alert SAR authorities to a distress situation.
  - o 406 MHz satellite ELT intended for use with Cospas-Sarsat satellites and is required on aircraft on international flights
  - o 121.5 MHz ELT might be allowed on domestic flights and is intended to be heard by high flying other aircraft.
- **PLB:** The 406MHz PLB is not a mandated international carriage requirement, but may be carried on a person and has similar characteristics to EPIRBs and ELTs. However the PLB has different specifications.
- Cospas-Sarsat calculates the position information for EPIRBs and ELTs the 406 MHz distress beacons.
- Most ELTs and EPIRBs provide homing signals on 121.5 MHz; some also use 243 MHz, and some EPIRBs may also integrate SARTs into their designs.
- Most EPIRBs and all ELTs are designed to activate automatically when a vessel sinks or an aircraft crashes (EPIRB alerts may indicate whether the beacon was activated automatically or manually).
- Some ELTs and EPIRBs may also have integral GPS capabilities.
- ~~• Inmarsat E EPIRBs transmit messages via Inmarsat geostationary satellites and CESs to RCCs. These beacons have registered coded signal identities.~~
- ~~• Position information from InmarsatE EPIRBs is derived either from integral equipment such as GPS, or via interfaces with shipboard navigation equipment (positions from shipboard equipment cannot be updated after the EPIRB floats free).~~
- ~~• InmarsatE EPIRB operates only within Inmarsat's coverage area, generally between 70 latitude north and south.~~
- It is recommended that an activated EPIRB, even if inadvertently activated (false alarm), be kept on until the RCC is informed.
  - o This enables the RCC to work with a more accurate position and identification, allowing resolution of the alert without dispatching SAR facilities needlessly.
  - o Immediately attempt to notify the RCC by other means that the alert is false.

- Add on page 4-29, new section as follows:
  - 121.5 MHz Distress Beacon Alerts
    - 121.5 MHz distress beacons are still in use and send out distress alerts heard on the radio as a WOW WOW sound of two alternating tones.
    - Aircraft in flight are the primary means of detecting these alerts. Pilots-in-command should advise ATS units when this distress alert is heard.
    - When in flight and reporting an alert from a 121.5 MHz distress beacon, the pilot-in-command should expect the ATS unit to request the following information:
      - Your aircraft altitude above ground level, where and when the signal was first heard
      - Your aircraft altitude above ground level, where and when maximum signal was heard
      - Your aircraft altitude above ground level, where and when signal faded or was lost.

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## ANNEX 14

## BIENNIAL AND POST-BIENNIAL AGENDAS OF THE COMSAR SUB-COMMITTEE

## BIENNIAL AGENDA\*

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)					
PLANNED OUTPUTS 2010-2011 (resolution A.1012(26))					
Number	Description	Parent organ(s)	Coordinating organ(s)	Involved organ(s)	Target completion year
1.1.2.17	<b>Radiocommunication ITU-R Study Group matters; and ITU World Radiocommunication Conference matters:</b>  Liaison statements to/from ITU: radiocommunications	MSC	COMSAR		Continuous
1.3.5.2	<b>Amendments to the ICAO/IMO IAMSAR Manual</b>	MSC	COMSAR		Continuous
2.0.3.2	<b>Matters concerning search and rescue, including those related to the 1979 SAR Conference and the implementation of the GMDSS: Further development of the Global SAR Plan for the provision of maritime SAR services, including procedures for routeing distress information in the GMDSS</b>	MSC	COMSAR		Continuous
2.0.3.4	<del>Reports of WMU project on SAR related to passenger ships</del>	MSC	<del>COMSAR</del>		2011
2.0.3.6	<b>Harmonized aeronautical and maritime search and rescue procedures, including SAR training matters</b>	MSC	COMSAR		<del>2010</del> 2011

\* Items printed in bold have been selected for the provisional agenda for COMSAR 15, shown in annex 2. Struck-out text indicates completed outputs and shaded text indicates proposed additions and/or changes.

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)					
PLANNED OUTPUTS 2010-2011 (resolution A.1012(26))		Parent organ(s)	Coordinating organ(s)	Involved organ(s)	Target completion year
Number	Description				
5.1.1.7	<b>Non-mandatory instruments: safety provisions applicable to tenders operating from passenger ships</b>	MSC	DE	FP, COMSAR, NAV, SLF, STW	2011
5.1.2.3	Measures to protect the safety of persons rescued at sea	MSC	COMSAR	FSI/FAL	<del>2010</del> 2011
5.2.5.1	Non-mandatory instruments: amendments to NAVTEX and SafetyNET	MSC	COMSAR		2011
5.2.5.2	<b>Global Maritime Distress and Safety System (GMDSS): Operational and technical coordination provisions of maritime safety information (MSI) services, including review of related documents</b>	MSC	COMSAR		Continuous
5.2.5.4	<b>Further development of the GMDSS master plan on shore-based facilities, including the completion of implementation for full Arctic MSI in 2011</b>	MSC	COMSAR		Continuous
5.2.5	<b>Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS</b>	MSC	COMSAR		<del>2 sessions</del> 2012
5.2.5.5	<b>Satellite services (Inmarsat and Cospas-Sarsat):</b>  Developments in Inmarsat and Cospas-Sarsat monitored	MSC	COMSAR		Continuous
5.2.5.6	Future mobile satellite communication systems evaluated and recognized for use in the GMDSS	MSC	COMSAR		2011
5.2.5.7	<b>Reports on developments in maritime radiocommunication systems and technology</b>	MSC	COMSAR		<del>2010</del> 2011

<b>SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)</b>					
<b>PLANNED OUTPUTS 2010-2011 (resolution A.1012(26))</b>		<b>Parent organ(s)</b>	<b>Coordinating organ(s)</b>	<b>Involved organ(s)</b>	<b>Target completion year</b>
<b>Number</b>	<b>Description</b>				
5.2.5.8	Procedures for updating shipborne navigation and communication equipment	MSC	NAV	COMSAR	2010
5.2.5.9	<b>Revision of Performance Standards for float-free satellite EPIRBs operating on 406 MHz (resolution A.810(19))</b>	MSC	COMSAR		2011
5.2.6.1	<b>Non-mandatory instruments: an implementation plan for the e-navigation strategy</b>	MSC	NAV	COMSAR/STW	2012
12.1.2.2	Casualty analysis	MSC	FSI	COMSAR	Continuous

POST-BIENNIAL AGENDA

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)								
ACCEPTED POST-BIENNIAL OUTPUTS				Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Timescale (sessions)	Remarks
Number	Reference to Strategic Directions	Reference to High-level Actions	Description					

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## ANNEX 15

### DRAFT PROVISIONAL AGENDA FOR COMSAR 15\*

- Opening of the session
- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Global Maritime Distress and Safety System (GMDSS)
  - .1 Matters relating to the GMDSS Master Plan
  - .2 Operational and technical coordination provisions of maritime safety information (MSI) services, including review of the related documents
  - .3 Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS
- 4 ITU maritime radiocommunication matters
  - .1 Radiocommunication ITU-R Study Group matters
  - .2 ITU World Radiocommunication Conference matters
- 5 Satellite services (Inmarsat and Cospas-Sarsat)
- 6 Matters concerning search and rescue, including those related to the 1979 SAR Conference and the implementation of the GMDSS
  - .1 Harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters
  - .2 Plan for the provision of maritime SAR services, including procedures for routing distress information in the GMDSS
- 7 Developments in maritime radiocommunication systems and technology
- 8 Revision of the IAMSAR Manual
- 9 Safety provisions applicable to tenders operating from passenger ships
- 10 Measures to protect the safety of persons rescued at sea
- 11 Development of an e-navigation strategy implementation plan
- 12 Revision of Performance Standards for float-free satellite EPIRBs operating on 406 MHz (resolution A.810(19))

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\* Agenda item numbers do not indicate priorities.

- 13 Work programme and provisional agenda for COMSAR 16
- 14 Election of Chairman and Vice-Chairman for 2012
- 15 Any other business
- 16 Report to the Maritime Safety Committee

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ANNEX 16

REPORT ON THE STATUS OF PLANNED OUTPUTS FOR THE COMSAR SUB-COMMITTEE

Planned output number in the High-level Action Plan for 2010-2011	Description <sup>a</sup>	Target completion year <sup>b</sup>	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1 <sup>c</sup>	Status of output for Year 2 <sup>c</sup>	References <sup>d</sup>
1.1.2.17	Radiocommunication ITU-R Study Group matters; and ITU World Radiocommunication Conference matters  Liaison statements to/from ITU: radiocommunications	Continuous	MSC	COMSAR		In progress		COMSAR 14/17, section 4
1.3.5.2	Amendments to the ICAO/IMO IAMSAR Manual	Continuous	MSC	COMSAR		In progress		MSC 71/23, paragraph 20.2; COMSAR 14/17, section 8
2.0.3.2	Further development of the Global SAR Plan for the provision of maritime SAR services, including procedures for routeing distress information in the GMDSS	Continuous	MSC	COMSAR		Ongoing		COMSAR 14/17, section 6
2.0.3.4	Reports of WMU project on SAR related to passenger ships	2011	MSC	COMSAR		Completed		COMSAR 14/17, section 6
2.0.3.6	Harmonized aeronautical and maritime search and rescue procedures, including SAR training matters	2010	MSC	COMSAR		In progress		COMSAR 14/17, section 6

Planned output number in the High-level Action Plan for 2010-2011	Description <sup>a</sup>	Target completion year <sup>b</sup>	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1 <sup>c</sup>	Status of output for Year 2 <sup>c</sup>	References <sup>d</sup>
5.1.1.7	Non-mandatory instruments: safety provisions applicable to tenders operating from passenger ships	2011	MSC	DE	COMSAR	In progress		MSC 84/24, paragraph 22.35; COMSAR 14/17, section 11
5.1.2.3	Measures to protect the safety of persons rescued at sea	2010	MSC	COMSAR	FSI/FAL	In progress		MSC 84/24, paragraph 22.36; COMSAR 14/17, section 10
5.2.5.1	Non-mandatory instruments: amendments to NAVTEX and SafetyNET	2011	MSC	COMSAR		In progress		COMSAR 14/17, section 3
5.2.5.2	Operational and technical coordination provisions of maritime safety information (MSI) services, including review of related documents	Continuous	MSC	COMSAR		In progress		COMSAR 14/17, section 3
5.2.5.4	Further development of the GMDSS master plan on shore-based facilities, including the completion of implementation for full Arctic MSI in 2011	Continuous	MSC	COMSAR		In progress		COMSAR 14/17, section 3
5.2.5	Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS	2012	MSC	COMSAR		In progress		MSC 86/26, paragraph 23.20; COMSAR 14/17, section 7

Planned output number in the High-level Action Plan for 2010-2011	Description <sup>a</sup>	Target completion year <sup>b</sup>	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1 <sup>c</sup>	Status of output for Year 2 <sup>c</sup>	References <sup>d</sup>
5.2.5.5	Satellite services (Inmarsat and Cospas-Sarsat)  Developments in Inmarsat and Cospas-Sarsat monitored	Continuous	MSC	COMSAR		Ongoing		COMSAR 14/17, section 5
5.2.5.6	Future mobile satellite communication systems evaluated and recognized for use in the GMDSS	2011	MSC	COMSAR		Ongoing		MSC 84/24, paragraph 22.75
5.2.5.7	Reports on developments in maritime radiocommunication systems and technology	2010	MSC	COMSAR		In progress		MSC 74/24, paragraph 21.25.1; COMSAR 14/17, section 7
5.2.5.8	Procedures for updating shipborne navigation and communication equipment	2010	MSC	NAV	COMSAR	Completed		MSC 83/28, paragraph 25.30; COMSAR 14/17, section 9
5.2.5.9	Revision of Performance Standards for float-free satellite EPIRBs operating on 406 MHz (resolution A.810(19))	2011	MSC	COMSAR		In progress		MSC 86/26, paragraph 23.19; COMSAR 14/17, section 13
5.2.6.1	Non-mandatory instruments: an implementation plan for the e-navigation strategy	2012	MSC	NAV	COMSAR / STW	In progress		MSC 85/26, paragraph 23.22; COMSAR 14/17, section 12

Planned output number in the High-level Action Plan for 2010-2011	Description <sup>a</sup>	Target completion year <sup>b</sup>	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1 <sup>c</sup>	Status of output for Year 2 <sup>c</sup>	References <sup>d</sup>
12.1.2.2	Casualty analysis	Continuous	MSC	FSI	COMSAR	Ongoing		MSC 70/23, paragraphs 9.17 and 20.4; MSC 78/26, paragraph 24.8

**Notes:**

- a When individual outputs contain multiple deliverables, the format should report on each individual deliverable.
- b The target completion date should be specified as a year, or indicate that the item is continuous. This should not indicate a number of sessions.
- c The entries under the "Status of output" columns are to be classified as follows:
- "completed" signifies that the outputs in question have been duly finalized;
  - "in progress" signifies that work on the related outputs has been progressed, often with interim outputs (for example, draft amendments or guidelines) which are expected to be approved later in the same biennium;
  - "ongoing" signifies that the outputs relate to work of the respective IMO organs that is a permanent or continuous task; and
  - "postponed" signifies that the respective IMO organ has decided to defer the production of relevant outputs to another time (for example, until the receipt of corresponding submissions).
- d If the output consists of the adoption/approval of an instrument (e.g., resolution, circular, etc.), that instrument should be clearly referenced in this column.

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**ANNEX 17**

**DRAFT RESOLUTION MSC....([88])**

**(adopted on [.. December 2010])**

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR  
HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

NOTING resolution MSC.36(63), by which it adopted the International Code of Safety for High-Speed Craft, 1994 (hereinafter referred to as "the 1994 HSC Code"), which has become mandatory under chapter X of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as "the Convention"),

NOTING ALSO article VIII(b) and regulation X/1.1 of the Convention concerning the procedure for amending the 1994 HSC Code,

HAVING CONSIDERED, at its [eighty-eighth] session, amendments to the 1994 HSC Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the 1994 HSC Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on [1 July 2011] unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;
3. INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [1 January 2012] upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR  
HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)**

**CHAPTER 14  
RADIOCOMMUNICATIONS**

The existing text of paragraph 14.1 is replaced by the following:

"Craft should be provided with radiocommunications facilities as specified in chapter 14 of the 2000 HSC Code (resolution MSC.97(73)), as amended, that are fitted and operated in accordance with the provisions of that chapter."

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**ANNEX 18**

**DRAFT MSC CIRCULAR**

**UNIFIED INTERPRETATION OF THE INTERNATIONAL CODE OF SAFETY FOR  
HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)**

1 The Maritime Safety Committee, at its [eighty-eighth session (24 November to 3 December 2010)], with a view to providing more specific guidance for certain Rules which are open to different interpretations contained in IMO instruments, approved the unified interpretations of the International Code of Safety for High-Speed Craft, 1994 (1994 HSC Code) prepared by the Sub-Committee on Radiocommunications and Search and Rescue, at its fourteenth session, as set out in the annex.

2 Member Governments are invited to use the annexed unified interpretations as guidance when applying relevant provisions of the 1994 HSC Code and to bring the unified interpretations to the attention of all parties concerned.

ANNEX

**UNIFIED INTERPRETATION OF THE INTERNATIONAL CODE OF SAFETY FOR  
HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)**

**Chapter 14 – Radiocommunications**

The current text of chapter 14:

"14.1 Craft should be provided with radiocommunications facilities as specified in chapter 14 of the 2000 HSC Code (resolution MSC.97(73)), as amended up to and including resolution MSC.222(82), that are fitted and operated in accordance with the provisions of that chapter.",

should be interpreted as not requiring carriage of the equipment prescribed in paragraphs 14.6.4 (distress panel) and 14.6.6 (distress alert panel) of the 2000 HSC Code.

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**ANNEX 19**

**DRAFT RESOLUTION MSC....([88])**

**(adopted on [.. December 2010])**

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR  
HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

NOTING resolution MSC.97(73), by which it adopted the International Code of Safety for High-Speed Craft, 2000 (hereinafter referred to as "the 2000 HSC Code"), which has become mandatory under chapter X of the International Convention for the Safety of Life at Sea (SOLAS), 1974, (hereinafter referred to as "the Convention"),

NOTING ALSO article VIII(b) and regulation X/1.2 of the Convention concerning the procedure for amending the 2000 HSC Code,

HAVING CONSIDERED, at its [eighty-eighth] session, amendments to the 2000 HSC Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the International Code of Safety for High-Speed Craft, 2000, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on [1 July 2011] unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;
3. INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [1 January 2012] upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR  
HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)**

**Chapter 14 – Radiocommunications**

The existing text of paragraph 14.15.10 is amended as follows:

"14.15.10 Satellite EPIRBs on all craft shall be:

- .1 annually tested for all aspects of operational efficiency, with special emphasis on checking the emission on operational frequencies, coding and registration, at intervals as specified below:
  - .2 on passenger craft, within 3 months before the expiry date of the High-Speed Craft Safety Certificate or the anniversary date of the certificate; and
  - .3 on cargo craft, within 3 months before the expiry date, or 3 months before or after the anniversary date, of the High-Speed Craft Safety Certificate;" ...
-