

SUB-COMMITTEE ON  
RADIOCOMMUNICATIONS AND SEARCH  
AND RESCUE  
15th session  
Agenda item 16

COMSAR 15/16  
25 March 2011  
Original: ENGLISH

## REPORT TO THE MARITIME SAFETY COMMITTEE

### Table of contents

Section	Page No.
1 GENERAL	3
2 DECISIONS OF OTHER IMO BODIES	5
3 GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)	6
4 ITU MARITIME RADIOCOMMUNICATION MATTERS	13
5 SATELLITE SERVICES (Inmarsat and Cospas-Sarsat)	17
6 MATTERS CONCERNING SEARCH AND RESCUE, INCLUDING THOSE RELATED TO THE 1979 SAR CONFERENCE AND IMPLEMENTATION OF THE GMDSS	19
7 DEVELOPMENTS IN MARITIME RADIOCOMMUNICATION SYSTEMS AND TECHNOLOGY	23
8 REVISION OF THE IAMSAR MANUAL	24
9 SAFETY PROVISIONS APPLICABLE TO TENDERS OPERATING FROM PASSENGER SHIPS	25
10 MEASURES TO PROTECT THE SAFETY OF PERSONS RESCUED AT SEA	26
11 DEVELOPMENT OF AN E-NAVIGATION STRATEGY IMPLEMENTATION PLAN	28
12 REVISION OF PERFORMANCE STANDARDS FOR FLOAT-FREE SATELLITE EPIRBs OPERATING ON 406 MHz (RESOLUTION A.810(19))	33
13 WORK PROGRAMME AND PROVISIONAL AGENDA FOR COMSAR 16	33

14	ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2012	35
15	ANY OTHER BUSINESS	35
16	ACTION REQUESTED OF THE COMMITTEE	38

### LIST OF ANNEXES

ANNEX 1	DRAFT MSC CIRCULAR – REVISED NAVTEX MANUAL
ANNEX 2	DRAFT ASSEMBLY RESOLUTION – IMO/WMO WORLDWIDE MET-OCEAN INFORMATION AND WARNING SERVICE GUIDANCE DOCUMENT
ANNEX 3	LIAISON STATEMENT TO ITU-R WORKING PARTY 5B – NEAR REAL-TIME EXCHANGE OF MARITIME DOMAIN INFORMATION
ANNEX 4	REVISED DRAFT IMO POSITION ON WRC-12 AGENDA ITEMS CONCERNING MATTERS RELATING TO MARITIME SERVICES
ANNEX 5	DRAFT MSC CIRCULAR – REVISED QUESTIONNAIRE ON SHORE-BASED FACILITIES FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)
ANNEX 6	DRAFT MSC CIRCULAR – BASIC SAFETY GUIDANCE FOR YACHT RACES OR OCEANIC VOYAGES BY NON-REGULATED CRAFT
ANNEX 7	DRAFT MSC CIRCULAR – REVISED GUIDELINES ON ANNUAL TESTING OF 406 MHz SATELLITE EPIRBs
ANNEX 8	DRAFT AMENDMENTS TO THE IAMSAR MANUAL
ANNEX 9	PROPOSED BIENNIAL AGENDA FOR THE 2012-2013 BIENNIUM IN SMART TERMS AND ITEMS TO BE PLACED ON THE COMMITTEE'S POST-BIENNIAL AGENDA THAT FALL UNDER THE PURVIEW OF THE SUB-COMMITTEE
ANNEX 10	DRAFT PROVISIONAL AGENDA FOR COMSAR 16
ANNEX 11	REPORT ON THE STATUS OF PLANNED OUTPUTS FOR THE 2010-2011 BIENNIUM

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## 1 GENERAL

1.1 The Sub-Committee on Radiocommunications and Search and Rescue held its fifteenth session from 7 to 11 March 2011 under the Chairmanship of Mr. C. Salgado (Chile).

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

ALGERIA	MEXICO
ANGOLA	MOROCCO
ARGENTINA	NETHERLANDS
AUSTRALIA	NEW ZEALAND
AZERBAIJAN	NIGERIA
BAHAMAS	NORWAY
BRAZIL	OMAN
BULGARIA	PANAMA
CANADA	PAPUA NEW GUINEA
CHILE	PERU
CHINA	PHILIPPINES
COLOMBIA	POLAND
CUBA	PORTUGAL
CYPRUS	REPUBLIC OF KOREA
DENMARK	ROMANIA
ECUADOR	RUSSIAN FEDERATION
EGYPT	SAINT KITTS AND NEVIS
ESTONIA	SAUDI ARABIA
FINLAND	SINGAPORE
FRANCE	SOUTH AFRICA
GERMANY	SPAIN
GHANA	SWEDEN
GREECE	SYRIAN ARAB REPUBLIC
INDONESIA	THAILAND
IRAN (ISLAMIC REPUBLIC OF)	TRINIDAD AND TOBAGO
IRAQ	TURKEY
IRELAND	TUVALU
ITALY	UKRAINE
JAPAN	UNITED ARAB EMIRATES
KENYA	UNITED KINGDOM
LATVIA	UNITED STATES
LIBERIA	URUGUAY
MALAYSIA	VANUATU
MALTA	VENEZUELA (BOLIVARIAN REPUBLIC OF)
MARSHALL ISLANDS	

and by the following Associate Member of IMO:

HONG KONG, CHINA

1.3 The following United Nations specialized agencies were also represented:

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)  
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 ELECTROTECHNICAL COMMISSION (IEC)  
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)  
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 MARITIME PILOTS' ASSOCIATION (IMPA)  
INTERNATIONAL COUNCIL OF MARINE INDUSTRY ASSOCIATIONS (ICOMIA)  
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)  
INTERNATIONAL MARITIME RESCUE FEDERATION (IMRF)  
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA)  
INTERNATIONAL SAILING FEDERATION (ISAF)  
WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)  
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)  
THE NAUTICAL INSTITUTE (NI)

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

1.5 The Secretary-General welcomed participants and delivered his opening address. The full text of the opening address is reproduced in document COMSAR 15/INF.7.

### **Chairman's remarks**

1.6 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. The Chairman further elaborated on the information provided by the Secretary-General with regard to this year's theme for World Maritime Day, "Piracy: orchestrating the response".

### **Completion of the network of Regional MRCCs, as recommended by the 2000 Florence Conference**

1.7 The Chairman thanked the Secretary-General in particular for the welcome news that, as a result of the recent commissioning of the Regional MRCC in Morocco, the network of Regional MRCCs, as recommended by the 2000 Florence Conference, had been completed and that good progress was being made on the establishment of maritime rescue

sub-centres in the regional context. The Chairman, on behalf of the Sub-Committee, fully supported what had been said by the Secretary-General, that all who had contributed to these achievements deserved special recognition and thanks and he recognized in particular that the Secretary-General, himself, had been the great driving force behind these developments and the Sub-Committee expressed its sincere thanks and congratulations for these achievements.

1.8 The delegation of Spain recalled that, at MSC 74, it had reserved its position with respect to the inclusion of the Spanish Canary Islands search and rescue region (SRR) in the proposed sub-region by the Florence Conference, to be coordinated by the Morocco MRCC. Spain informed the Sub-Committee that it continued to reserve its position on this matter and that it might consider submitting a document to the Committee with regard to the new SRRs, when the Sub-Committee would report on this matter to the next MSC.

## **Piracy**

1.9 The Bahamas expressed their appreciation to the Turkish Navy vessel **TCG GIRESUN** and the officers and crew of the United States Navy vessel **USS BULKELEY**, especially the detachment of marines whose actions resulted in the recapture of the Bahamas registered vessel **MV Guanabara** in the Indian Ocean. No harm had been suffered by the officers and crew who survived a prolonged attack upon the ship's citadel in which they had taken shelter. The Bahamas stated that this incident demonstrated the orchestrated and integrated response that was possible during piracy attacks.

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

1.10 The Sub-Committee adopted the agenda (COMSAR 15/1/Rev.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 15/1/1 and COMSAR 15/1/1/Add.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 FP 54, MSC 87, FSI 18, NAV 56, FAL 36, DE 54, MSC 88 and STW 42, as reported in documents COMSAR 15/2 and COMSAR 15/2/1 and took them into account in its deliberations under the relevant agenda items.

2.2 The Sub-Committee also noted the relevant decisions of FSI 19, which took place two weeks before and had been reported orally by the Secretariat under agenda item 10.

## **Outcome of the one-hundred-and-fourth session of the Council (C 104)**

2.3 The Sub-Committee noted that C 104 approved a number of cost-saving measures with a view to improving the conduct of meetings by increasing efficiency and effectiveness. The measures of immediate interest to the work of the Sub-Committee were highlighted as follows:

- .1 documents, other than information documents, which contained more than 20 pages, would no longer be translated into all working languages in their entirety, and, therefore, such documents should include, for translation purposes, a summary of the document not longer than four pages, with the technical content submitted as an annex in the language needed by Working Groups (e.g., English);

- .2 only two copies of working papers printed for circulation during a meeting should be printed per Member State, Associate Member and IGO and one copy per NGO;
- .3 working papers will be uploaded on to IMODOCS simultaneously with being printed and distributed in hard copy;
- .4 the Chairmen of IMO organs and the Secretariat should examine how best to reduce the size of meeting reports and standardize their style and structure; and
- .5 to save meeting time, information documents, and documents requiring no action other than for their contents to be noted, should not be introduced in the plenary meetings of any IMO organ.

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

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

3.1 The Sub-Committee noted that MSC 88 had approved MSC.1/Circ.1382 on the Questionnaire on the availability of shore-based facilities in the GMDSS, superseding MSC/Circ.684.

3.2 The Sub-Committee noted document COMSAR 15/3 (Secretariat) and, in particular, that:

- .1 in accordance with its instructions and using information provided by Governments after March 2010, the Secretariat had issued GMDSS.1/Circ.12 (GMDSS Master Plan) on 30 April 2010. Member Governments providing information after COMSAR 14, which was included in GMDSS.1/Circ.12, were: Croatia, Cyprus, Estonia, France, Lithuania, Mauritius, Norway and Turkey. The annex to the document showed in brief the status of shore-based facilities as given in GMDSS.1/Circ.12;
- .2 since issuing GMDSS.1/Circ.12, up to the time of issuing document COMSAR 15/3, the Secretariat had received updated information from Argentina, Brazil, Canada, Chile, Egypt, France, Greece, Latvia, Lebanon, the Netherlands, New Zealand and the Russian Federation; and
- .3 since issuing document COMSAR 15/3, the Secretariat had also received updates from Iran (Islamic Republic of), Lithuania, the Netherlands, New Zealand, the Republic of Korea, Slovenia and Hong Kong, China. The Secretariat was planning to issue GMDSS.1/Circ.13 in April 2011.

3.3 Noting the above information, the Sub-Committee reiterated its request for Member Governments to check their national data in GMDSS.1/Circ.12 for accuracy, and provide the Secretariat with any necessary amendments, at their earliest convenience, and to respond to MSC.1/Circ.1382, if they had not already done so.

#### **Report of the 20<sup>th</sup> session of the Baltic/Barents Sea Regional Co-operation Conference (BBRC) on matters relating to the Sub-Committee**

3.4 The Sub-Committee noted with appreciation the information provided by Sweden (COMSAR 15/INF.6) on the report of the 20<sup>th</sup> session of the Baltic/Barents Sea Regional Co-operation Conference (BBRC) on matters relating to the Sub-Committee.

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**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 87 had approved the revised International SafetyNET Manual and disseminated it by means of MSC.1/Circ.1364 and decided that it would come into force on 1 January 2012.

**Outcome of the second session of the IHO World-Wide Navigational Warnings Service Sub-Committee (WWNWS)**

3.6 In considering document COMSAR 15/3/1 (IHO), the Sub-Committee noted with appreciation the matters discussed and decisions taken at the second session of the IHO World-Wide Navigational Warnings Service Sub-Committee (WWNWS 2), which was held from 9 to 13 August 2010.

**Review of the NAVTEX Manual**

3.7 The Sub-Committee briefly considered document COMSAR 15/3/2 (IHO, WMO and IMSO) proposing a revised text for the NAVTEX Manual.

3.8 In referring to chapter 4, paragraphs 4.3 and 4.4 of the draft IMO NAVTEX Manual, the delegation of Greece recalled that during the review of the NAVTEX Manual, it had been accepted that National NAVTEX Services were not coordinated in the same way as International NAVTEX Services. Consequently, the National NAVTEX Services would not require the establishment of NAVTEX Service Areas. Accordingly, in order for this generally accepted principle to be more clearly reflected in the IMO NAVTEX Manual, they proposed to replace the second phrase in paragraph 4.3 as follows: "The establishment of NAVTEX Service Areas for the promulgation of National NAVTEX Services is not required".

3.9 Taking into account the comment made by the delegation of Greece, the Sub-Committee decided to refer this document to the Drafting Group on MSI documents for finalization.

**List of NAVAREA Co-ordinators**

3.10 Having briefly considered document COMSAR 15/3/3 (IHO), concerning a draft COMSAR circular containing a revised list of NAVAREA Co-ordinators, the Sub-Committee decided to refer this document to the Drafting Group on MSI documents for finalization.

**International NAVTEX Co-ordinating Panel**

3.11 The Sub-Committee noted the report of the Chairman of the International NAVTEX Co-ordinating Panel (COMSAR 15/3/5) providing a summary of the current issues being addressed by the Panel and its actions/activities since COMSAR 14.

**Promulgation of Arctic MSI services**

3.12 The Sub-Committee noted document COMSAR 15/3/9 (IHO and WMO) reporting on the progress made regarding the implementation of the provision of MSI to Arctic waters.

3.13 The Sub-Committee noted, in particular, that IMO, IHO and WMO announced the establishment of five new Arctic NAVAREAs/METAREAs as part of the expansion of the IMO/IHO World-Wide Navigational Warning Service (WWNWS) into Arctic waters. On 1 July 2010, a message was disseminated by the Arctic NAVAREAs/METAREAs declaring to be in an "Initial Operational Capability" (IOC) for the Arctic waters with a transition

to "Full Operational Capability" (FOC) expected on 1 June 2011. It was further noted that this important achievement was celebrated at a special event during the current session of the Sub-Committee, in the presence of the Secretary-General of WMO, Mr. Michel Jarraud, and the President of IHO, Admiral Alexandros Maratos.

#### **SCOPING EXERCISE TO ESTABLISH THE NEED FOR A REVIEW OF THE ELEMENTS AND PROCEDURES OF THE GMDSS**

3.14 The Sub-Committee recalled that COMSAR 14 had:

- .1 instructed the Joint IMO/ITU Experts Group to use 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; and
- .2 invited interested Member Governments and organizations to submit proposals related to the Scoping exercise to COMSAR 15.

3.15 The Sub-Committee noted that MSC 88 had:

- .1 considered information provided by the United Arab Emirates related to the recognition of new satellite providers within the GMDSS; and
- .2 instructed COMSAR 15 to consider the matter under this agenda item.

3.16 The Sub-Committee considered the information provided by the Secretariat on the relevant outcome of the Joint IMO/ITU Experts Group (COMSAR 15/4), and noted:

- .1 the debate in relation to the Scoping exercise, in general (paragraphs 92 to 122 and appendix 5 of the annex), and in particular:
  - .1 that a review of the GMDSS had to lead to a system which was flexible and scalable and, to achieve this, there would be no need for a complete re-design of the system, but an evolution of the current system would be sufficient;
  - .2 that after the review had taken place, there would be a need for a continuous review of the system, in order to keep it up to date with technical developments;
  - .3 that in reviewing the GMDSS, non-SOLAS (non-Convention) ships should be taken fully into account;
  - .4 that there would be a need for additional meeting time and arrangements in the IMO framework to progress the review;
  - .5 that the Sub-Committee was invited to develop a questionnaire to investigate the views of seafarers, port State control officers and other stakeholders on possible improvements of distress and safety communications on board ships;
  - .6 that the Sub-Committee was invited to keep the need for continuing protection of the necessary spectrum for terrestrial and satellite-based radiocommunication services for the GMDSS under continuous review;

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- .7 the need to assess the requirement for additional spectrum requirements when evaluating new technologies for use in the GMDSS;
  - .8 the need for a transition to a (complete) new numbering scheme, (partly) replacing the current assignment and use of maritime mobile service identities (MMSI numbers), including the management by Administrations;
  - .9 the need for an effective cost/benefit analysis of proposed changes at an early stage;
  - .2 the discussions which took place regarding the review of the list of issues given in document COMSAR 14/WP.5/Add.1;
  - .3 the list of "issues which need to be further discussed", as given in appendix 6 of the annex; and
  - .4 the discussions which took place regarding the further development of the draft Work Plan.

It was decided to refer document COMSAR 15/4 to the Technical Working Group for detailed consideration.

3.17 The Sub-Committee briefly considered document COMSAR 15/3/4 (United Arab Emirates) concerning the issue of how additional satellite service providers such as Thuraya could become part of a future, revised and augmented GMDSS, and noted document COMSAR 15/INF.2 (United Arab Emirates) containing supplementary information on this matter. It was decided to refer document COMSAR 15/3/4 to the Technical Working Group for detailed consideration and to instruct the Technical Working Group to take the information contained in document COMSAR 15/INF.2 into account in its further deliberations.

3.18 The Sub-Committee briefly considered document COMSAR 15/3/7 and COMSAR 15/3/7/Rev.1, in English only, (Chile, United Kingdom, United States, ICS and IFSMA) inviting it to open discussion on requirements that would need to be addressed during a review and modernization of the GMDSS to ensure both the concept and architecture could integrate regional satellite services. It was decided to refer this document to the Technical Working Group for detailed consideration.

3.19 Having briefly considered document COMSAR 15/3/8 (Chile, United Kingdom, ICS and IFSMA) opening the discussion on establishing a work plan for the process of the review and modernization of the GMDSS, the Sub-Committee decided to refer this document to the Technical Working Group for detailed consideration.

3.20 The Sub-Committee briefly considered document COMSAR 15/3/10 (United States) providing a set of principles for the modernization review, a recommendation for a two-phased approach and a proposal for the establishment of a Correspondence Group, and decided to refer this document to the Technical Working Group for detailed consideration.

3.21 In considering document COMSAR 15/3/11 (Turkey), proposing amendments to SOLAS chapter IV related to VHF EPIRB and at-sea electronic maintenance, several delegations expressed support for the proposed amendment to SOLAS chapter IV related to VHF EPIRB. With regard to the issue of at-sea electronic maintenance, several delegations expressed the view that this should be further considered during the future review of the GMDSS.

3.22 The Sub-Committee decided to refer this document to the Technical Working Group for detailed consideration.

3.23 The Sub-Committee noted document COMSAR 15/INF.3 (Nautical Institute) providing information on the onboard user needs for GMDSS in the future, and instructed the Technical Working Group to take the information into account in its further deliberations.

3.24 The Sub-Committee further noted document COMSAR 15/INF.4 (United States) containing the report from the GMDSS Task Force on elements for GMDSS modernization Scoping exercise, and instructed the Technical Working Group to take the information into account in its further deliberations.

3.25 The delegation of the United Arab Emirates agreed that there was a need for further discussion on the integration of Regional mobile satellite communication systems into the GMDSS, as part of the wider consideration under the Scoping exercise. The latter would encompass all aspects of the GMDSS, not just satellite communications, and would include such elements as MF, HF and VHF radio. The existing GMDSS was based upon a concept that was around thirty years old and it was considered likely that this original GMDSS design for satellite services would need to be changed and updated including, but not limited to, changes in the shore infrastructure. Such changes, including potential e-navigation convergence, would affect all satellite communications providers for the GMDSS, including regional satellite systems and other satellite providers that might come forward and be approved. They were of the view that it was premature, at this stage, to suggest that only regional satellite providers should bear the costs of shore infrastructure changes, when such changes – as yet undefined – were likely to affect both existing and new satellite providers of distress and safety services for the GMDSS.

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

3.26 The Sub-Committee agreed to instruct the Technical Working Group to report on its findings with regard to the Scoping exercise, in a separate Working Paper, in English only, in order to enable the group to work until Thursday evening on this matter. In this regard it was noted that the Sub-Committee was not expected to take any crucial decisions on this matter and that the Scoping exercise should be finalized only at the next session.

3.27 The Sub-Committee instructed the Technical Working Group to consider documents COMSAR 15/3/4, COMSAR 15/3/7, COMSAR 15/3/8, COMSAR 15/3/10, COMSAR 15/3/11, COMSAR 15/4, taking into account documents COMSAR 15/INF.2, COMSAR 15/INF.3 and COMSAR 15/INF.4 and decisions of, and comments and proposals made at Plenary and in particular to:

- .1 further develop the draft Work Plan, as given in appendix 7 of the annex to document COMSAR 15/4, taking into account all relevant information available submitted to and prepared by COMSAR 14 and COMSAR 15;
- .2 develop an "overall" work plan for the process of the Review and modernization of the GMDSS, taking into account documents COMSAR 15/3/8 and COMSAR 15/3/10;
- .3 consider the need for the establishment of a Correspondence Group on the Scoping exercise to work intersessionally between COMSAR 15 and COMSAR 16 and develop the Terms of Reference for that Group, as appropriate (COMSAR 15/4, paragraph 12.9 and COMSAR 15/3/10);

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- .4 provide comments on how additional satellite service providers such as Thuraya, could become part of a future, revised and augmented GMDSS, taking into account documents COMSAR 15/3/4, COMSAR 15/3/7 and COMSAR 15/INF.2;
  - .5 consider the development of a questionnaire to investigate the views of seafarers, port State control officers and other stakeholders on possible improvements of distress and safety communications on board ships (COMSAR 15/4, paragraph 12.5);
  - .6 advise how to proceed with the proposed amendments to SOLAS regulation IV/8.3, SOLAS regulation IV/ 15.6 and 15.7, as proposed in document COMSAR 15/3/11; and
  - .7 provide comments and proposals on other related issues, as appropriate,

and report back to Plenary.

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

3.28 On receipt of the report of the Technical Working Group (COMSAR 15/WP.5 and annexes 1, 2 and 3), the Sub-Committee took action as summarized in the ensuing paragraphs.

3.29 The Sub-Committee noted the comments of the Working Group regarding:

- .1 the amendments proposed to SOLAS regulations IV/8 and IV/15 and concurred with the group's view that references to the VHF DSC EPIRB were redundant in SOLAS chapter IV, and that both issues should be considered in depth during the review of the GMDSS; and
- .2 the work undertaken on the development of a questionnaire to investigate the views of seafarers, port State control officers and other stakeholders on possible improvements of distress and safety communications on board ships, and that due to time constraints it was not feasible to complete it.

3.30 The Sub-Committee did not agree on a draft MSC circular proposed by the Working Group on redundant references to the VHF DSC EPIRB in SOLAS chapter IV, informing that corresponding amendments were expected to be considered in due course (COMSAR 15/WP.5, annex 1). Issuing such a circular was considered to be too premature and might cause confusion.

3.31 The Sub-Committee noted the comments provided by the Working Group regarding additional satellite system providers for the GMDSS and considered that the development of more precise guidance on how applications should be submitted to the Organization and evaluated would be necessary. The Sub-Committee invited interested parties to submit proposals in this respect.

3.32 The Sub-Committee invited IMSO to actively participate in the Scoping exercise process.

3.33 The Sub-Committee also noted the progress made with regard to the Work Plan on the Scoping exercise and authorized the establishment of a Correspondence Group on the

Scoping exercise, under the coordination of the United States\* to continue the work further intersessionally between COMSAR 15 and COMSAR 16 with a view of finalization at COMSAR 16, and approved the following Terms of Reference:

"Taking into account documents COMSAR 15/WP.5, annex 2, COMSAR 15/4, appendix 7, and MSC-MEPC.1/Circ.2 on Guidelines on the organization and method of work of the MSC and the MEPC and their subsidiary bodies, the Correspondence Group on the Scoping exercise should progress the development of the Work Plan, as an outcome of the Scoping exercise, with a view of finalization at COMSAR 16 and subsequent approval for an unplanned output on the review and modernization of the GMDSS by MSC 90.

The Correspondence Group should:

- .1 complete the development of the draft Work Plan, taking into account the Guidelines on the organization and method of work of the MSC and the MEPC and their subsidiary bodies and, in particular, the format for submission of proposals for new items;
- .2 take into account any amendments to the guidance, as expected to be approved by MSC 89;
- .3 submit an interim report on the draft Work Plan to the Joint IMO/ITU Experts Group for its consideration;
- .4 consider the incorporation of additional satellites systems into the GMDSS and how it might be achieved; and
- .5 submit a final report to COMSAR 16 on the completed draft Work Plan, taking into account the outcome of the Joint IMO/ITU Experts Group."

3.34 The Sub-Committee further noted that the delegation of the United Arab Emirates was disappointed because it had not been possible to utilize the expertise of their experts in the way that MSC 88 perhaps had envisaged when it had invited the United Arab Emirates to include technical experts of Thuraya in their delegation (MSC 88/26, paragraph 8.16).

#### **DEVELOPMENT OF AN ASSEMBLY RESOLUTION ON THE WORLDWIDE MET-OCEAN INFORMATION AND WARNING SERVICE**

3.35 The Sub-Committee noted that MSC 88 had considered document MSC 88/23/9 (WMO), proposing to develop an Assembly resolution outlining the Worldwide Met-Ocean Information and Warning Service to meet the requirements of SOLAS regulation V/5.4 and to ensure consistency with other components of maritime safety information, and agreed to include, in the biennial agenda of the COMSAR Sub-Committee and the provisional agenda for COMSAR 15, an unplanned output on "Development of Assembly resolution on World-Wide Met-Ocean Information and Warning Service", with a target completion year of 2011.

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3.36 The Sub-Committee agreed to instruct the Drafting Group on MSI documents to develop the required draft Assembly resolution on the basis of the annex to document MSC 88/23/9.

#### **ESTABLISHING THE DRAFTING GROUP ON MSI DOCUMENTS**

3.37 The Sub-Committee instructed the Drafting Group on MSI documents, taking into account decisions of, and comments and proposals made in Plenary, to finalize:

- .1 the proposed revised texts for the NAVTEX Manual, as given in document COMSAR 15/3/2;
- .2 the updated list of NAVAREA Co-ordinators given in document COMSAR 15/3/3 and the associated draft COMSAR circular on the list of NAVAREA Co-ordinators; and
- .3 the draft Assembly resolution on the Worldwide Met-Ocean Information and Warning Service on the basis of the annex to document MSC 88/23/9, for approval by MSC 89 and adoption by A 27,

and report back to Plenary.

#### **Report of the Drafting Group on MSI documents**

3.38 On receipt of the report of the Drafting Group on MSI documents (COMSAR 15/WP.8), the Sub-Committee took action as summarized in the ensuing paragraphs.

3.39 The Sub-Committee endorsed:

- .1 the proposed amendments to the revised edition of the NAVTEX Manual and instructed the Secretariat to prepare the associated draft MSC circular on the revised NAVTEX Manual and to submit it, for consideration and approval by MSC 89 (annex 1); and
- .2 the draft Assembly resolution on the IMO/WMO Worldwide Met-Ocean Information and Warning Service Guidance Document for approval by MSC 89 with a view to adoption by the twenty-seventh regular session of the Assembly (annex 2).

3.40 The Sub-Committee approved COMSAR.1/Circ.51/Rev.1 on the List of NAVAREA Co-ordinators, and instructed the Secretariat to circulate it, and invited the Committee to endorse this action.

3.41 The Sub-Committee authorized the Secretariat to issue future updates of the list of NAVAREA Co-ordinators upon receipt of changes from either a NAVAREA Co-ordinator or from the IHO and to issue appropriate revisions to the COMSAR circular, informing the Sub-Committee of the action taken, and invited the Committee to endorse this authorization.

## **4 ITU MARITIME RADIOCOMMUNICATION MATTERS**

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

4.1 The Sub-Committee recalled that that COMSAR 14 had approved liaison statements to ITU-R Working Party 5B (WP 5B) regarding the following issues:

- .1 Recommendation ITU-R M.493-13 on Digital Selective Calling System for use in the Maritime Mobile Service;
- .2 MMSI Numbering Systems for Hand Held VHF DSC Radios;
- .3 the implementation of Resolution 355 (WRC-07); and
- .4 specifications of Man Overboard Devices.

4.2 The Sub-Committee further recalled that COMSAR 14 and subsequently MSC 87, had endorsed the need for the continuation of the Joint IMO/ITU Experts Group on maritime radiocommunication matters and that the sixth meeting of that Group was held at IMO Headquarters from 14 to 16 September 2010.

4.3 The Sub-Committee noted that NAV 56 had approved liaison statements to WP 5B regarding:

- .1 future revision of Recommendation ITU-R M.1371-4 (Automatic identification system (AIS)); and
- .2 the use of AIS application-specific messages.

4.4 The Sub-Committee further noted the information provided by the Secretariat on the relevant outcome of the Joint IMO/ITU Experts Group (COMSAR 15/4) and, in particular, the consideration of that Group regarding the:

- .1 MMSI Numbering System for Handheld VHF DSC Radios (paragraphs 21 to 28 of the annex); and
- .2 Man Overboard Devices (paragraphs 29 to 34 and 68 of the annex).

4.5 The Sub-Committee also noted document COMSAR 15/4/1 (Secretariat) containing information on the outcome of ITU-R WP 5B's meeting, held from 8 to 18 November 2010. It was noted that WP 5B had considered the following issues:

- .1 implementation of Resolution 355 (WRC-07);
- .2 revision of Recommendation ITU-R M.493-13;
- .3 Maritime Mobile Service Identities (MMSI);
- .4 specifications of Man Overboard Devices;
- .5 revision of Recommendation ITU-R M.1842;
- .6 near real-time exchange of maritime domain information;
- .7 preliminary draft new Report ITU-R M.[MESH] on maritime broadband wireless mesh networks; and
- .8 future revision of Recommendation ITU-R M.1371-4.

It was further noted that WP 5B would further consider the issues mentioned above, at its future meetings, and was expected to send liaison statements to the next session of the COMSAR Sub-Committee, as appropriate.

### **Numbering of MMSI numbers to DSC hand portable radios operating in the VHF band**

4.6 The Sub-Committee briefly considered document COMSAR 15/3/6 (United Kingdom) outlining a proposal for the allocation and numbering of MMSI numbers to DSC hand portable radios operating in the VHF band, and decided to refer this document to the Technical Working Group for detailed consideration.

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

4.7 The Sub-Committee recalled that COMSAR 14, having discussed an associated liaison statement received from WP 5B, had invited interested Member Governments and organizations to submit comments and suitable proposals with regard to the issue of near real-time exchange of maritime domain information, for consideration by COMSAR 15. Since the Sub-Committee had not received any submissions for consideration at this session, it was not in a position to provide WP 5B with any additional information regarding this matter. Therefore, it was decided to instruct the Technical Working Group to prepare a draft liaison statement to WP 5B informing them accordingly.

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

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

- .1 consider document COMSAR 15/3/6, outlining a proposal for the allocation and numbering of MMSI numbers to DSC hand portable radios operating in the VHF band, and provide comments and proposals, as appropriate;
- .2 prepare a draft liaison statement to WP 5B, informing them that the Sub-Committee was not in a position to provide WP 5B with any additional information regarding the issue of near real-time exchange of maritime domain information; and
- .3 consider the need for the holding of a meeting of the Joint IMO/ITU Experts Group at IMO Headquarters in London in the week from 12 to 16 September 2011, develop Terms of Reference for that meeting and advise on the amount of days needed, as appropriate (COMSAR 15/4, paragraph 12.10),

and report back to Plenary.

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

4.9 On receipt of the report of the Technical Working Group (COMSAR 15/WP.4 and COMSAR 15/WP.5 (paragraphs 3.31 and 3.32 and annex 4), the Sub-Committee took action as summarized in the ensuing paragraphs.

4.10 Having considered document COMSAR 15/3/6 (United Kingdom), outlining a proposal for the allocation and numbering of MMSI numbers to DSC hand portable radios operating in the VHF band, and a by the Working Group developed associated draft liaison statement to ITU-R WP5B (COMSAR 15/WP.4, annex 1), the Sub-Committee decided that the matter needed further consideration, at its next session, and invited interested parties to submit suitable proposals to COMSAR 16.

4.11 The Sub-Committee approved the liaison statement to ITU-R WP 5B on Near real-time exchange of maritime domain information (annex 3) and instructed the Secretariat to convey it to ITU-R, and invited the Committee to endorse this action.

4.12 The Sub-Committee endorsed the holding of the seventh meeting of the Joint IMO/ITU Experts Group, at IMO Headquarters in London, from 13 to 15 September 2011, along with the Terms of Reference as set out in annex 4 to COMSAR 15/WP.4, and invited the Committee to authorize the convening of this intersessional meeting.

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

4.13 The Sub-Committee recalled that COMSAR 14 had approved the draft IMO position and forwarded it to ITU-R.

4.14 The Sub-Committee further recalled that COMSAR 14 had instructed the Joint IMO/ITU Experts Group to prepare a Supplementary advice on the IMO position, as appropriate, for approval by MSC 88.

4.15 The Sub-Committee noted that MSC 87 had endorsed this instruction.

4.16 The Sub-Committee also noted that MSC 88 had:

- .1 considered the Supplementary advice on the draft IMO position, prepared by the Joint IMO/ITU Experts Group;
- .2 noted that some delegations had supported the draft position on WRC-12 Agenda item 1.10, paragraph 6, that "IMO supports the identification of a simplex channel, outside the GMDSS channels, for Man Overboard (MOB) equipment". However, they had been of the opinion that more discussion on this matter was needed at COMSAR 15, before this statement could be submitted to ITU. Accordingly, the Committee had decided to delete paragraph 6 of the draft IMO position relating to Agenda item 1.10; and
- .3 approved the Supplementary advice, as amended, and instructed the Secretariat to submit the full draft IMO position, as endorsed by MSC 87 and updated by the Supplementary advice, to the second session of ITU's Conference Preparatory Meeting for WRC-12 (CPM).

4.17 The Sub-Committee further noted that the CPM took place from 14 to 25 February this year.

4.18 The Sub-Committee considered the relevant part of the report of the Joint IMO/ITU Experts Group (COMSAR 15/4), and noted that the Experts Group had updated the draft IMO position, prepared the Supplementary advice, as set out at appendix 3 of the annex, and made available the full text of the draft IMO position, as updated by the Supplementary advice and set out at appendix 4 of the annex to document COMSAR 15/4.

4.19 The Sub-Committee noted the information provided by the Secretariat on the relevant outcome of the meeting of ITU-R WP 5B, which took place from 8 to 18 November 2010 (COMSAR 15/4/1).

4.20 The Sub-Committee considered document COMSAR 15/4/2 (Republic of Korea) inviting the Sub-Committee to consider the identification of a dedicated worldwide harmonized channel, for the use of Man Overboard Devices to save seafarers and workers in the maritime environment, avoiding the use of the GMDSS channels.

4.21 The Sub-Committee further considered document COMSAR 15/4/3 (Secretariat) providing information regarding Report ITU-R M.2201 (11/2010) on the Utilization of the 495-505 kHz band by the maritime mobile service for the digital broadcasting of safety and security related information from shore-to-ship.

4.22 The Sub-Committee also considered document COMSAR 15/4/4 (Secretariat) containing information on the outcome of the second session of ITU's Conference Preparatory Meeting (CPM) in preparation of WRC-12 and providing information related to matters of relevance for the finalization of the draft IMO position on WRC-12 Agenda items.

4.23 The delegation of Panama expressed its concern regarding the possible consequences for the carriage requirements in relation to the identification of a special frequency for Man Overboard Devices.

4.24 The Sub-Committee decided to establish a Drafting Group to finalize the draft IMO position.

#### **ESTABLISHING THE DRAFTING GROUP ON THE FINALIZATION OF THE DRAFT IMO POSITION**

4.25 The Sub-Committee instructed the Drafting Group on the finalization of the draft IMO position, taking into account decisions of, and comments and proposals made in Plenary, to finalize the draft text of the draft IMO position, using document COMSAR 15/4, appendix 4 of the annex, as amended by MSC 88, as the basic document, taking into account the relevant parts of documents COMSAR 15/4, COMSAR 15/4/1, COMSAR 15/4/2, COMSAR 15/4/3 and COMSAR 15/4/4 and report back to Plenary.

#### **Report of the Drafting Group on the finalization of the draft IMO position**

4.26 On receipt of the report of the Drafting Group (COMSAR 15/WP.7), the Sub-Committee took action as summarized in the ensuing paragraphs.

4.27 The Sub-Committee endorsed the revised draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services and invited the Committee to approve it (annex 4).

4.28 The Sub-Committee further invited the Committee to authorize the Joint IMO/ITU Experts Group, at its meeting from 13 to 15 September 2011, to add, as appropriate, more non-contentious information in the background sections of the Agenda items contained in the IMO position for WRC-12, as approved by MSC 89, in order to strengthen the arguments supporting the IMO position and to instruct the Secretariat submitting the IMO position, amended as appropriate, to ITU after the meeting of the Experts Group had taken place.

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

### **INMARSAT SERVICES**

5.1 The Sub-Committee noted that MSC 88 had noted the information provided by IMSO (MSC 88/8/3) relating to the intention of Inmarsat to seek future recognition and approval for the new generation Inmarsat FleetBroadband FB500 terminal to be used in GMDSS ship installations.

5.2 The Sub-Committee further noted that the Secretariat, in consultation with IMSO, had issued COMSAR.1/Circ.53 on 7 January 2011, containing the updated List of Land Earth Station (LES) Operation Co-ordinators in the Inmarsat system, revoking COMSAR.1/Circ.49.

5.3 The Sub-Committee also noted document COMSAR 15/5/1 (IMSO) providing analysis and assessment of the performance by Inmarsat of the company's obligations for the provision of maritime services within the GMDSS, as overseen by IMSO. The information covered the period from 1 November 2009 to 31 October 2010. It was assessed that, during this period, Inmarsat had continued to provide a sufficient quality of service to meet its obligations under the GMDSS.

5.4 In noting Inmarsat's ongoing programme to reduce false distress alerts by contacting vessels which originated repeated false alerts, the Sub-Committee agreed with the suggestion by the delegation of France that it would be helpful to notify the flag State in cases where vessels did not respond to Inmarsat. The Sub-Committee further agreed that, in these cases, IMSO should liaise with the flag States, as necessary. It was noted that IMSO would investigate the possibilities in this regard and report back to the next session of the Sub-Committee.

### **Distress priority communications in the shore-to-ship direction**

5.5 The Sub-Committee recalled that at COMSAR 14, following a debate regarding a submission of the United States, the delegation of IMSO had 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 had highlighted that solving the problem would need active participation from Member States involved, since the terrestrial networks normally did not provide a priority.

5.6 The Sub-Committee considered document COMSAR 15/5 (IMSO) providing information and recommendations in relation to arrangements for the use of distress priority communications in the shore-to-ship direction, and:

- .1 decided to refer document COMSAR 15/5 to the SAR Working Group to review COMSAR.1/Circ.50 in relation to the guidance provided on this issue;
- .2 invited Contracting Governments, SAR authorities and RCCs to liaise with local terrestrial communication service providers and LES Operators with regard to establishing local arrangements for the use of distress priority communications in the shore-to-ship direction; and
- .3 noted the intentions of Inmarsat with regard to the provision of distress priority communications and pre-emption capabilities in the shore-to-ship direction for future services.

5.7 The Sub-Committee further considered document COMSAR 15/5/4 (Secretariat) containing an update of COMSAR.1/Circ.50 on distress priority communications for RCCs from shore-to-ship via Inmarsat, including the List of Rescue Co-ordination Centres (RCCs) associated with Inmarsat Land Earth Stations (LESs), and decided to refer this document to the SAR Working Group, to facilitate the Group in its work on the review of COMSAR.1/Circ.50.

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

5.8 The Sub-Committee instructed the SAR Working Group, established under agenda item 6, taking into account decisions of, and comments and proposals made in Plenary, to consider documents COMSAR 15/5 and COMSAR 15/5/4 and prepare a revised draft COMSAR circular on distress priority communications for RCCs from shore-to-ship via Inmarsat, including the List of Rescue Co-ordination Centres (RCCs) associated with Inmarsat Land Earth Stations (LESs).

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## Report of the SAR Working Group

5.9 On receipt of the report of the SAR Working Group (COMSAR 15/WP.3, section 3 and annex 1), the Sub-Committee took action as summarized in the ensuing paragraph.

5.10 The Sub-Committee approved COMSAR.1/Circ.50/Rev.1 on Distress priority Communications for RCC from shore-to-ship via Inmarsat, instructed the Secretariat to circulate it and invited the Committee to endorse this action.

### COSPAS-SARSAT SERVICES

5.11 The Sub-Committee considered document COMSAR 15/5/2 (Cospas-Sarsat) providing draft amendments to the Questionnaire on Shore-based Facilities for the Global Maritime Distress and Safety System (GMDSS) (MSC.1/Circ.1382). The Sub-Committee agreed on the proposed amendments and instructed the Secretariat to prepare a revised draft MSC circular, for approval by MSC 90. The draft revision of MSC.1/Circ.1382 is set out in annex 5.

5.12 The Sub-Committee noted document COMSAR 15/5/3 (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.

## 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 14, MSC 87 had extended the target completion year for the planned output on the "Harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters" to 2011.

### 17th 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 14 and endorsed by MSC 87, the seventeenth session of the ICAO/IMO Joint Working Group on the Harmonization of Aeronautical and Maritime Search and Rescue had been held in Bremen, Germany, from 27 September to 1 October 2010.

6.3 In considering document COMSAR 15/6 (Secretariat), containing the report of the ICAO/IMO Joint Working Group, the Sub-Committee noted the information provided, and in particular:

- .1 that it was invited to endorse the newly proposed circular on Basic safety guidance for yacht races or oceanic voyages by non-regulated craft, superseding MSC/Circ.1174 and MSC.1/Circ.1366;
- .2 that it was invited to consider a change of operational procedures with regard to the manual activation of EPIRBs at an early stage in case of an emergency when requiring assistance;

- .3 that it was invited to encourage Member States, in relation to mass rescue incidents, to actively co-operate in developing plans and holding international exercises with several countries involved, as well as conferences;
- .4 the desire of the SAR community to retain the requirement for 121.5 MHz final homing capability on distress beacons until such time as a satisfactory replacement was available for global use;
- .5 that it was invited to consider modification of MSC/Circ.1039 and MSC/Circ.1040 to include guidance that the MMSI number encoded in the beacon should correspond with the MMSI number assigned to the ship;
- .6 that, from a SAR perspective, it should be required that the MID encoded in the Cospas-Sarsat beacon pointed to the place where information on the beacon was available;
- .7 that it was invited to participate in the development of operational requirements for the next generation 406 MHz distress beacons, as appropriate, to participate in this development and to encourage Member States SAR Authorities to also be actively engaged in this project; and
- .8 that the next meeting of the ICAO/IMO Joint Working Group (JWG 18) was provisionally scheduled to take place from 3 to 7 October 2011 in Stavanger, Norway.

6.4 Following some debate, the Sub-Committee referred document COMSAR 15/6 to the SAR Working Group for detailed consideration of the issues reported on in general, and the relevant recommendations, in particular.

#### **Guide to cold water survival**

6.5 The Sub-Committee considered document COMSAR 15/6/2 (Germany) containing proposed amendments to MSC.1/Circ.1185 on the Guide to Cold Water Survival and referred this document to the SAR Working Group, for detailed consideration.

6.6 Several delegations were of the view that there was a need to bring a bit more balance to the document, taking into account the target audience. The proposed changes were considered to be too technical and only understandable to a small group of medical experts.

6.7 The Sub-Committee noted the need for a review of the style, as well as the content of the guide and instructed the SAR Working Group to consider the possibility of establishing a Correspondence Group, consisting of a Group of Experts, to progress the work in preparation for further discussion at the next meeting of the Sub-Committee.

#### **Report on an international conference on mass rescue at sea and matters arising**

6.8 The Sub-Committee further considered document COMSAR 15/6/3 (IMRF) providing the conclusions of an international conference on mass rescue at sea.

6.9 Several delegations expressed their concerns that some conclusions of the conference were related to matters which were currently under discussion in the DE Sub-Committee. It was considered to be inappropriate for the COMSAR Sub-Committee to consider these matters and it was therefore decided that the SAR Working Group should exclude these matters when providing its comments.

6.10 The Sub-Committee noted the request of IMRF for mainly moral support to future events in the IMRF's mass rescue conference series, although expert advice would be very much appreciated as well.

6.11 The Sub-Committee decided to refer the document to the SAR Working Group, for detailed consideration, taking into account the comments made in Plenary as set out above.

### **Search Planning Software**

6.12 The Sub-Committee noted document COMSAR 15/INF.5 (United States) providing an update on implementation of new maritime search planning software within the United States SAR system and availability of this software for use by other SAR services.

### **List of IMO documents and publications which should be held by a MRCC**

6.13 The Sub-Committee recalled that SAR.7/Circ.9, containing the List of IMO documents and publications which should be held by a MRCC, was the most recent update following COMSAR 13, in April 2009.

6.14 The Sub-Committee noted that the Secretariat, taking into account the outcome of the eighty-sixth, eighty-seventh and eighty-eighth sessions of the Committee and the twenty-sixth regular session of the Assembly, had prepared a proposed updated list, and referred it to the SAR Working Group, for detailed consideration.

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

#### **Global SAR Plan**

6.15 The Sub-Committee noted the information provided in document COMSAR 15/6/1 (Secretariat) advising that, as instructed by COMSAR 14 and based on information provided by Member Governments, the Secretariat had issued SAR.8/Circ.2 (Global SAR Plan) on 30 April 2010 which included information provided by Antigua and Barbuda, Croatia, Estonia, France, Islamic Republic of Iran, Lithuania, New Zealand, Republic of Korea and Hong Kong, China.

6.16 The Sub-Committee further noted that since the issuance of SAR.8/Circ.2, the Secretariat has received information from Argentina, Australia, Belgium, Canada, Chile, Comoros, France, Greece, Italy, Japan, Kenya, Latvia, Mauritius, Mexico, Mozambique, Namibia, the Netherlands, Peru, the Philippines, the Russian Federation, South Africa, Turkey and the United Republic of Tanzania.

6.17 The Sub-Committee also noted that since issuing document COMSAR 15/6/1 the Secretariat had received further updates from Greenland/Denmark, the Netherlands and Spain. The Secretariat was planning to issue SAR.8/Circ.3 in April 2011.

6.18 The Sub-Committee once again reiterated its invitation to Member Governments to respond to COMSAR.1/Circ.52, at their earliest convenience, if they had not already done so.

### **Provision of LRIT information to SAR services during an uncertainty or alert phase**

6.19 The Sub-Committee recalled that COMSAR 13 had noted that there was a need to open the possibility for SAR services to obtain LRIT information on specific ships and had requested the Committee to instruct the *Ad Hoc* LRIT working group to prepare a proposal for appropriate changes of the technical specifications, if necessary, in order to open the possibility for SAR Services to obtain information on specific ships.

6.20 The Sub-Committee noted that MSC 86 had approved draft amendments to the Technical specifications for communications within the LRIT system and to the communication protocols, as well as the required consequential amendments to MSC.1/Circ.1308.

6.21 The Sub-Committee further noted that MSC.1/Circ.1338, superseding MSC.1/Circ.1308, on Guidance to search and rescue services in relation to requesting and receiving LRIT information, issued on 1 March 2011, included additional provisions that allowed SAR services to request, free of charge, LRIT information transmitted by a specific ship when an uncertainty or alert phase might need to or had been declared in relation to the ship in question or those on board. The provisions of the above-mentioned circular also allowed SAR services to request archived LRIT information relating to a specific ship.

6.22 The Sub-Committee also noted that the first modification testing phase of the LRIT system had been conducted during January and February 2011, including the testing of the newly implemented functionality on the provision of LRIT information to SAR services.

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

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

- .1 consider document COMSAR 15/6 containing the report of the seventeenth session of ICAO/IMO Joint Working Group and provide comments and proposals on the actions requested in paragraph 22 and, in particular,
  - .1 finalize a draft MSC circular on Basic safety guidance for yacht races or oceanic voyages by non-regulated craft, superseding MSC/Circ.1174 and MSC.1/Circ.1366;
  - .2 consider a change of operational procedures with regard to the manual activation of EPIRBs at an early stage in case of an emergency when requiring assistance; and
  - .3 consider modification of MSC/Circ.1039 and MSC/Circ.1040 to include guidance that the MMSI number encoded in the beacon should correspond with the MMSI number assigned to the ship;
- .2 consider document COMSAR 15/6/2 with regard to the proposed revision of MSC.1/Circ.1185 on the Guide to Cold Water Survival and prepare a revised draft MSC circular, as appropriate;
- .3 consider document COMSAR 15/6/3 containing IMRF's report on an international conference on mass rescue at sea and provide comments, as appropriate;
- .4 consider the proposed update of the List of IMO documents and publications which should be held by a MRCC and prepare the revised SAR.7 circular;
- .5 provide proper justification, if there is a need for extension of the target completion year of the biennial agenda item "Harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters" to 2012; and

- .6 provide justification for holding 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 H of document COMSAR 15/6,

and report back to Plenary.

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

6.24 On receipt of the report of the SAR Working Group (COMSAR 15/WP.3, section 4, annexes 2, 3, 4 and 5), the Sub-Committee took action as summarized in the ensuing paragraphs.

6.25 The Sub-Committee endorsed:

- .1 the draft MSC circular on Basic Safety Guidance for yacht races or Oceanic voyages by non-regulated craft with the view to approval by the Committee (annex 6);
- .2 the draft MSC circular on the revised Guidelines on annual testing of 406 MHz satellite EPIRBs with the view to approval by the Committee (annex 7);
- .3 SAR.7/Circ.10 on the List of documents and publications which should be held by a MRCC, instructed the Secretariat to circulate it and invited the Committee to endorse this action; and
- .4 the continuation of the ICAO/IMO Joint Working Group for the next session planned to be held in Norway from 3 to 7 October 2011 and the associated Terms of Reference and provisional agenda (annex 5 to document COMSAR 15/WP.3) and invited the Committee to authorize the convening of this intersessional meeting.

6.26 The Sub-Committee invited the ICAO/IMO Joint Working Group to:

- .1 consider the matter on manual activation of EPIRBs at an early stage of an emergency and suggest appropriate proposals; and
- .2 revise the proposed draft revision of MSC.1/Circ.1185 on the Guide for cold water survival, as contained in the annex to document COMSAR 15/6/2, for consideration at its next session.

6.27 The Sub-Committee noted the SAR Working Group's comments on the report on an International conference on mass rescue at sea.

6.28 The Sub-Committee invited 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 2012.

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

7.1 The Sub-Committee recalled that COMSAR 7 had agreed that this item should be a permanent one in the Sub-Committee's agendas. Meanwhile, recognizing the importance and broadness of this item, COMSAR 7 agreed that no submissions concerning performance standards for any radiocommunication equipment should be accepted and/or considered under this work programme item (COMSAR 7/23, paragraphs 11.5 and 11.6).

7.2 The Sub-Committee noted that based on the request of COMSAR 14 the Committee had extended the target completion year for this item to 2011.

### **Homing and locating**

7.3 The Sub-Committee noted document COMSAR 15/7 (United States) providing information on the testing of homing and locating on a 406 MHz EPIRB alert signal, 406 MHz EPIRB (with AIS), AIS-SART, Radar SART, and a 121.5 MHz homing signal, which was conducted using search aircraft in multiple geographic locations. The Sub-Committee further noted that it was invited to consider the information provided in future initiatives such as discussions on GMDSS modernization.

7.4 The delegation of Sweden, supported by ITF, stated that retaining 121.5 MHz for final homing was very important for the foreseeable future. It was, for the time being, the most reliable capability for final homing, in particular, in severe weather conditions. They were of the view that adding an AIS-SART to a 406 MHz EPIRB might be considered as an option, but not as a replacement of the 121.5 MHz.

7.5 Recognizing that it remained very important for the Sub-Committee to consider developments in maritime radiocommunication systems and technology and that further proposals might be submitted, it was decided to invite the Committee to extend the target completion year for this item to 2012, when discussing the biennial agenda under agenda item 13.

## **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 with the inclusion of the proposed amendments into the IAMSAR Manual, as prepared by JWG 16 and agreed by COMSAR 14, the Committee had approved them for dissemination by means of MSC.1/Circ.1367, and decided that the amendments should become applicable on 1 June 2011.

8.2 The Sub-Committee further noted the information provided by the Secretariat on the relevant outcome of the ICAO/IMO Joint Working Group (JWG), at its 17<sup>th</sup> session, (COMSAR 15/6) and, in particular, that:

- .1 the JWG had finalized a comprehensive review of Volume I and had invited its Editorial Group to prepare amendments to Volumes II and III for finalization at the next JWG meeting;
- .2 the JWG had debated extensively administrative matters regarding the IAMSAR Manual and had noted that over the past year, ICAO and IMO had come to an agreement that a new edition of the IAMSAR Manual would be published only every three years. In this regard, it was noted that following the recent publication of the current edition in 2010, the next edition would be published in 2013 and no amendments would be published in between, and that all newly developed material would be included in that next updated edition. The only exception would be when there was the need for an urgent amendment, which, in that case, could be notified to Member States through the ICAO Catalogue and an IMO circular, if so required. In this regard the JWG had also noted that, in accordance with IMO's resolution A.894(21), amendments of a very urgent nature could become applicable on a date at the discretion of the Committee, subject to ICAO's concurrence;

- .3 the JWG had further noted that amendments developed at its seventeenth meeting last year and at its eighteenth meeting in 2011 would become applicable in June 2013 and would be incorporated in the 2013 edition of the Manual. It was also noted that the amendments developed at JWG 16 in 2009, which had already been approved by ICAO and IMO (paragraph 8.1 refers), would also be incorporated in the 2013 edition of the Manual;
- .4 following the above, the Sub-Committee would have to request the Committee only once every three years to approve the (non-urgent) amendments for inclusion in the next edition of the Manual. In accordance with resolution A.894(21), amendments approved by the Committee should become applicable twelve months after approval; and
- .5 it was, therefore, proposed that the amendments endorsed at this session, be forwarded to MSC 90 in 2012, together with the amendments to be approved at COMSAR 16. After approval at MSC 90, the amendments would be included in the 2013 edition of the Manual.

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

8.3 The Sub-Committee briefly considered the proposed amendments to the IAMSAR Manual provided in document COMSAR 15/6, appendices D, E and F and instructed the SAR Working Group, taking into account decisions of, and comments and proposals made in Plenary, to consider them for approval by MSC 90 in 2012 and consequential inclusion in the new edition of the IAMSAR Manual.

8.4 The Sub-Committee further noted that ICAO had advised IMO of ICAO's concurrence to inclusion of the proposed amendments in the new edition of the IAMSAR Manual, to be published in 2013.

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

8.5 On receipt of the report of the SAR Working Group (COMSAR 15/WP.3, section 5 and annex 6), the Sub-Committee took action as summarized in the ensuing paragraph.

8.6 The Sub-Committee endorsed the draft amendments to the IAMSAR Manual and invited MSC 90 to approve it for inclusion in the 2013 edition of the IAMSAR Manual (annex 8).

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

9.1 The Sub-Committee recalled that COMSAR 14 had considered document COMSAR 14/11 (United States) together with the views of several delegations expressed in plenary, and had endorsed the SAR Working Group's view that there was no need for a requirement for fitting an EPIRB and an AIS to tenders operating from passenger ships.

9.2 The Sub-Committee noted that DE 54 had noted the advice provided by the Sub-Committee on this matter and had not identified any further work to be carried out by the COMSAR Sub-Committee.

9.3 Accordingly, the Sub-Committee decided to invite the Committee to delete this item from its biennial agenda when discussing agenda item 13.

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

10.1 The Sub-Committee recalled that COMSAR 14 had 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 global search and rescue system 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.

10.2 The Sub-Committee noted that FSI 18, having noted the outcome of COMSAR 14, agreed to consider the matter further at its next session and that FSI 19, in February 2011, agreed to await the outcome of COMSAR 15 and FAL 37, before considering the matter further, subject to MSC 89's approval, of the extension of its target completion date.

10.3 The Sub-Committee also noted that FAL 36 had:

- .1 noted that a meeting between relevant Member States had taken place as a result of the outcome of COMSAR 14 in an effort to resolve the situation, that the matter was ongoing and that the Committee would be informed in due course of any relevant outcomes of these meetings;
- .2 agreed with its Chairman's view that the crux of the problem was not just an ordinary search and rescue incident which were taken care of in normal operational procedures, but was in reality the disembarkation of large numbers of persons rescued at sea who turn out to be undocumented migrants or asylum seekers after being transported/trafficked often in small unseaworthy boats. This had considerable effects on the facilitation of international maritime traffic and as such, while the issue was very complex, the FAL Convention might be the best instrument to assist in regard to the disembarkation of such people;
- .3 also agreed with its Chairman's view that in the light of experience gained, the very minor changes to the Convention in the 2005 Amendments had not focused on the actual crux of the matter and were clearly insufficient to enable effective disembarkation of such persons, bearing in mind the complexity of the problem;
- .4 accordingly invited Contracting Governments to the Convention to consider the matter intersessionally and submit proposals and comments to FAL 37 as to if and how the FAL Convention could be strengthened in this regard especially in the context of the current review of the Convention; and
- .5 noted the view of the delegation of Spain that it might be better to await the outcome of the Regional meeting as a result of COMSAR 14 before amending any other international instrument.

10.4 The Sub-Committee further noted the information provided by the Secretariat on the progress made in the work on the development of a draft regional arrangement, as agreed by COMSAR 14, and, in particular, that:

- .1 a first consultation of a Group of interested parties had been held under the auspices of, and chaired by, the Secretary-General on 28 July 2010 and was attended by representatives from Italy, Malta, Spain and the Secretariat;
- .2 that meeting had agreed on the Terms of Reference for the Group and finalized a list of issues to be discussed, in the development of a draft Regional agreement on concerted procedures relating to the disembarkation of persons rescued at sea;
- .3 at the end of that meeting a draft for such a Regional agreement, as prepared by the Secretariat, had been tabled for parties concerned to take to their capitals for consideration and comments;
- .4 a follow-up meeting had been scheduled but had to be postponed; and
- .5 the Sub-Committee would be informed of any further development in this respect.

10.5 The delegations of Italy, Malta and Spain praised the commitment of the Secretariat to the process and in particular expressed their appreciation to the Secretary-General for providing his good offices for the consultations conducted thus far and suggested an extension of the target completion date by MSC 89, since not sufficient progress could be made to date, due to unforeseen reasons. They also reiterated their readiness to continue the consultations at the earliest opportunity, bearing in mind that the situation in the region had deteriorated over recent months in light of the political and social conditions.

10.6 The delegation of Italy stressed the urgency of progressing the issue as a consequence of a wave of social uprising affecting the northern part of the African continent and resulting in a massive migration by sea towards Europe and in particular the Italian island of Lampedusa, where the arrival of about two thousand people during just two days put the island on the brink of collapse, creating health and security problems. In the consideration that the gigantic pattern of people moving by sea could infringe the integrity of a global SAR regime, the delegation, quoting the decisions of COMSAR 14, as reflected in paragraph 10.1.2 above, requested that the group of interested parties should be extended to the other relevant regional institutions, for instance the EU, in order to avoid the stalling of future consultations due to the non-availability of delegations.

10.7 The delegation of Spain expressed their readiness to consider any decision of the Sub-Committee in this respect which would help to resolve the problem. Expanding the consultations to other interested parties should be decided at the next meeting of the three countries.

10.8 The delegation of Malta stated that at this meeting they could not pronounce themselves either in favour or against such an expansion and preferred that this issue be addressed in due course.

10.9 The Secretary-General, assuming that MSC 89 would agree to the extension of the target completion date for the consideration of the matter, expressed his and the Secretariat's readiness to meet again with the three parties concerned at a time they might agree to. Given the urgency of the matter in light of developments and conditions in the Mediterranean region such a meeting should be convened in earnest, with a view to taking

stock of the situation as it has recently emerged and, subject to progress made, consider whether, how and when a regional meeting should be subsequently convened to make further progress through a holistic approach to a problem, which was of concern to the Organization as a whole.

10.10 Following debate, the chairman concluded that:

- .1 the Committee should be invited, in view of the above debate, to extend the target completion date of the item to 2012; and
- .2 the parties concerned should meet again as early as possible to take stock and review the situation; and eventually consider the expansion of the group to other interested parties in the light of the development of a draft regional agreement as a "pilot scheme" which, if successful, could be extended to other parts of the world experiencing the same or similar situations.

10.11 Taking into account that the work on this matter was still ongoing, it was decided to invite the Committee to extend the target completion date for this item to 2012, when discussing its biennial agenda under agenda item 13.

## **11 DEVELOPMENT OF AN E-NAVIGATION STRATEGY IMPLEMENTATION PLAN**

11.1 The Sub-Committee noted that:

- .1 NAV 56 had re-established the Correspondence Group on e-navigation under the coordination of Norway with the Terms of Reference, as set out in the report of NAV 56; and
- .2 at NAV 56, the Director of the Maritime Safety Division on behalf of the Secretary-General and the Chairman of the NAV Sub-Committee had expressed concerns that the overall e-navigation effort was becoming over-burdened by having to address extraneous information, documents and proposals that were not relevant to their Terms of Reference or to the e-navigation structure outlined in document MSC 86/23/4. The Chairman made it clear that the Sub-Committee had to remain focused on delivering an e-navigation strategy implementation plan, as was required by the Committee.

11.2 The Sub-Committee recalled that MSC 88 had endorsed the action taken by NAV 56 in inviting the Joint IMO/ITU Experts Group, at its meeting from 14 to 16 September 2010, to consider further use of the 500 kHz band to support e-navigation and that the draft IMO position had been updated by the Experts Group, now reading that, 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 review of the elements and procedures of the GMDSS, IMO supports an exclusive primary allocation to the maritime mobile service in the band 495 kHz – 505 kHz in all three regions and a co-primary allocation in the band 510 kHz – 525 kHz in Region 2, whilst maintaining the existing maritime mobile primary allocation in the band 415 kHz – 526.5 kHz (COMSAR 15/4, appendix 4).

11.3 The Sub-Committee noted that STW 42 (STW 42/14, section 6) had considered nine training-related questions identified by the Correspondence Group that had to be addressed by the STW Sub-Committee towards the development of an e-navigation strategy implementation plan. It was further noted that the report of the working group established at STW 42 was available as document STW 42/WP.3.

11.4 The Sub-Committee considered document COMSAR 15/11 (Norway) containing the report of the Correspondence Group and providing information on the further development of the overall conceptual, functional and technical architecture on e-navigation, as well as the progress of the initial gap analysis. Discussion on certain issues took place in Plenary, as indicated below.

#### **The navigating navigator and the monitoring navigator scenarios**

11.5 The Sub-Committee noted that STW 42 had agreed that the navigators' own skills would remain essential for the safe navigation of the ship, and the bridge team would be the main backup for the safe functioning of the ship. It would not be advisable to be totally reliant on systems where the navigator only monitors the system displays and the indicators of the system's normal functionality or resilience. Such a scenario could result in a total or considerable loss of navigators' skills and professional judgement.

11.6 The ITF observer stated that the discussion at STW had, in his opinion, resulted in a total rejection of the monitoring navigator concept.

11.7 The delegation of Norway stated that this was not an either/or scenario, but consideration needed to be given to the development from a purely navigating navigator toward a somewhat more monitoring navigator and that it would not compromise the skills of the navigator.

11.8 The ICS observer supported the comments made by the delegation of Norway and was further of the view that it was important to keep the role of the navigators in mind, and what the introduction of new concepts would actually mean for them.

11.9 The Sub-Committee decided to refer consideration of the question, how the navigating navigator and the monitoring navigator scenarios would influence the user needs for communications to the e-navigation Working Group.

#### **Harmonization of the process of the Scoping exercise of the GMDSS and the development of e-navigation**

11.10 The Chairman of the e-navigation Working Group stated that the Correspondence Group had, amongst others, considered that key discussions on the implementation of e-navigation should include technical improvements to existing GMDSS MF, HF and VHF equipment. The Correspondence Group had identified the urgent need to consider how the process of the Scoping exercise of the GMDSS and the development of e-navigation might be harmonized. In order to make clear how this should be done and, as a consequence, where certain matters needed to be discussed in future, a clear identification of the responsible bodies was needed. Considering that the review of the GMDSS would most likely go ahead, depending on approval by the Committee next year, radiocommunication requirements for e-navigation would be best brought to the attention of the COMSAR Sub-Committee and be taken into account during the review of the GMDSS. It was adhered to two parallel processes, the e-navigation process could give in the future inputs to the Scoping exercise process and to a possible GMDSS review process.

11.11 The Chairman of the Technical Working Group concurred with the points made by the Chairman of the e-navigation Working Group and stated that it was vital to ensure that the work on e-navigation and the review of the GMDSS proceeded smoothly. This did indeed require certainty on where and how these matters were discussed. He agreed that the most efficient way forward was for the radiocommunication requirements for e-navigation to be brought to the attention of the COMSAR Sub-Committee, so that these might be taken into account during the review of the GMDSS. In doing so, it would be necessary to be

precise on how radiocommunication systems could contribute to e-navigation, in terms of what information was needed, when and how often it was needed and the associated throughput/bandwidth implications. The nine functions of the GMDSS defined essential communication needs and pathways for distress and safety communications. The inter-related discussions on the radiocommunication needs of e-navigation and the modernization of GMDSS would benefit from a similar simple exposition of the essential functions envisaged for e-navigation and the means of delivery.

11.12 The delegation of the United Kingdom was of the view that the gap analysis contained many interesting points that would impact on how the GMDSS would look in the future, but these could not be considered in any detail at the current session, in the available time. In presenting the wide range of possibilities that were contained in the Correspondence Group's report, there was a risk that the Sub-Committee could repeat some of the shortcomings that originally delayed the adoption of the GMDSS as the single method of conducting distress and safety communications for all shipping. The delegation further considered that a possible good outcome would be to focus on a number of points in the Correspondence Group report, which were relevant to maritime radiocommunication technology and GMDSS on which further development of the e-navigation project could focus, keeping the human element clearly in mind. That way, as e-navigation matured, it would be able to make clear proposals about what information was needed, how often, and thereby the throughput and bandwidth implications.

11.13 The Sub-Committee agreed with the summary provided by the Chairman, that:

- .1 if approved by the Committee, the review of the GMDSS would go ahead in parallel;
- .2 many of the identified needs for radiocommunication (voice and data) in the framework of e-navigation could be categorized as Maritime Safety Information (MSI) and, therefore, formed part of the GMDSS. Other needs for radiocommunication could fall outside the scope of GMDSS, but should be considered by the Sub-Committee in relation to the possible 1) use of GMDSS equipment for this type of communications and 2) need for changes to the ITU Radio Regulations at a future World Radiocommunication Conference, including the need for additional spectrum; and
- .3 the radiocommunication needs, as well as ITU related matters with regard to the use of the radio spectrum, related to e-navigation should be brought to the attention, and remained the sole responsibility, of the Sub-Committee.

11.14 The Sub-Committee also noted the view expressed by Norway that, whilst agreeing with the aforementioned views, more consideration was needed in the framework of several sub-committees and that, in particular, close co-operation between the COMSAR and NAV Sub-Committees was required.

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

11.15 The Sub-Committee instructed the e-navigation Working Group, taking into account decisions of, and comments and proposals made in Plenary to consider document COMSAR 15/11 and, in particular, to:

- .1 advise on how the navigating navigator scenario would influence the user needs on communications, taking into account the outcome of STW 42 (STW 42/14, paragraphs 6.13 and 6.14) and provide comments on the monitoring navigator scenario, as appropriate;

- 
- .2 advise on the recommendation for creating a framework for data access and information services under the scope of SOLAS, taking IHO's S-100 data model as a baseline;
  - .3 advise whether IMO, in consultation with other organizations, should consider the establishment of a Harmonization Group on creating a framework for data access and information services under the scope of SOLAS, based on the example of the IMO/IHO Harmonization Group on ECDIS, and develop draft Terms of Reference for such a Group, as appropriate;
  - .4 consider and advise whether existing functional requirements for radiocommunication equipment should be further developed, in order to simplify, modernize, harmonize and integrate radiocommunication functions with relevant navigational functions, in line with the principles of the e-navigation concept; and
  - .5 further develop the gap analysis for the user needs relevant to the Sub-Committee's work (COMSAR 15/11, annex 3).

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

11.16 On receipt of the report of the e-navigation Working Group (COMSAR 15/WP.6/Rev.1, the Sub-Committee took action as summarized in the ensuing paragraphs.

11.17 The Sub-Committee approved the report, in general, and endorsed the views of the Working Group that:

- .1 the navigator's traditional skills would remain essential for the safe navigation of the ship;
- .2 even though the navigator is the most important person when a ship is underway, there were different stakeholders and that their information requirements would be different and should be harmonized and there were also different communication needs for each operational area, hence this should be taken into account when further developing the gap analysis;
- .3 IHO's S-100 data model should be used as a baseline for creating a framework for data access and information services under the scope of SOLAS;
- .4 IMO, in consultation with other organizations, should consider the establishment of a Harmonization Group on creating a framework for data access and information services under the scope of SOLAS, based on the example of the IMO/IHO Harmonization Group on ECDIS including the draft Terms of Reference for the IMO/IHO Harmonization Group on Data Model (HGDM);
- .5 the draft Terms of Reference should be forwarded to the e-navigation Correspondence Group for further consideration, and instructed the Secretariat accordingly;
- .6 SOLAS regulation IV/15.8 was of direct relevance to the e-navigation concept;

- .7 the template for identifying practical e-navigation solutions based on operational, technical, regulatory and training aspects on a developed example of gap analysis and practical e-navigation solutions should be used by the Correspondence Group on e-navigation to develop practical e-navigation solutions for other identified gaps taking into account the human element;
- .8 the shortcomings identified during the review of annexes 1, 2 and 3 of document COMSAR 15/11 with respect to the initial gap analysis covering shipboard users, shore-based users and SAR should be taken into account by the e-navigation Correspondence Group; and
- .9 there was a need for resilience in the overall system. Navigation and communications equipment should be able to reliably indicate that they were functioning correctly. If redundancy was used to provide resilience, the system should be able to transfer automatically to an alternative source, with appropriate indication being given to the user. In addition, information concerning the authenticity of the data was needed including its source.

11.18 The Sub-Committee noted the view of the Working Group that e-navigation could provide the necessary data/information for SAR purposes and SAR should therefore be kept within the scope of the e-navigation concept. It further noted the view of Brazil, supported by others, that with regard to SAR data to be made available via e-navigation to merchant ships, as per annex 3 of COMSAR 15/WP.6/Rev.1, one should carefully consider which data ships should actually receive. The amount and specificity this type of information required previous knowledge of the matter and staff available for compilation thereof, both of which were restricted aboard merchant ships.

Furthermore, a large amount of data from different means required harmonization, and such a system would obviously be expensive. As for LRIT data, the delegation reminded the Sub-Committee that data regarding SAR activities should be provided free of charge and not made publicly available, which would require special measures. They were of the view that this matter should be further discussed by the Correspondence Group.

11.19 The Sub-Committee instructed the Secretariat to transmit the report of the working group (COMSAR 15/WP.6/Rev.1) including the text of the Sub-Committee's report as detailed in paragraphs 11.1 to 11.18 above to the Chairman of the Correspondence Group on e-navigation, with a view to finalization of its consolidated report to NAV 57.

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

11.20 The Sub-Committee further instructed the SAR Working Group, taking into account decisions of, and comments and proposals made in Plenary to consider the gap analysis for the user needs related to Search and Rescue, as given in document COMSAR 15/11, annex 3 and provide comments, as appropriate, to the e-navigation Working Group.

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

11.21 On receipt of the report of the SAR Working Group (COMSAR 15/WP.3, paragraphs 6.1 to 6.5, and annex 7, the Sub-Committee took action as summarized in the ensuing paragraph.

11.22 The Sub-Committee noted the Group's comments on SAR-related aspects for an e-navigation strategy and the advice rendered by the Group to the e-navigation Working Group.

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

12.1 The Sub-Committee recalled that COMSAR 14, after extensive debate, had:

- .1 noted the advice given by the SAR Working Group to the Technical Working Group, as laid down in COMSAR 14/WP.4, section 4 and annex 2;
- .2 endorsed the view of the SAR Working Group that the proposed change to the Performance Standards for float-free satellite EPIRBs had merit, in principle;
- .3 endorsed the view of the Technical Working Group that many technical questions remained to be resolved before making any revision; and
- .4 invited interested Member Governments and organizations to submit comments and suitable proposals for consideration at COMSAR 15.

12.2 The Sub-Committee further recalled the information provided by Cospas-Sarsat, under agenda item 5, on the establishment of the MEOSAR system and the expected introduction of a second generation of 406 MHz beacons specifically designed to take advantage of MEOSAR system characteristics.

12.3 The Sub-Committee also recalled that the ICAO/IMO Joint Working Group had discussed the establishment of the MEOSAR system, as reported on by the JWG in document COMSAR 15/6, and considered that, as Cospas-Sarsat had reviewed its specifications for the next generation 406 MHz distress beacons, IMO and ICAO would need to determine whether their standards required amending in consideration of the improved overall Cospas-Sarsat system.

12.4 The Sub-Committee noted that no submissions had been received for consideration at this session and that the target completion year for this item was 2011.

12.5 The Sub-Committee further noted that the views, as expressed at COMSAR 14, were too far apart to come to an agreement for revised performance standards for 406 MHz EPIRBs in the foreseeable future. Taking also into account the developments in Cospas-Sarsat and the need to review the performance standards for 406 MHz EPIRBs in the near future in consideration of the improved overall Cospas-Sarsat system, it was decided to inform the Committee that the Sub-Committee, at this moment in time, was not in a position to develop a revision of resolution A.810(19) on Performance standards for float-free satellite EPIRBs operating on 406 MHz and invite the Committee to delete this item from its biennial agenda when discussing agenda item 13.

## **13 WORK PROGRAMME AND PROVISIONAL AGENDA FOR COMSAR 16**

### **General**

13.1 The Sub-Committee recalled that, at its last session, it had been informed that the Assembly had requested the Committees to review and revise, during the current biennium, their respective Guidelines on the organization and method of work (Committees' Guidelines), with a view to bringing them in line with the Council's Guidelines on the application of the Strategic Plan and the High-level Action Plan, as adopted by resolution A.1013(26).

13.2 The Sub-Committee noted that, in pursuance of the above request, MSC 87 had prepared a draft revision of the Committees' Guidelines, which had been endorsed at MEPC 61, taking into account the provisions of the Migration Plan prepared by the Council. MSC 88, having agreed to additional revisions, had requested the Secretariat to prepare a consolidated version of the draft revised Guidelines, for consideration by MSC 89 with a view to approval.

13.3 The Sub-Committee further noted that, to facilitate the transition, MSC 87 had instructed the subsidiary bodies to prepare their respective biennial agendas for the next biennium at their forthcoming sessions, in accordance with the draft revised Guidelines, taking into account that:

- .1 outputs selected for the biennial agenda should be phrased in SMART (specific, measurable, achievable, realistic and time-bound) terms; and
- .2 where the target completion year for a specific output goes beyond the 2012-2013 biennium, an interim output should be placed in the biennial agenda with a target completion year of 2012 or 2013, as appropriate, and a related output should be placed in the Committee's post-biennial agenda with the anticipated completion year,

and requested the Secretariat, in consultation with the Chairman, to prepare the initial proposals for consideration by the sub-committees accordingly.

#### **Biennial agenda, post-biennial agenda and provisional agenda for COMSAR 16**

13.4 Taking into account the progress made during this session and the decisions of MSC 87 and MSC 88, the Sub-Committee prepared its proposed biennial agenda for the 2012-2013 biennium and the provisional agenda for COMSAR 16 (COMSAR 15/WP.2), based on the biennial agenda approved by MSC 88 (COMSAR 15/2, annex), as set out in annexes 9 and 10, respectively, for consideration by MSC 89.

#### **Urgent matters to be considered by MSC 90**

13.5 The Sub-Committee noted that, due to the close proximity between COMSAR 16 and MSC 90 and in accordance with the provisions of paragraph 4.9 of the Guidelines on the organization and method of work, MSC 90 should be invited to consider urgent matters emanating from COMSAR 16. The following urgent matters were agreed for consideration by MSC 90:

- .1 consideration of operational and technical coordination provisions of maritime safety information (MSI) services, including review of the related documents;
- .2 Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS;
- .3 ITU maritime radiocommunication matters;
- .4 development of amendments to the IAMSAR Manual; and
- .5 development of an e-navigation strategy implementation plan.

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

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

- .1 Search and Rescue (SAR);
- .2 GMDSS, ITU and operational matters and performance standards; and
- .3 e-navigation.

13.7 The Sub-Committee established a correspondence group on the Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS, due to report to the seventh meeting of the Joint IMO/ITU Experts Group and COMSAR 16.

### **Status of planned outputs**

13.8 The Sub-Committee prepared the report on the status of planned outputs for the 2010-2011 biennium relevant to the Sub-Committee, set out in annex 11, and invited the Committee to note the status.

### **Date of the next session**

13.9 The Sub-Committee noted that the sixteenth session of the Sub-Committee had been tentatively scheduled to take place from 12 to 16 March 2012.

## **14 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2012**

14.1 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 elected Mr. H. Supriyono (Indonesia) as Vice-Chairman for 2012.

## **15 ANY OTHER BUSINESS**

### **Report on the Twelfth Combined Antarctic Naval Patrol, 2009-2010**

15.1 The Sub-Committee noted with interest document COMSAR 15/15 (Argentina and Chile) describing the activities of the twelfth combined Antarctic naval patrol carried out during the southern hemisphere summer of 2009/2010 by Argentina and Chile with the aim of enhancing maritime safety and environmental protection on the Antarctic continent.

### **Progress on standards development for Inmarsat equipment**

15.2 The Sub-Committee noted that MSC 88 had noted the comments, provided by its Working Group on LRIT-related matters, with regard to the type approval of LRIT shipborne equipment and had:

- .1 invited IEC to look into the issue and take action, as appropriate, bearing in mind that the LRIT system did not necessarily require the use of new, dedicated shipborne equipment; and
- .2 instructed the Sub-Committee to review and revise resolution A.570(14) in light of these new developments.

15.3 The Sub-Committee considered document COMSAR 15/15/1 (IEC) providing information on the progress made by IEC TC80 in the standards development supporting the performance standards of the Organization, regarding Inmarsat and LRIT equipment and the consideration regarding resolution A.570(14). It was explained that the recommendation of the resolution was now included in the recommendations of the performance standards given in resolutions A.807(19), MSC.130(75) and MSC.306(87).

15.4 Taking into account the information provided by IEC, the Sub-Committee agreed to advise the Committee to recommend to the twenty-seventh regular session of the Assembly to revoke resolution A.570(14), as the recommendation of the resolution was now included in the recommendations of the performance standards given in resolutions A.807(19), MSC.130(75) and MSC.306(87).

15.5 The Sub-Committee noted the view expressed by the United Kingdom that currently only a conformance test had to be completed and, if standards were to be introduced, it would only be a matter of time before type approval would be required which might even lead to annual testing, adding extra unnecessary costs to equipment. They were further of the view that there was no conclusive or compelling need for the development of such a new standard.

15.6 The Sub-Committee further noted that it had not been instructed to discuss LRIT matters in general and that the issues raised by the delegation of the United Kingdom should be discussed by the appropriate IMO body dealing with these matters, as referred to by the Committee.

#### **LSA Code amendment concerning lifeboat exterior colour**

15.7 The Sub-Committee noted that MSC 87, in considering draft amendments to the LSA Code clarifying the phrase "highly visible colour" in relation to the lifeboat exterior colour, had noted the view of the observer from CLIA that yellow was a comparably highly visible colour required by the current provisions of paragraph 1.2.2.6 of the LSA Code ("international or vivid reddish orange or a comparably highly visible colour ..."), whilst the draft amendment for paragraph 1.2.2.6 proposed to replace the current text with: "be of international or vivid reddish orange, on all parts where this would assist detection at sea". The Committee had further noted that numerous cruise ships utilized bright yellow for their lifeboats, which would no longer be permitted if the proposed amendment would come into force. The view that yellow was a comparably highly visible colour was supported by several other delegations, and, consequently, the Committee had decided to refer the proposed LSA Code amendments to the COMSAR Sub-Committee for detailed consideration and advice before the Committee considered and approved them with a view to subsequent adoption.

15.8 The Sub-Committee considered document COMSAR 15/15/2 (United States) providing information on a "Field Study of Detectability of Colored Targets at Sea" conducted by the United States Naval Medical Research Laboratory in 1955. This Study indicated international or vivid reddish orange was the most visible colour for detection at sea. The United States was of the view that effective SAR response continued to rely upon visual sighting and this depended upon a colour that was detectable and the knowledge of what colour to search for.

15.9 The majority of the delegations who spoke on this issue, was of the view that the study presented by the United States was outdated and that a new study was needed, taking into account present circumstances. Views were further expressed that there was no evidence that life-saving equipment had not been located for lack of visible colour, no compelling need was demonstrated for such a change of the LSA Code and it would not

be advisable to make any hasty decisions on an issue of such severity and financial impact for the shipping industry.

15.10 The Sub-Committee noted with appreciation the information provided by the observer of IACS, informing that it had developed a unified interpretation for the expression "or a comparably highly visible colour" in this context. The interpretation read as follows:

"Highly visible colour" only includes colours of strong chromatic content, e.g., pure achromatic colours such as white and all shades of grey shall not be accepted as "comparable" colours.

The above was applicable to the exterior of hull and canopy of both fully enclosed and partially enclosed lifeboats.

15.11 It was further noted that the expression had been brought to the attention of DE 53 (document DE 53/17) and IACS was still implementing this interpretation as long as the current provisions of paragraph 1.2.2.6 of the LSA Code remained in force.

15.12 The Sub-Committee agreed that the existing IACS interpretation provided sufficient clarification and required the use of adequate colours to ensure optimal visual sighting of lifeboats in the context of the LSA Code and therefore the proposed amendment was not justified. The Committee was invited to note the advice provided.

### **Consideration of the relevant interpretations to regulations II-2/21 and 22 of the 1974 SOLAS Convention**

15.13 The Sub-Committee noted that MSC 88, having recalled its approval, at MSC 87, of the Interim Explanatory Notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369), had instructed the COMSAR, NAV and SLF Sub-Committees to consider the draft interpretations, set out in annex 4 to document FP 54/WP.3, that fall under their respective purview, and provide the outcome of their considerations to the FP Sub-Committee for coordination purposes.

15.14 The Sub-Committee further noted that it needed to review only two interpretations concerning interpretations with regard to MSC.1/Circ.1214 on Performance standards for the systems and services to remain operational on passenger ships for safe return to port after a casualty; and the Performance standards for the systems and services to remain operational on passenger ships for orderly evacuation and abandonment after a casualty. The performance standard with regard to "External communications" read that "The ship should be capable of communicating via the GMDSS or the VHF Marine and Air Band distress frequencies even if the main GMDSS equipment is lost."

15.15 In reviewing the above-mentioned interpretations, the Sub-Committee agreed that:

- .1 portable equipment might be accepted; and
- .2 charging capability for any portable devices should be available in more than one main vertical zone (MVZ).

15.16 The Sub-Committee instructed the Secretariat to inform the FP Sub-Committee accordingly.

### **Expressions of appreciation**

15.17 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:

- Mr. Hans Aage Nielsen of Denmark (on retirement);
- Mr. Olimbo of Italy (on return home);
- Mr. Olopoenia of Nigeria, who had been the Sub-Committee's vice-chairman for the past eight years (on retirement);
- Mr. Håkan Lindley of Sweden (on retirement);
- Mr. Paul Fonseka of the United Kingdom (on retirement);
- Mr. Daniel Levesque of Cospas-Sarsat (on retirement); and
- Mr. Wolfgang Frank of ITU (on retirement).

Farewell was also extended to Mrs. Juana Navarro, who would leave the Secretariat soon on retirement. Mrs. Navarro had been the contact person for numerous delegates for many years.

### **Captain John Lawrence Thompson (born 14 February 1935)**

The Secretary-General, with great sadness, informed the Sub-Committee of the passing of Captain John Thompson, an IMO staff member until his retirement in 1997, Deputy Director, Head, Navigation Section and former Secretary of four sub-committees. Captain Thompson had first joined IMCO on 31 May 1974 but, before that, had been based at the United Kingdom's Department of Trade and Industry (D.T.I.), employed as Radar Adviser and Examiner of Radar Aids. Captain Thompson had been greatly respected by both his superiors and subordinates alike for his vast knowledge and deep commitment to the shipping industry. He had been the epitome of all that characterized shipmasters of his generation: knowledgeable, hard working, patient and a good teacher to young professionals joining the Secretariat. Above all, he had been a good friend and a good man, and he would be sorely missed.

## **16 ACTION REQUESTED OF THE COMMITTEE**

16.1 The Maritime Safety Committee, at its eighty-ninth session, is invited to:

- .1 note the progress made with regard to the Work Plan on the Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS and the establishment of a Correspondence Group (paragraphs 3.14 to 3.34);
- .2 approve the draft MSC circular on the revised NAVTEX Manual (paragraph 3.39.1 and annex 1);
- .3 approve the draft Assembly resolution on the IMO/WMO Worldwide Met-Ocean Information and Warning Service Guidance Document with a view to adoption by the twenty-seventh regular session of the Assembly (paragraph 3.39.2 and annex 2);
- .4 endorse the action taken by the Sub-Committee to instruct the Secretariat to circulate COMSAR.1/Circ.51/Rev.1 on the list of NAVAREA Co-ordinators (paragraph 3.40);

- 
- .5 endorse the action taken by the Sub-Committee in authorizing the Secretariat to issue future updates of the list of NAVAREA Co-ordinators upon receipt of changes from either a NAVAREA Co-ordinator or from the IHO and to issue appropriate revisions to the COMSAR circular, informing the Sub-Committee of the action taken (paragraph 3.41);
  - .6 authorize the convening of the seventh meeting of the Joint IMO/ITU Experts Group, to be held at IMO Headquarters in London, from 13 to 15 September 2011 (paragraph 4.12);
  - .7 approve the revised draft IMO position on WRC-12 Agenda items concerning matters relating to maritime services (paragraph 4.27 and annex 4);
  - .8 authorize the Joint IMO/ITU Experts Group, at its meeting from 13 to 15 September 2011, to add, as appropriate, more non-contentious information in the background sections of the Agenda items contained in the IMO position for WRC-12, as approved by MSC 89, in order to strengthen the arguments supporting the IMO position and instruct the Secretariat to submit the IMO position, amended as appropriate, to ITU after the meeting of the Experts Group has taken place (paragraph 4.28);
  - .9 authorize the convening of the eighteenth session of the ICAO/IMO Joint Working Group, to be held in Norway, from 3 to 7 October 2011 (paragraph 6.25.4);
  - .10 note the outcome of discussions with regard to the issue of Measures to protect the safety of persons rescued at sea (section 10);
  - .11 note the biennial agenda and post-biennial agenda of the Sub-Committee and approve the changes proposed (paragraph 13.4 and annex 9);
  - .12 approve the provisional agenda for COMSAR 16 (paragraph 13.4 and annex 10);
  - .13 note the report on the status of planned for the 2010-2011 biennium relevant to the Sub-Committee (paragraph 13.8 and annex 11);
  - .14 recommend to the twenty-seventh regular session of the Assembly to revoke resolution A.570(14), as the recommendation of the resolution is now included in the recommendations of the performance standards given in resolutions A.807(19), MSC.130(75) and MSC.306(87) (paragraph 15.4); and
  - .15 note that, in considering the proposed LSA Code Amendment concerning lifeboat exterior colour, the Sub-Committee agreed that the existing IACS interpretation provided sufficient clarification and required the use of adequate colours to ensure optimal visual sighting of lifeboats in the context of the LSA Code and therefore the proposed amendment was not justified and take appropriate action (paragraph 15.12).

- 16.2 The Maritime Safety Committee, at its ninetieth session, is invited to:
- .1 endorse the action taken by the Sub-Committee in instructing the Secretariat to convey a liaison statement to ITU-R on Near real-time exchange of maritime domain information (paragraph 4.11 and annex 3);
  - .2 endorse the action taken by the Sub-Committee in instructing the Secretariat to circulate document COMSAR.1/Circ.50/Rev.1 on Distress priority Communications for RCC from shore-to-ship via Inmarsat (paragraph 5.10);
  - .3 approve the draft MSC circular on the revised Questionnaire on Shore-based Facilities for the Global Maritime Distress and Safety System (GMDSS) (paragraph 5.11 and annex 5);
  - .4 approve the draft MSC circular on Basic Safety Guidance for yacht races or Oceanic voyages by non-regulated craft (paragraph 6.25.1 and annex 6);
  - .5 approve the draft MSC circular on the revised Guidelines on annual testing of 406 MHz satellite EPIRBs (paragraph 6.25.2 and annex 7);
  - .6 endorse the action taken by the Sub-Committee in instructing the Secretariat to circulate SAR.7/Circ.10 on the List of documents and publications which should be held by a MRCC (paragraph 6.25.3);
  - .7 approve the draft amendments to the IAMSAR Manual for inclusion in the 2013 edition of the IAMSAR Manual (paragraph 8.6 and annex 8); and
  - .8 approve the report in general.

\*\*\*

**ANNEX 1**  
**DRAFT MSC CIRCULAR**  
**REVISED NAVTEX MANUAL**

1 The Maritime Safety Committee (MSC), at its [eighty-ninth session (11 to 20 May 2011)], noted and approved the revised NAVTEX Manual, as prepared by IHO, WMO and IMSO and agreed by the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) at its fifteenth session (7 to 11 March 2011).

2 This circular supersedes COMSAR/Circ.7, COMSAR/Circ.28 and COMSAR/Circ.32, and replaces the existing text of the NAVTEX Manual.

3 The Committee decided that the amendments will come into force on [1 January 2013].

## 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 NAVTEX Manual was first produced in 1988. Three subsequent editions have been produced, with the fourth edition published in 2005 containing amendments endorsed by the Maritime Safety Committee at its seventy-eighth session in May 2004 by MSC/Circ.1122.

At its seventh meeting in September 2005, the IHO 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 firstly prepared 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 these 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 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 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.

The Working Group subsequently 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 approved by the Maritime Safety Committee at its eighty-seventh session in May 2010 by MSC.1/Circ.1364.

Continuing with the holistic approach of reviewing all maritime safety information documents from the top-down, the Working Group prepared the fifth revision of the NAVTEX Manual. The revised text of the NAVTEX Manual was circulated to IHO Member States under cover of IHB CL 74/2010, endorsed by COMSAR at its fifteenth session in March 2011 and subsequently approved by the Maritime Safety Committee at its [eighty-ninth session in May 2011].

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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
<b>1</b> GENERAL INFORMATION .....	5
<b>2</b> NAVTEX SERVICE .....	5
2.1 Introduction .....	5
2.2 Definitions .....	7
2.2.2 Delimitation of NAVAREAS .....	10
2.2.3 Delimitation of METAREAS .....	11
<b>3</b> GENERAL FEATURES OF NAVTEX SYSTEM .....	11
<b>4</b> PLANNING NAVTEX SERVICES .....	12
4.2 International NAVTEX services on 518 kHz .....	12
4.3 National NAVTEX services on 490 kHz or 4209.5 kHz .....	15
4.4 National NAVTEX services on other frequencies .....	15
<b>5</b> NAVTEX MESSAGE TECHNICAL CHARACTERS .....	15
5.1 Overview of technical characters, B <sub>1</sub> , B <sub>2</sub> , B <sub>3</sub> , B <sub>4</sub> .....	15
5.2 B <sub>1</sub> – Transmitter Identification Character .....	17
5.3 B <sub>2</sub> – Subject Indicator Character .....	18
5.4 B <sub>3</sub> B <sub>4</sub> – Message Numbering Characters (NAVTEX Number) .....	19
<b>6</b> MESSAGE IDENTITY .....	20
<b>7</b> MESSAGE FORMAT .....	20
7.7 Examples of Navigational Warning messages .....	22
7.8 Examples of Meteorological messages.....	23
<b>8</b> LANGUAGE AND NATIONAL BROADCAST OPTIONS .....	24
<b>9</b> INFORMATION CONTROL .....	24
<b>10</b> MESSAGE CONTENT .....	24
10.2.1 Navigational warnings .....	24
10.2.2 Meteorological warnings and forecasts.....	25
10.2.3 Search and rescue information .....	25
10.2.4 Piracy attack warnings .....	25
10.2.5 Tsunamis and other natural phenomena warning messages .....	26
10.2.6 Pilot and VTS service messages .....	26
10.2.7 No messages on hand .....	26
10.2.8 Use of abbreviations .....	26
10.2.9 National NAVTEX Services .....	26

<b>11</b>	<b>MESSAGE PRIORITIES AND BROADCAST PROCEDURES IN THE INTERNATIONAL NAVTEX SERVICE .....</b>	<b>26</b>
11.1	Message priorities .....	26
11.2	Broadcast procedures .....	27
11.3	Meteorological NAVTEX Messages .....	27
11.4	National NAVTEX Services .....	28
<b>12</b>	<b>RESPONSIBILITIES OF A NAVTEX CO-ORDINATOR .....</b>	<b>28</b>
12.3	Management of the service .....	29
12.4	Balancing the volume of data to be broadcast throughout the daily transmission cycle.....	29
<b>13</b>	<b>BEST PRACTICE FOR THOSE USING THE SERVICE .....</b>	<b>30</b>
<b>14</b>	<b>MUTUAL INTERFERENCE BETWEEN NAVTEX STATIONS .....</b>	<b>30</b>
<b>15</b>	<b>NOTIFICATION OF NAVTEX SERVICES .....</b>	<b>31</b>
<b>Annex 1</b>	<b>– IMO NAVTEX CO-ORDINATING PANEL TERMS OF REFERENCE ...</b>	<b>32</b>
<b>Annex 2</b>	<b>– RECCOMENDATION ITU-R M.540 .....</b>	<b>34</b>
<b>Annex 3</b>	<b>– IMO RESOLUTION MSC.148(77) .....</b>	<b>40</b>
<b>Annex 4</b>	<b>– EXTRACT FROM IMO RESOLUTION A.801(19) ANNEX 4 .....</b>	<b>44</b>
<b>Annex 5</b>	<b>– PROCEDURE FOR AMENDING THE NAVTEX MANUAL .....</b>	<b>45</b>

## 1 – GENERAL INFORMATION

NAVTEX is an international automated direct-printing service for promulgation of navigational and meteorological warnings, meteorological forecasts and other urgent information to ships. It was developed to provide a low-cost, simple and automated means of receiving maritime safety information on board ships at sea in coastal waters. The information transmitted may be relevant to all sizes and types of vessel and the selective message-rejection feature ensures that every mariner can receive a safety information broadcast which is tailored to his particular needs.

NAVTEX 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 NAVTEX Service. It is intended primarily for use by Maritime Administrations and others concerned with the preparation and broadcasting of maritime safety information. It will also be of interest to seafarers, ship-owners and others who need to receive such information in order to safely go about their business at sea. It should be used in conjunction with the Joint IMO/IHO/WMO Manual on Maritime Safety Information (also published as the IHO/IMO World-Wide Navigational Warning Service Guidance Document, IHO Publication S-53, and S-53 Appendix 1).

## 2 – NAVTEX SERVICE

### 2.1 Introduction

**2.1.1** NAVTEX provides shipping with navigational and meteorological warnings, meteorological forecasts and other urgent information (as listed in **Table 1**, Section 5) by automatic display or print-out from a dedicated receiver. It is suitable for use in all sizes and types of ships. **Figure 1** illustrates the way the service is typically structured.

**2.1.2** NAVTEX is a component of the IMO/IHO World-Wide Navigational Warning Service (WWNWS) defined by IMO Assembly resolution A.706(I7), as amended, and the WMO Manual on Marine Meteorological Services, Part 1*bis*, Provision of warnings and weather and sea bulletins (GMDSS application). It has also been included as an element of the Global Maritime Distress and Safety System (GMDSS).

**2.1.3** In the GMDSS, a NAVTEX receiving capability is part of the mandatory equipment which is required to be carried in certain vessels under the provisions of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended.

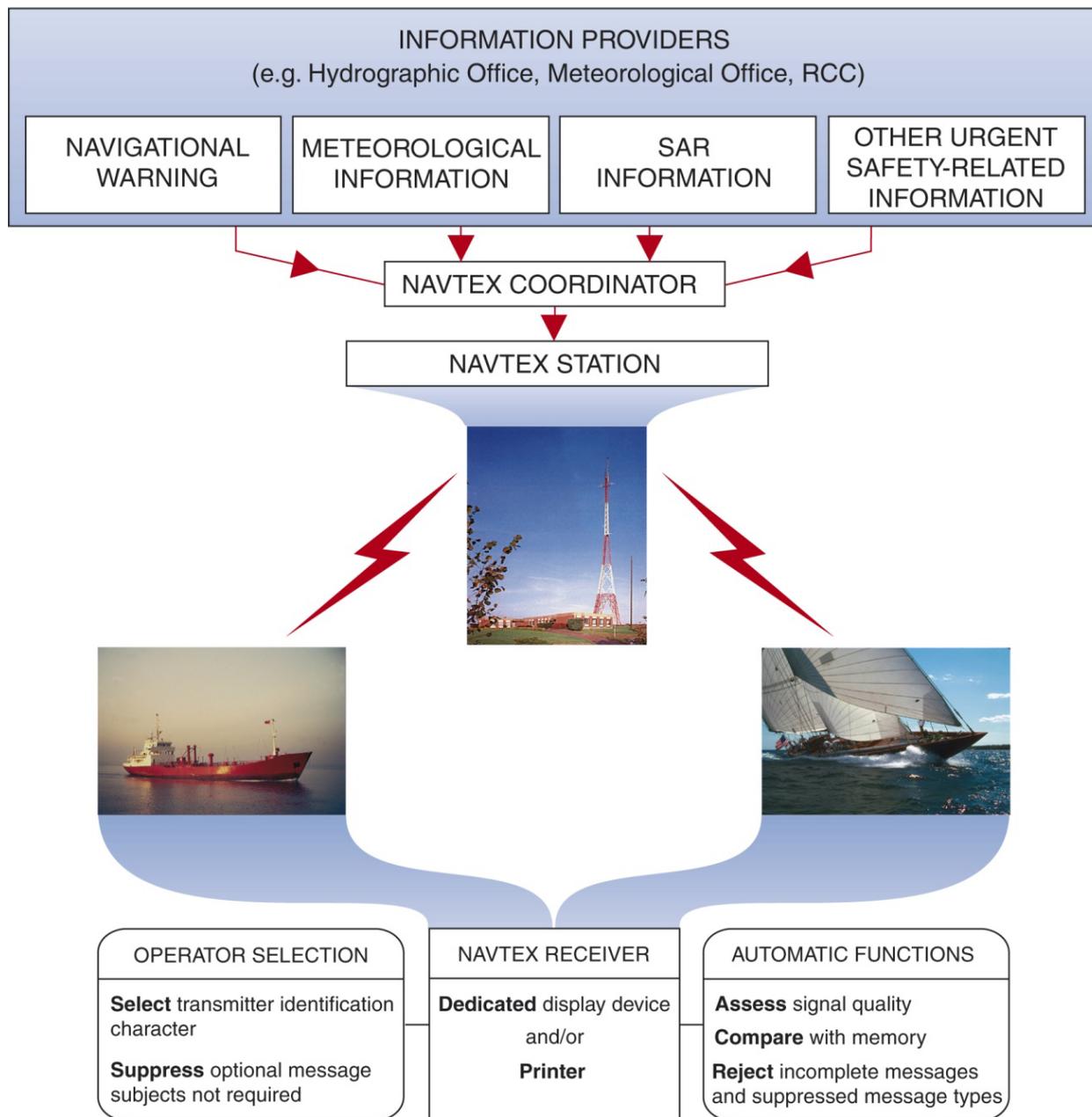
**2.1.4** Authority for co-ordinating the use of the frequencies 518 kHz, 490 kHz and 4209.5 kHz for NAVTEX services world-wide was effectively delegated by ITU to IMO at WRC-95 through Resolution 339. This was re-affirmed at WRC-97. IMO has vested responsibility for the overall management and co-ordination of the global NAVTEX services in its Co-ordinating Panel on NAVTEX Services. The co-ordination function of the panel with respect to National NAVTEX broadcasts on 490 kHz and 4209.5 kHz is limited to the allocation of transmission identification characters<sup>2</sup>. The Terms of Reference for this panel

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<sup>2</sup> The transmitter identification character is a single letter allocated to each transmitter to identify the NAVTEX station and broadcast times.

are attached at Annex 1. It shall be noted that the provisions of the NAVTEX manual do not apply when planning a national NAVTEX service on other nationally assigned frequencies.

**2.1.5** Details of operational and planned NAVTEX services are published periodically in the various national lists of radio signals, in an annex to the International Telecommunication Union's (ITU) List IV – List of coast stations and special service stations, and in the GMDSS Master Plan published by IMO in its series of GMDSS Circulars.



**Figure 1 – Basic concept of the NAVTEX system**

## 2.2 Definitions

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

- .1 *Coastal warning* means a navigational warning or in-force bulletin 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 *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.
- .4 *HF NBDP* means High Frequency narrow-band direct-printing, using radio telegraphy as defined in Recommendation ITU-R M.688.
- .5 *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.
- .6 *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>3</sup>.
- .7 *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.
- .8 *Local warning* means a navigational warning which covers inshore waters, often within the limits of jurisdiction of a harbour or port authority.
- .9 *Maritime safety information (MSI)*<sup>4</sup> means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.
- .10 *Maritime safety information service* means the internationally and nationally co-ordinated network of broadcasts containing information which is necessary for safe navigation.

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<sup>3</sup> As set out in this Manual.

<sup>4</sup> As defined in regulation IV/2 of the 1974 SOLAS Convention, as amended.

- .11** *METAREA* means a geographical sea area<sup>5</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.
- .12** *METAREA issuing service* means the National Meteorological Service which has accepted responsibility for ensuring that meteorological forecasts and warnings for shipping are disseminated through the international SafetyNET and NAVTEX services to the designated area for which the Service has accepted responsibility under the broadcast requirements of the GMDSS<sup>6</sup>.
- .13** *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.
- .14** *National co-ordinator* means the national authority charged with collating and issuing coastal warnings within a national area of responsibility.
- .15** *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.
- .16** *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.
- .17** *NAVAREA* means a geographical sea area<sup>7</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.
- .18** *NAVAREA co-ordinator* means the authority charged with co-ordinating, collating and issuing NAVAREA warnings for a designated NAVAREA.
- .19** *NAVAREA warning* means a navigational warning or in-force bulletin promulgated as part of a numbered series by a NAVAREA co-ordinator.
- .20** *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.
- .21** *NAVTEX* means the system for the broadcast and automatic reception of maritime safety information by means of narrow band direct-printing telegraphy<sup>8</sup>.

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<sup>5</sup> Which may include inland seas, lakes and waterways navigable by sea-going ships.

<sup>6</sup> In the context of this manual, "designated area" means the NAVTEX service area.

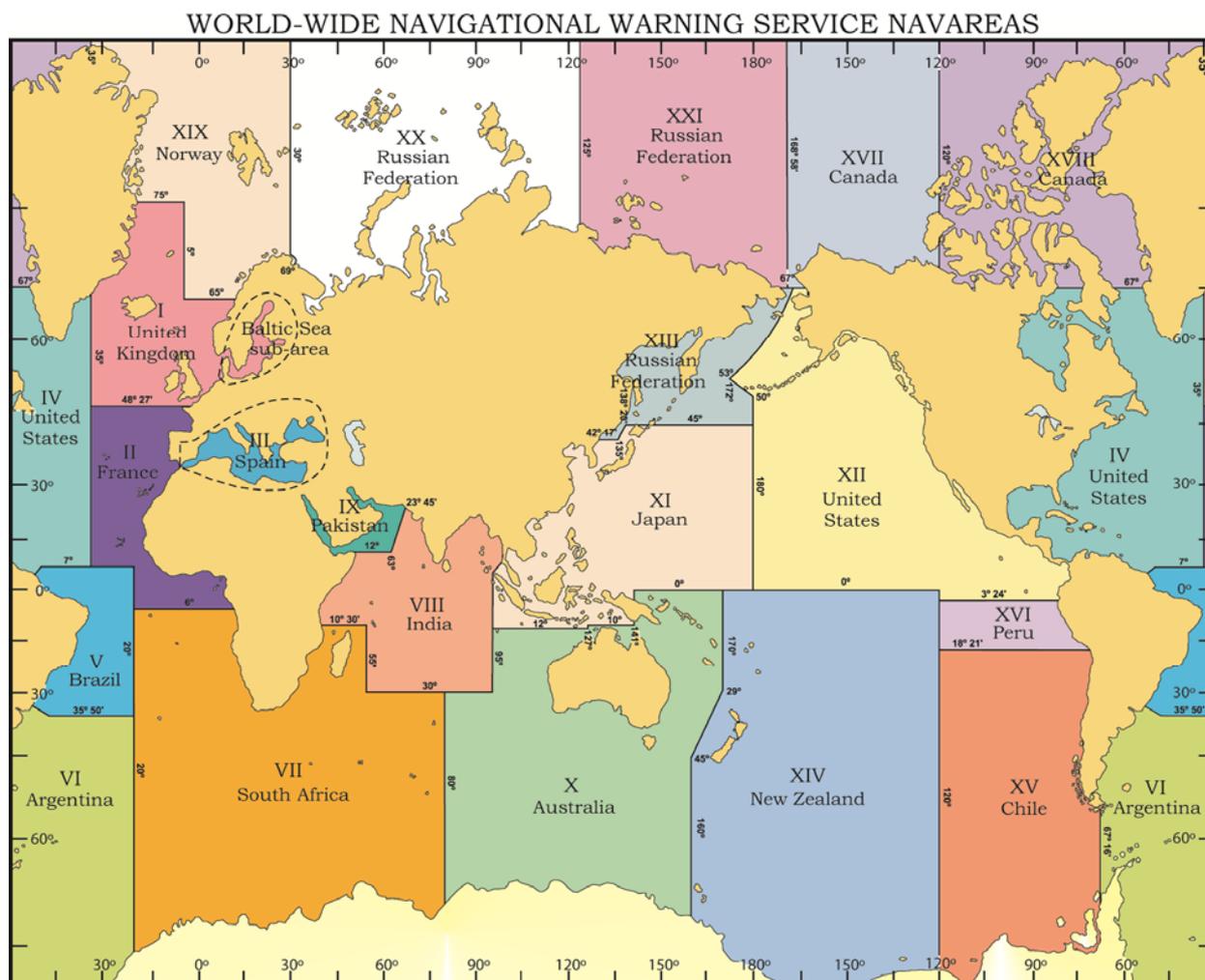
<sup>7</sup> Which may include inland seas, lakes and waterways navigable by sea-going ships.

<sup>8</sup> See Annex 2.

- .22** *NAVTEX coverage area* means an area defined by an arc of a circle having a radius from the transmitter calculated according to the method and criteria given in IMO resolution A.801(19), annex 4.
- .23** *NAVTEX service area* means a unique and precisely defined sea area, wholly contained within the NAVTEX coverage area, for which maritime safety information is provided from a particular NAVTEX transmitter. It is normally defined by a line that takes full account of local propagation conditions and the character and volume of information and maritime traffic patterns in the region, as given in IMO resolution A.801(19), annex 4.
- .24** *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.
- .25** *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.
- .26** *Rescue Co-ordination Centre (RCC)* means a unit responsible for promoting efficient organization of search and rescue services and for co-ordinating the conduct of search and rescue operations within a search and rescue region.
- .27** *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.
- .28** *SAR information* means distress alert relays and other urgent search and rescue information broadcast to ships.
- .29** *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.
- .30** *Sub-Area co-ordinator* means the authority charged with co-ordinating, collating and issuing Sub-Area warnings for a designated Sub-Area.
- .31** *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).
- .32** *UTC* means Co-ordinated Universal Time which is equivalent to GMT (or ZULU) as the international time standard.

- .33 *World-Wide Navigational Warning Service (WWNWS)*<sup>9</sup> means the internationally and nationally co-ordinated service for the promulgation of navigational warnings.
- .34 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 Assembly resolutions A.705(17) as amended and A.(706)17, as amended.

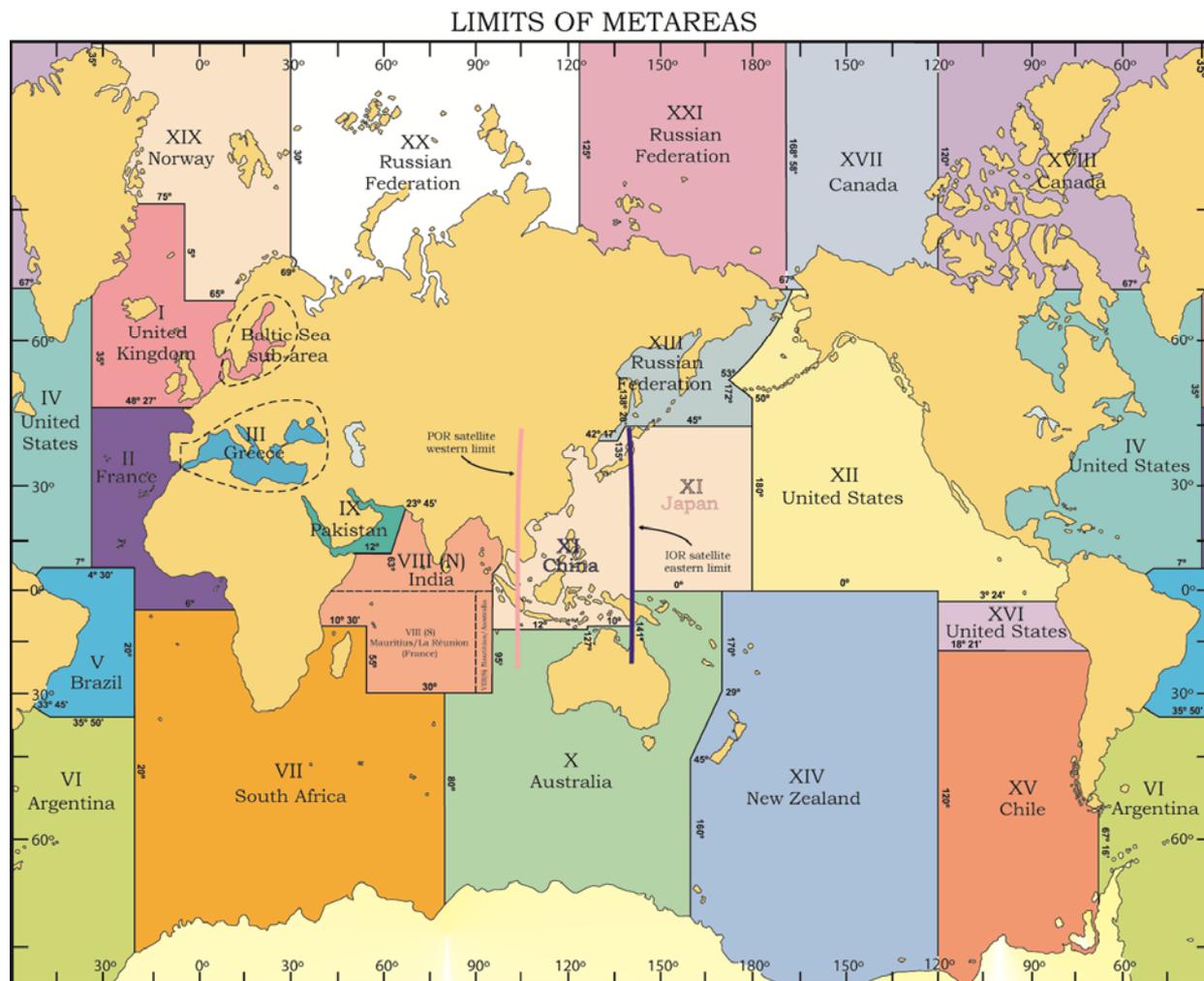
## 2.2.2 Delimitation of NAVAREAS



**Figure 2**  
**NAVAREAS for co-ordinating and promulgating navigational warnings**  
The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States.

<sup>9</sup> As set out in resolution A.706(17), as amended.

### 2.2.3 Delimitation of METAREAS



**Figure 3**  
**METAREAS for co-ordinating and promulgating meteorological warnings and forecasts**  
The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States.

## 3 – GENERAL FEATURES OF NAVTEX SYSTEM

### 3.1 The principal features are:

- .1 use of a single frequency, with transmissions from stations within and between NAVAREAS and METAREAS co-ordinated on a time-sharing basis to reduce the risk of mutual interference. The following frequencies may be used for NAVTEX broadcasts:

#### 518 kHz

Type of service:	International
Content:	Maritime safety information
Language:	English
Co-ordination:	By IMO NAVTEX Co-ordinating Panel

### 490 kHz and 4209.5 kHz

Type of service:	National
Content:	Maritime safety information
Language:	As selected by the national administration
Co-ordination:	Transmitter identification character allocated by IMO NAVTEX Co-ordinating Panel

### Other national frequencies allocated by the ITU

Type of service:	National
Content:	As selected by the national administration
Language:	As selected by the national administration
Co-ordination:	By appropriate national administration

.2 a dedicated NAVTEX receiver, comprising radio receivers, a signal processor and either:

- a) an integrated printing device; or
- b) a dedicated display device with a printer output port and a non-volatile message memory; or
- c) a connection to an integrated navigation system and a non-volatile message memory;

which has the ability to select messages to be printed, or viewed and stored in a memory according to:

- a) a technical code (B<sub>1</sub>B<sub>2</sub>B<sub>3</sub>B<sub>4</sub>), which appears in the preamble of each message; and
- b) whether or not the particular message has already been printed/received;

**3.2** The operational and technical characteristics of the NAVTEX system are contained in Recommendation ITU-R M.540<sup>10</sup>. Performance standards for shipborne equipment, if installed before 1 July 2005, are laid down in IMO Assembly resolution A.525(13). If installed on or after 1 July 2005, they should conform to IMO resolution MSC.148(77)<sup>11</sup>.

## 4 – PLANNING NAVTEX SERVICES

**4.1** When planning NAVTEX services, it is strongly recommended that administrations obtain guidance at an early stage from IMO, through its NAVTEX Co-ordinating Panel. This may be particularly important when installation of new stations and/or purchase of new equipment is under consideration. Details of how to contact the Panel may be found at Annex 1.

### 4.2 International NAVTEX services on 518 kHz

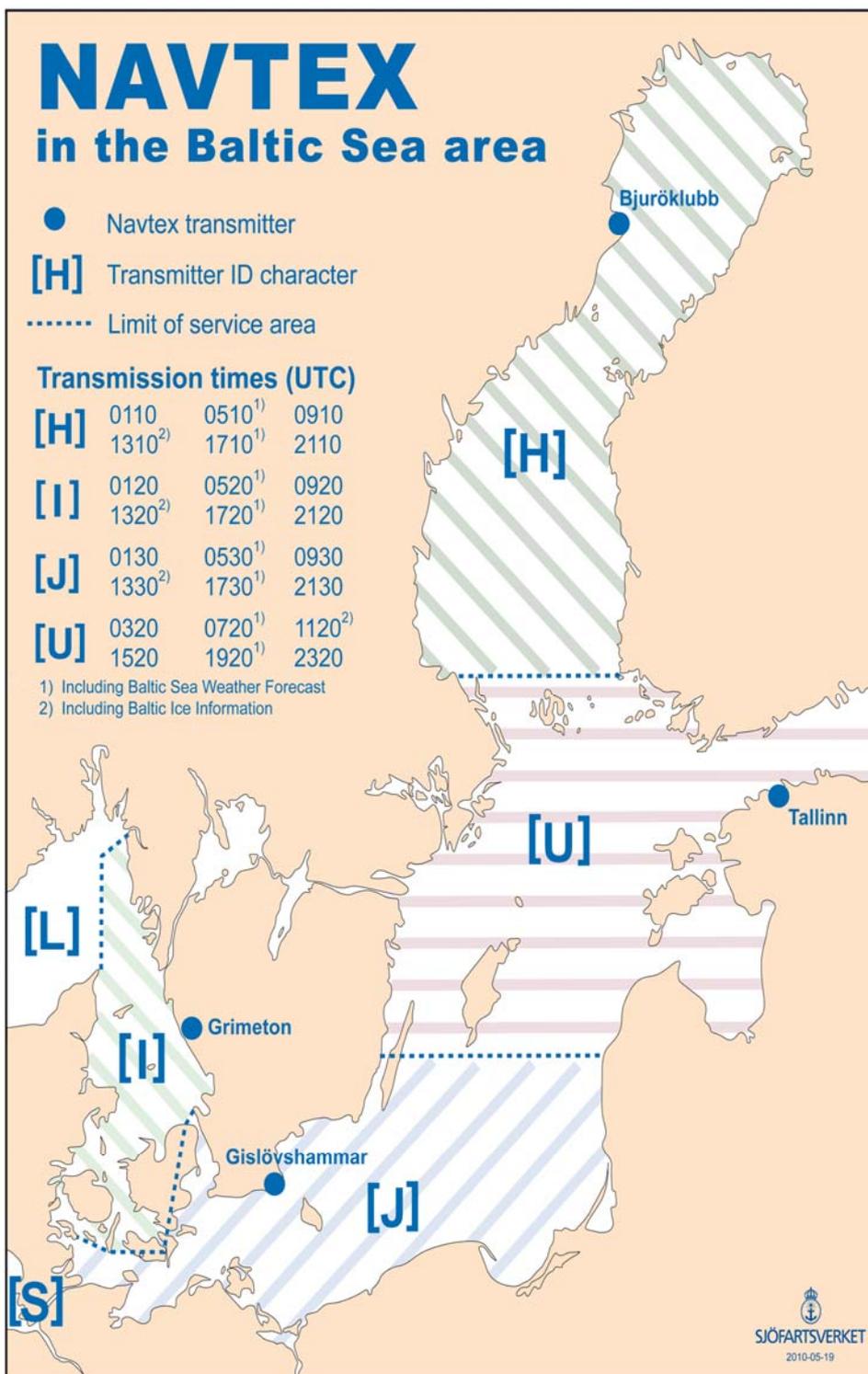
When planning an International NAVTEX service it is essential to appreciate the high level of national and international co-ordination required. The central principles which should be borne in mind are as follows:

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<sup>10</sup> See Annex 2.

<sup>11</sup> See Annex 3.

- .1 all NAVTEX stations are part of the strategic infrastructure of both the GMDSS and WWNWS.
- .2 it is essential for the efficiency and effectiveness of the service that a minimum number of stations are used. This may require national administrations to either share facilities or promulgate information provided by administrations of other nations.
- .3 each station shall contribute to the overall service in a co-ordinated way, bearing in mind the geographical area covered by each station and the effective co-ordination and control of information to be transmitted.
- .4 the two basic areas which must be defined when establishing a NAVTEX station are the NAVTEX coverage area and the NAVTEX service area. Each station will provide all the information for a particular NAVTEX service area. The boundaries of the NAVTEX service area must be wholly contained within the coverage area, and must not overlap with adjacent NAVTEX service areas (**see Figure 4**).
- .5 national administrations seeking to establish NAVTEX services shall undertake preliminary discussions with the NAVAREA Co-ordinator, METAREA Issuing Services and neighbouring administrations prior to formal application to IMO through the IMO NAVTEX Co-ordinating Panel. These discussions shall consider the most appropriate NAVTEX service area boundaries, possible geographical locations for transmitter sites to ensure optimal coverage and links with Information Providers.
- .6 the range of a NAVTEX transmitter depends on the transmitted power and local radio propagation conditions. The actual range achieved shall be adjusted to the minimum required for adequate reception in the specified NAVTEX service area, taking into account the needs of ships approaching from other areas. Experience indicates that the required range of 250 to 400 nautical miles will normally be attained by transmitted power of no more than 1 kW during daylight with a 60% reduction during night conditions.
- .7 after the choice of transmitter sites, the main need for co-ordination lies in the assignment of B<sub>1</sub> transmitter identification characters (time schedules) and the agreement of proposed NAVTEX service areas (if appropriate). Preliminary discussions between national administrations seeking to establish or amend NAVTEX services and neighbouring administrations shall be co-ordinated by the NAVAREA Co-ordinator prior to formal application for a B<sub>1</sub> transmitter identification character. Throughout the process the IMO NAVTEX Co-ordinating Panel is available to advise and liaise on the final limits of NAVTEX service areas if these cannot be agreed locally.
- .8 the IMO NAVTEX Co-ordinating Panel will only allocate B<sub>1</sub> transmitter identification characters after the NAVTEX service areas have been agreed.



**Figure 4 – Example of NAVTEX service areas**

The Baltic Sea and its approaches has been divided into four individual NAVTEX service areas. Within each service area, maritime safety information is provided from a separate NAVTEX station which has been allocated a dedicated B<sub>1</sub> transmitter identification character. It is a fundamental requirement that the range of each NAVTEX transmitter is sufficient to include the whole of the NAVTEX service area assigned to its B<sub>1</sub> transmitter identification character.

.9 once a NAVTEX transmitter has been declared operational, if a national administration wishes to:

- a) move the transmitter site; and/or
- b) amend the limits of its NAVTEX service area

then the whole co-ordination process outlined above must be repeated, keeping the NAVTEX Co-ordinating Panel informed at all times.

.10 a national NAVTEX Co-ordinator shall be established to oversee the operation of the NAVTEX services established by each national administration. The responsibilities of the NAVTEX Co-ordinator are defined in Section 12 of this Manual.

#### **4.3 National NAVTEX services on 490 kHz or 4209.5 kHz**

The provisions of the NAVTEX Manual apply to National NAVTEX Services on 490 kHz or 4209.5 kHz. When planning a National NAVTEX Service, the IMO NAVTEX Co-ordinating Panel is responsible for the allocation of B<sub>1</sub> transmitter identification characters; however, the establishment of NAVTEX service areas and the compulsory use of the English language are not required.

#### **4.4 National NAVTEX services on other frequencies**

The provisions of the NAVTEX manual do not apply when planning a national NAVTEX service on nationally assigned frequencies.

### **5 – NAVTEX MESSAGE TECHNICAL CHARACTERS**

#### **5.1 Overview of technical characters, B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, B<sub>4</sub>**

5.1.1 NAVTEX messages include instructions to the NAVTEX receiver for processing maritime safety information in the form of the NAVTEX message identity, which consists of four technical "B" characters which make up an alphanumeric code. In order for messages to be correctly processed, they must consist of data conforming to these B characters:

- B<sub>1</sub> Transmitter Identification Character
- B<sub>2</sub> Subject Indicator Character
- B<sub>3</sub>B<sub>4</sub> Message Numbering Characters

<b>B<sub>1</sub></b> <b>Transmitter Identification Character</b>	<b>B<sub>2</sub></b> <b>Subject Indicator Character</b>	<b>B<sub>3</sub> B<sub>4</sub></b> <b>Message Numbering Characters</b>	
1 letter	1 letter	2 digits	
A to X	A = Navigational warnings	01 to 99  (message numbering characters "00" are not to be used for routine messages)	
	B = Meteorological warnings		
	C = Ice reports		
	D <sup>12</sup> = Search and rescue information, acts of piracy warnings, tsunamis and other natural phenomena		
	E = Meteorological forecasts		
	F = Pilot and VTS service messages		
	G = AIS service messages (non navigational aid)		
	H = LORAN messages		
	I = currently not used		
	J = GNSS messages		
	K = Other electronic navigational aid system messages		
	L = Other Navigational warnings – additional to B <sub>2</sub> character A <sup>13</sup>		
	M = N = O = P = Q = R = S = T = U =		} currently not used
	V = W = X = Y =		
Z = No messages on hand			

**Table 1 – Technical "B" characters which make up the full NAVTEX message identity**

<sup>12</sup> Use of B<sub>2</sub> character D will automatically set off the alarm at the NAVTEX receiver.

<sup>13</sup> On some older NAVTEX receivers it may be possible to deselect B<sub>2</sub> character L (continuation of B<sub>2</sub> subject group A), however, it is strongly recommended that this character is not deselected.

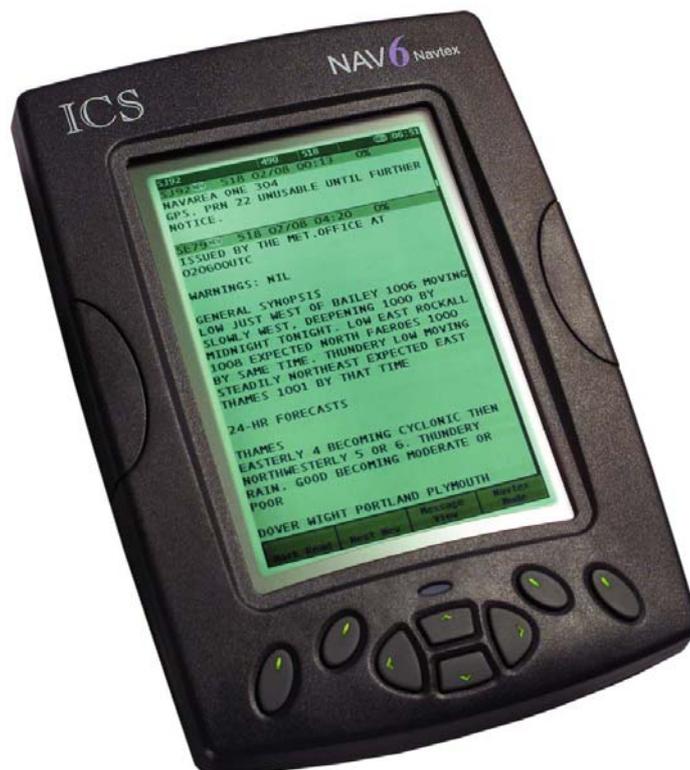


Figure 5 – Example of NAVTEX receiver with LCD Screen

## 5.2 B<sub>1</sub> – Transmitter Identification Character

**5.2.1** The transmitter identification character is a single letter which is allocated to each transmitter. It is used to identify the broadcasts which are to be accepted by the receiver and those to be rejected, and also the time slot for the transmission.

**5.2.2** In order to avoid erroneous reception and interference of transmissions from two stations having the same transmitter identification character, it is necessary to ensure that such stations have a large geographical separation. Allocation of transmitter identification characters by alphabetical sequence to adjacent sites can also cause problems; hence, consecutive transmitter identification characters are not normally allocated to adjacent stations. Experience has shown that this removes the risk of a station which over-runs its time slot masking the phasing signal of an adjacent station which is about to begin its transmission.

**5.2.2** NAVTEX transmissions have a designed maximum range of about 400 nautical miles. The minimum distance between two transmitters with the same transmitter identification identifier must, therefore, be sufficient to ensure that a receiver cannot be within range of both at the same time.

**5.2.3** Close co-ordination between transmitting stations in adjacent NAVAREAs/METAREAs is necessary to achieve this separation. For this reason, national administrations shall request the advice of the IMO NAVTEX Co-ordinating Panel at an early stage in the planning of a new NAVTEX service. The Panel will allocate B<sub>1</sub> transmitter identification characters in such a way as to minimize the risk of interference occurring.

**5.2.5** Table 2 shows the transmitter identification characters and their associated transmission start times used by the IMO NAVTEX Co-ordinating Panel to evaluate and allocate transmitter identification characters A to X, regardless of the geographical position of the station anywhere in the world. Each transmitter identification character is allocated a maximum transmission time of 10 minutes every 4 hours. Because the NAVTEX system always utilizes a single frequency, it is **fundamental** to its successful operation that the following time slots are strictly adhered to, and that broadcasts do not overrun their allotted 10 minutes.

Transmitter identification character (B <sub>1</sub> )	Transmission start times (UTC)					
A	0000	0400	0800	1200	1600	2000
B	0010	0410	0810	1210	1610	2010
C	0020	0420	0820	1220	1620	2020
D	0030	0430	0830	1230	1630	2030
E	0040	0440	0840	1240	1640	2040
F	0050	0450	0850	1250	1650	2050
G	0100	0500	0900	1300	1700	2100
H	0110	0510	0910	1310	1710	2110
I	0120	0520	0920	1320	1720	2120
J	0130	0530	0930	1330	1730	2130
K	0140	0540	0940	1340	1740	2140
L	0150	0550	0950	1350	1750	2150
M	0200	0600	1000	1400	1800	2200
N	0210	0610	1010	1410	1810	2210
O	0220	0620	1020	1420	1820	2220
P	0230	0630	1030	1430	1830	2230
Q	0240	0640	1040	1440	1840	2240
R	0250	0650	1050	1450	1850	2250
S	0300	0700	1100	1500	1900	2300
T	0310	0710	1110	1510	1910	2310
U	0320	0720	1120	1520	1920	2320
V	0330	0730	1130	1530	1930	2330
W	0340	0740	1140	1540	1940	2340
X	0350	0750	1150	1550	1950	2350

**Table 2 – NAVTEX transmission start times**

**5.2.6** In some regions, it has become necessary to accommodate a large number of stations. In extreme cases, it has even been necessary to re-use some transmitter identification characters for a second time within a region. Where this occurs every effort is made to ensure stations with the same character are as far apart as possible to reduce the risk of mutual interference.

### **5.3 B<sub>2</sub> – Subject Indicator Character**

**5.3.1** Information is grouped by subject in the NAVTEX broadcast and each subject group is allocated a B<sub>2</sub> subject indicator character.

**5.3.2** The subject indicator character is used by the receiver to identify the different classes of messages as listed in **Table 1**.

**5.3.3** Some subject indicator characters can be used to reject messages concerning certain subjects which may not be required by the ship (e.g., LORAN messages may be rejected by deselecting the B<sub>2</sub> subject indicator character H on the NAVTEX receiver onboard a ship which is not fitted with a LORAN receiver).

**5.3.4** Reception of messages, transmitted using subject indicator characters A, B, D and L, which have been allocated for navigational warnings, meteorological warnings, search and rescue information, acts of piracy warnings, tsunamis and other natural phenomena, is mandatory and cannot be deselected on the NAVTEX receiver. This has been designed to ensure that ships using NAVTEX always receive the most essential information.

**5.3.5** It is not possible to transmit or receive two NAVTEX messages with the same NAVTEX message identity (made up of the four technical characters). Therefore the B<sub>2</sub> subject indicator character L has been designated for use in the unlikely event that a NAVTEX Co-ordinator has more than 99 navigational warning messages in force and requiring transmission at the same time, all using B<sub>2</sub> subject indicator character A, with the same B<sub>1</sub> transmitter identification character.

**5.3.6** Messages received which have been transmitted using subject indicator character D will set off an alarm built into the NAVTEX receiver.

**5.3.7** In the International NAVTEX Service, Administrations shall obtain the agreement of the IMO NAVTEX Co-ordinating Panel for all proposals for the use of special service subject indicator characters. Such proposals shall meet the following criteria:

- .1 The full international service must remain unaffected.
- .2 The special service broadcasts shall be transmitted only when time allows, and with due regard to the necessity for the frequency to remain unused for a high percentage of the time.
- .3 The special service broadcast shall only be used for its approved purpose.

#### **5.4 B<sub>3</sub> B<sub>4</sub> – Message Numbering Characters (NAVTEX Number)**

**5.4.1** Each message within each subject group, is allocated a two digit sequential serial number, beginning at 01 and ending at 99. The B<sub>3</sub>B<sub>4</sub> message numbering characters together, are often referred to as the "NAVTEX number".

**5.4.2** The NAVTEX number is solely allocated as a component of the NAVTEX message identity and should not be confused with (and bears no correlation to), the series identity and consecutive number of the NAVAREA or Coastal warning contained in the message.

**5.4.3** Messages broadcast using NAVTEX number B<sub>3</sub>B<sub>4</sub> = 00 cannot be rejected and will automatically override any selection of B<sub>1</sub> transmitter identification characters as well as any B<sub>2</sub> subject indicator characters selected on the NAVTEX receiver.

**5.4.4** Use of NAVTEX number B<sub>3</sub>B<sub>4</sub> = 00 must therefore be **strictly controlled**, since messages carrying it will always be printed or displayed every time they are received. Routine messages and service messages must never be allocated B<sub>3</sub>B<sub>4</sub> = 00. The correct use of B<sub>2</sub> characters A, B, D and L, will ensure that messages containing safety information will always be printed or displayed on first receipt.

## 6 – MESSAGE IDENTITY

**6.1** The individual NAVTEX message identity is the amalgamation of all four technical characters  $B_1B_2B_3B_4$  (transmitter identification character / subject indicator character / message numbering characters).

**6.2** When a message is received for the first time by a NAVTEX receiver, the message identity is recorded and stored in the memory for 72 hours. This ensures that subsequent transmissions of the same message are not re-printed or repeated in the display, unless they are re-received over 72 hours later. In the unlikely event that all 99 NAVTEX numbers for a particular subject group, from a particular transmitter, are in use at the same time, or have been allocated within the past 72 hours, an alternative  $B_2$  character must be utilized; for example,  $B_2 = L$  has been set aside to be used for additional navigational warnings if all 99 NAVTEX numbers for subject group  $B_2 = A$  are in use.

**6.3** Each NAVTEX message identity shall be allocated by the relevant NAVTEX Co-ordinator, who is the authority responsible for the selection of information to be broadcast by each transmitter within each subject group. A single NAVTEX Co-ordinator may have more than one transmitter under their control. Specific advice on the use of alternative  $B_2$  subject indicator characters as mentioned in **6.2** above, can be provided by the IMO NAVTEX Co-ordinating Panel.

## 7 – MESSAGE FORMAT

**7.1** NAVTEX messages must be composed in accordance to the guidelines contained in the Joint IMO/IHO/WMO Manual on Maritime Safety Information and IHO Publication S-53. The format of all messages shall be in strict accordance with **Figure 6**. This defines the essential elements of the messages which influence the operation of the receiver. Great care is required to avoid errors of syntax in the groups ZCZC  $B_1B_2B_3B_4$  and NNNN as they will cause receivers to operate incorrectly, and may well result in messages not being received.

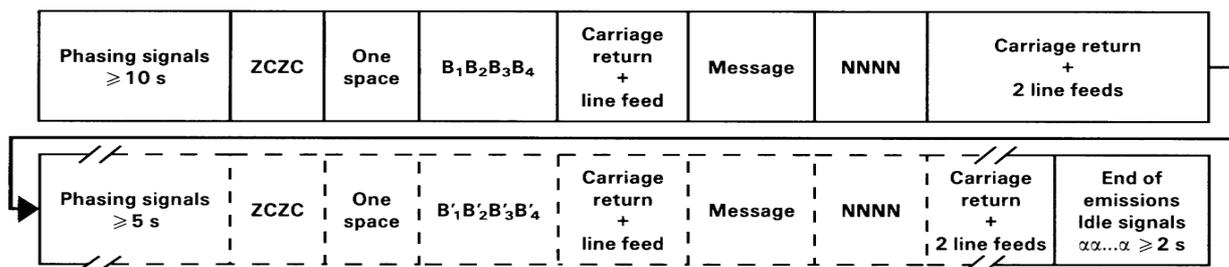


Figure 6 – Standard format for NAVTEX messages

**7.2** The phasing signal is automatically transmitted by the NAVTEX transmitter at the beginning of each message and is critical to the effective operation of the system. It is this signal which enables a receiver to lock-on to a particular station's transmission, providing the frequency is not already in use.

**7.3** If another station within transmitting range and with a timeslot prior to the station selected overruns its time slot (regardless of the B<sub>1</sub> transmitter identification character in use), its transmission will blank the phasing signal of the subsequent transmitter. It will then seem to the receiver as if the second station is off the air and its broadcast will not be received, possibly denying the user significant safety information. This is the primary reason behind the importance of each station adhering to its allocated time slots. Similarly if the phasing signal for a particular station is too short, some receivers will be unable to lock on to the transmission.

**7.4** Basic message elements:

Element	Example
Phasing signal	
Start of message group	ZCZC
One space	
NAVTEX message identity	FA01
Carriage return + line feed	
Message content	(Date Time Group – Optional e.g. 040735 UTC OCT 10) NAV I 114/10 ENGLISH CHANNEL. START POINT SOUTHWARD. CHART BA 442 (INT 1701). UNEXPLODED ORDNANCE LOCATED 49-51.97N 003-39.54W AND 49-55.24N 003-40.79W.
End of message instruction	NNNN
Carriage return + two line feeds	
Phasing signal	

**Table 3 – Basic message elements**

**7.5** When a message has been received error-free, a record is made by the receiver of the NAVTEX message identity. This unique identifier is used to suppress the printing or display of repeated transmissions of the same message.

**7.6** On national NAVTEX services it is important to keep to the same basic message format as that required for the International NAVTEX service. It is also important to ensure that the full broadcast does not overrun the allocated time slot. However, in order to meet national requirements, message content may deviate from the guidelines provided for the International NAVTEX Service if required.

## 7.7 Examples of Navigational Warning messages

ZCZC LA18  
140356 UTC AUG 10  
NORWEGIAN NAV.WARNING 280  
CHART 4  
AREA OSLOFJORDEN  
TORPENE LIGHTBUOY 59-46.1N 010-  
33.2E UNLIT  
NNNN

ZCZC LA26  
250911 UTC JUN 10  
DANISH NAVIGATIONAL WARNING NO.  
154/10  
KATTEGAT, AALBORG BIGHT  
LIGHTHOUSE SVITRINGEN RENDE NO.13  
56-54.4N 010-30.6E DESTROYED AND  
MAKES AN OBSTRUCTION.  
DEPTH ABOVE FOUNDATION 1 METRE.  
THE POS. IS MARKED AS FOLLOWS:  
GREEN LIGHT BUOY Q.G. APPROX 50M  
SW  
YELLOW BUOY APPROX. 50M N  
YELLOW BUOY APPROX. 50M ESE  
MARINERS ARE ADVISED TO KEEP WELL  
CLEAR  
NNNN

ZCZC SA38  
NAVTEX-HAMBURG (NCC)  
131120 UTC SEP 10  
NAV WARN NO. 428  
TSS TERSCHELLING-GERMAN BIGHT  
'TG 2/GW' LIGHTBUOY 53-52N 006-22E  
OFF STATION AND DAMAGED.  
NNNN

ZCZC TA93  
151530 UTC JAN  
OOSTENDERADIO - INFO 17/10  
1. OSTEND HARBOUR - WORKING AREA  
EASTERN BREAKWATER. ALL SHIPPING  
(EXCEPT GOVERNMENT VESSELS AND  
WORKBOATS INVOLVED IN THIS  
PROJECT) FORBIDDEN IN THE WORKING  
AREA BOUNDED BY THE FOLLOWING POS:  
51-14.278N 002-55.719E  
51-14.424N 002-55.696E  
51-14.840N 002-55.370E  
51-14.579N 002-55.058E  
51-14.462N 002-55.186E  
51-14.381N 002-55.293E  
51-14.253N 002-55.360E  
SHIPPING REQUESTED TO PASS WITH  
REDUCED SPEED  
2. CANCEL INFO 121/09  
NNNN

ZCZC KA79  
AVURNAV CHERBOURG 098  
DOVER STRAIT TSS  
AIS AID TO NAVIGATION  
MMSI NUMBER: 992271107  
ESTABLISHED ON ZC2 BOUY  
50-53.6N 001-30.9E (WGS 84)  
NNNN

ZCZC MA99  
301435 UTC AUG 10  
WZ 972  
ENGLAND, EAST COAST.  
THAMES ESTUARY.  
1. EXPOSED CABLE EXISTS ON SEABED  
IN VICINITY OF LINE JOINING:  
51-28.7N 000-46.8E  
51-29.2N 001-01.7E  
51-28.5N 001-09.5E  
51-28.8N 001-14.0E  
51-28.3N 001-18.6E AND  
51-28.7N 001-25.2E.  
WIDE BERTH REQUESTED.  
2. CANCEL WZ957  
NNNN

ZCZC JA93  
101200 UTC SEP  
GERMAN NAV WARN 424  
WESTERN BALTIC. FEHMARN.  
PUTTGARDEN.  
UNDERWATER OPERATIONS BY 'DEEP  
DIVER 1/J8HC7', IN VICINITY OF:  
54-32.8N 011-16.9E. GUARD VESSELS  
STANDING BY VHF CHANNEL 16. 0.5 NM  
BERTH REQUESTED  
NNNN

ZCZC MA97  
291351 UTC AUG  
NAVAREA I 238/10  
ENGLAND EAST COAST.  
THAMES ESTUARY APPROACHES.  
CHART BA 1138(INT 1561).  
WAVERIDER LIGHT-BUOY AND FOUR  
GUARD  
LIGHT-BUOYS, ALL FL (5) Y.20S,  
ESTABLISHED 51-42.5N 001-51.0E.  
WIDE BERTH REQUESTED.  
NNNN

ZCZC JA38  
051444 UTC AUG  
KALININGRAD NAV WARN 097  
SOUTHEASTERN BALTIC, KUSHKAYA KOSA  
LIGHT LESNOJ 55-01.0N 020-36.8E  
UNLIT  
NNNN

## 7.8 Examples of Meteorological messages

OE35  
ISSUED BY THE MET OFFICE AT 0620  
ON TUESDAY 14 SEPTEMBER

GALE WARNINGS: LUNDY FASTNET IRISH  
SEA ROCKALL MALIN  
HEBRIDES BAILEY FAIR ISLE FAEROES  
SE ICELAND

THE GENERAL SITUATION AT MIDNIGHT  
LOW NE OF ICELAND 986, MOV  
SWWARDS, THEN SEWARDS, EXP N  
HEBRIDES 988 BY MIDNIGHT TONIGHT

24-HR FCSTS

LUNDY FASTNET  
SW VEER NW 5 TO 7, OCNL GALE 8 AT  
FIRST. ROUGH. RAIN,  
FAIR LATER. MOD OR POOR, BECMG  
GOOD

IRISH SEA  
SW VEER NW 5 TO 7, OCNL GALE 8,  
PERHAPS SEV GALE 9 LATER.  
ROUGH. RAIN THEN SQUALLY SHWRS.  
MOD OR GOOD, OCNL POOR AT  
FIRST

ROCKALL MALIN HEBRIDES BAILEY  
W 6 TO GALE 8, OCNL SEV GALE 9,  
VEER NW LATER. VERY ROUGH  
OR HIGH. SQUALLY SHWRS. MOD OR  
GOOD, OCNL POOR

FAIR ISLE FAEROES  
SW 5 TO 7, OCNL GALE 8 IN S, VEER  
N 5 OR 6 LATER. ROUGH

BECMG VERY ROUGH OR HIGH. SQUALLY  
SHWRS. MOD OR GOOD

SE ICELAND  
SW BECMG CYCLONIC, THEN N 5 TO 7,  
INCR GALE 8 LATER.  
ROUGH, BECMG VERY ROUGH IN S.  
SQUALLY SHWRS. MOD OR GOOD,  
OCNL POOR

OUTLOOK FLW 24 HOURS:  
STRG WINDS EXP IN LUNDY AND  
FASTNET. GALES EXP IN ALL  
OTHER AREAS WITH SEV GALES IN  
IRISH SEA, MALIN, HEBRIDES  
AND SE ICELAND

IB54  
WWJP73 RJTD 140600  
IMPORTANT WARNING FOR YOKOHAMA  
NAVTEX AREA 140600 UTC ISSUED AT  
140900 UTC

LOW 1002HPA AT 38N 150E MOVING SE  
10 KNOTS  
COLD FRONT FROM 38N 150E TO 34N  
143E 31N 139E 30N 133E  
STATIONARY FRONT FROM 30N 133E TO  
30N 127E 31N 122E 31N 119E

WARNING(NEAR GALE) EASTERN SEA OFF  
SANRIKU

WARNING(DENSE FOG) EASTERN SEA OFF  
SANRIKU POOR VISIBILITY 0.3 MILES  
OR LESS IN PLACES

NEXT WARNING WILL BE ISSUED BEFORE  
141500 UTC

## 8 – LANGUAGE AND NATIONAL BROADCAST OPTIONS

8.1 International NAVTEX Service messages on 518 kHz shall be broadcast only in English.

8.2 There is often a requirement for NAVTEX broadcasts to be made in national languages in addition to English. This shall **only** be achieved by the provision of a national NAVTEX service. National NAVTEX services use frequencies other than 518 kHz, and languages as decided by the Administrations concerned. These National NAVTEX services may be broadcast on 490 kHz or 4209.5 kHz, or on an alternative nationally assigned frequency.

## 9 – INFORMATION CONTROL

9.1 The time-shared nature of NAVTEX services imposes the need for strict discipline in controlling the information flow of the broadcast. To achieve this, it is necessary to co-ordinate the messages in each B<sub>2</sub> category at each transmitter. In general, all messages shall be brief and clear and avoid duplication. Strict adherence to relevant guidelines such as those in IMO Assembly resolution A.706(17), as amended, the Joint IMO/IHO/WMO Manual on Maritime Safety Information and the WMO Manual on Marine Meteorological Services, Part 1*bis*, Provision of warnings and weather and sea bulletins (GMDSS application) is recommended, but certain additional operating procedures have also been found necessary:

- .1 messages in each category shall be broadcast in reverse order of receipt by the NAVTEX Co-ordinator, with the latest being broadcast first; and
- .2 cancellation messages shall be broadcast once only. The cancelled message shall not be transmitted on the broadcast in which its cancellation message appears.

## 10 – MESSAGE CONTENT

10.1 It is important that national administrations operating or planning NAVTEX services are quite clear about what sort of information shall or shall not be included in the messages.

10.2 The International NAVTEX service shall be used for transmitting maritime safety information only and shall NOT be used as a medium for providing Notices to Mariners or for broadcasting Local Warnings. NAVTEX is essentially a medium for broadcasting information that is **needed** by ships to safely navigate through the NAVTEX service area of the appropriate NAVTEX station, particularly those ships on coastal passages. More detailed guidance in respect to different classes of messages is given below. Examples of the content and layout of NAVTEX messages are shown in the Joint IMO/IHO/WMO Manual on Maritime Safety Information. This publication shall be available to all personnel responsible for the drafting of messages to be broadcast by NAVTEX stations.

### 10.2.1 Navigational warnings

- .1 coastal warnings and NAVAREA warnings (B<sub>2</sub> = A or L) issued under the guidance of IMO Assembly resolution A.706(17), as amended, which would be of concern to ships in the NAVTEX service area allocated to the transmitter shall be included in the broadcast. Relevant coastal warnings shall normally be repeated at every scheduled transmission for as long as

they remain in force; 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. NAVTEX Co-ordinators shall arrange to receive NAVAREA warnings appropriate to their area for inclusion in their broadcasts. These shall be broadcast at least twice each day – to avoid overloading the broadcast time slot, they shall normally be scheduled for transmission during slots that do not include weather forecasts (see 12.4);

- .2 a summary of navigational warnings remaining in force shall normally be broadcast each week; and
- .3 local warnings shall not be broadcast on NAVTEX, i.e. information relating to inshore waters, often within the limits of jurisdiction of a harbour or port authority, as defined in IMO Assembly resolution A.706(17), as amended.

### 10.2.2 Meteorological warnings and forecasts

- .1 meteorological warnings ( $B_2 = B$ ), e.g., gale warnings, shall be allocated a priority of IMPORTANT (see Section 11) and be repeated at subsequent scheduled transmissions for as long as the warning is in force. These messages shall contain **only** the appropriate warnings and shall be separate from the weather forecasts;
- .2 weather forecasts ( $B_2 = E$ ) shall be broadcast at least twice each day. This service shall be carefully co-ordinated where transmitters are geographically close together;
- .3 routine ice reports are normally broadcast on NAVTEX once a day; and
- .4 ice accretion warnings (icing warnings) are normally included in gale warnings. If no gale warning is issued, they are to be treated as a meteorological warning (see 10.2.2.1).

### 10.2.3 Search and rescue information

- .1 the NAVTEX broadcast is not suitable for distress traffic. Therefore, **only** the initial distress message shall be re-transmitted on NAVTEX, using  $B_2 = D$ , in order to alert mariners to a distress situation, by setting off an audio alarm.
- .2 a single authority, which will normally be a Maritime Rescue Co-ordination Centre (MRCC), shall be designated SAR Co-ordinator to input information via the NAVTEX Co-ordinator, for a NAVTEX message. The initial shore-to-ship distress-related message shall have previously been broadcast on the appropriate distress frequency prior to any related NAVTEX message being broadcast.

### 10.2.4 Piracy attack warnings

Piracy attack warnings shall be transmitted using  $B_2 = D$ , in order to alert mariners by setting off an audio alarm. They shall be broadcast immediately on receipt and at subsequent scheduled transmissions.

### 10.2.5 Tsunamis and other natural phenomena warning messages

Tsunami warnings, and negative tidal surge warnings shall be transmitted using  $B_2 = D$ , in order to alert mariners by setting off an audio alarm. They shall be broadcast immediately on receipt and at subsequent scheduled transmissions.

### 10.2.6 Pilot and VTS service messages

Technical subject indicator character  $B_2 = F$ , is only to be used for broadcasting temporary alterations, movement or suspension to pilot or VTS services. This category is for the information of all ships and is not to be used for specific instructions to individual ships or pilots.

### 10.2.7 No messages on hand

When there are no NAVTEX messages to be disseminated at a scheduled broadcast time, a brief message shall be transmitted to advise the mariner that there is no message traffic on hand. Technical subject indicator character  $B_2 = Z$  is to be used to announce "NO MESSAGES ON HAND".

### 10.2.8 Use of abbreviations

Common examples of abbreviations used in the international NAVTEX service are contained in the Joint IMO/IHO/WMO manual on Maritime Safety Information.

### 10.2.9 National NAVTEX services

Transmissions on 490 kHz or 4209.5 kHz, may simply repeat the messages broadcast over the International NAVTEX service but in a national language, or they may be tailored to meet particular national requirements, for example by providing different or additional information to that broadcast on the International NAVTEX service, targeted at recreational vessels or fishing fleets.

## 11 – MESSAGE PRIORITIES AND BROADCAST PROCEDURES IN THE INTERNATIONAL NAVTEX SERVICE

### 11.1 Message priorities

11.1.1 The message originator is responsible for assessing the urgency of the information and inserting the appropriate priority marking. One of three message priorities is used to dictate the timing of the first broadcast of a new warning in the NAVTEX service. In descending order of urgency, they are:

<b>VITAL</b>	for immediate broadcast, subject to avoiding interference to ongoing transmissions. Such messages shall also be passed to the appropriate NAVAREA Co-ordinator for possible transmission as a NAVAREA message via SafetyNET;
<b>IMPORTANT</b>	for broadcast at the next available period when the frequency is unused; and
<b>ROUTINE</b>	for broadcast at the next scheduled transmission.

11.1.2 Both **VITAL** and **IMPORTANT** messages shall be repeated, at least once at the next scheduled transmission time slot, if the situation is still extant.

**11.1.3** The message priority is a procedural instruction for the NAVTEX Co-ordinator or the transmitting station and shall **not** be included in the message. By selecting the appropriate priority of **VITAL**, **IMPORTANT** or **ROUTINE** at the transmission terminal, the message will be broadcast with the correct priority.

**11.1.4** In order to avoid unnecessary disruption to the service, the priority marking **VITAL** is to be used only in cases of **extreme urgency**, i.e. to relay an initial shore-to-ship distress-related message or acts of piracy warnings, tsunamis and other natural phenomena warnings. In addition, **VITAL** messages are to be kept as brief as possible. The information provider is responsible for ensuring that the NAVTEX Co-ordinator is fully and immediately aware when a message shall be broadcast with the priority of **VITAL**.

**11.1.5** **VITAL** messages will normally be broadcast using NAVTEX number B<sub>3</sub>B<sub>4</sub> = 00.

## **11.2 Broadcast procedures**

### **.1 VITAL priority messages.**

Messages assessed as **VITAL**, are to be broadcast immediately, subject to avoiding interference to ongoing transmissions. On receipt of a message with a **VITAL** priority, the NAVTEX Co-ordinator will commence monitoring the NAVTEX frequency. If the frequency is clear, the **VITAL** message is to be transmitted immediately. If the frequency is in use, the Co-ordinator shall contact the station which, according to the schedule, will be transmitting during the following time slot and ask it to postpone their transmission start by one minute, to allow a space for the **VITAL** message. Once the **VITAL** message has been transmitted, the scheduled station is free to start its routine transmissions;

### **.2 IMPORTANT priority messages.**

Messages assessed as **IMPORTANT**, are to be broadcast during the next available period when the NAVTEX frequency is unused. This is to be identified by monitoring the frequency. It is expected that this level of priority will be sufficient for the majority of urgent information; and

### **.3 ROUTINE priority messages.**

Messages assessed as **ROUTINE**, are to be broadcast at the next scheduled transmission time. This level of priority will be appropriate for almost all messages broadcast on NAVTEX and is always to be used unless special circumstances dictate the use of the procedures for an **IMPORTANT** or **VITAL** priority message.

## **11.3 Meteorological NAVTEX Messages**

The following priorities shall be assigned to meteorological NAVTEX messages:

- a) Meteorological forecasts = ROUTINE priority
- b) Meteorological warnings = IMPORTANT priority
- c) Tsunami warnings = VITAL priority
- d) For other natural phenomena warnings, either **IMPORTANT** or **VITAL** priorities may be used.

#### 11.4 National NAVTEX Services

The broadcast procedures concerning differing message priorities are the same for both the International and National NAVTEX services.

## 12 – RESPONSIBILITIES OF A NAVTEX CO-ORDINATOR

**12.1** The NAVTEX Co-ordinator is responsible for the messages transmitted by each station under their control. This responsibility includes checking that the content of each message is in accordance with the Joint IMO/IHO/WMO Manual on Maritime Safety Information and also, that it is relevant to the NAVTEX service area of the transmitting station. Thus a user may choose to accept messages, as appropriate, either from the single transmitter which serves the sea area around their position or from a number of transmitters. Ideally, the user should select the station within whose coverage area their vessel is currently operating and the station into whose coverage area their vessel will transit next.

**12.2** The NAVTEX Co-ordinator must:

- .1 act as the central point of contact on matters relating to NAVTEX transmissions for a given transmitter or number of transmitters;
- .2 be responsible for continuously ensuring quality-control for the operation of the NAVTEX transmitting stations under its jurisdiction. This shall be achieved with the co-operation of the information providers to ensure that:
  - a) messages are always concise and can be transmitted within the designated 10 minute time slots assigned by the IMO NAVTEX Co-ordinating Panel;
  - b) **MINIMUM** power is used to achieve satisfactory range performance; and
  - c) the co-ordinated service is operating satisfactorily;
- .3 assess all requests for NAVTEX messages immediately upon receipt;
- .4 schedule each message for broadcast in accordance with the requested priority of VITAL, IMPORTANT or ROUTINE;
- .5 monitor the international NAVTEX frequency along with any other National frequency used by the transmitters under their jurisdiction in order to ensure that the messages have been correctly broadcast;
- .6 monitor the international NAVTEX frequency along with any other National frequency used in order to identify vacant transmission periods required for VITAL or IMPORTANT messages;
- .7 pass maritime safety information which warrants promulgation outside of their NAVTEX service area directly to the appropriate authority, using the quickest possible means;
- .8 allocate a message identity to each message, including the sequential NAVTEX number;

- .9 ensure that NAVTEX messages which have been cancelled are removed from the broadcast schedule at the same time as the cancellation message is promulgated;
- .10 promote and oversee the use of established international standards and practices with respect to the format and protocols associated with NAVTEX messages;
- .11 maintain records of source data relating to NAVTEX messages in accordance with the requirement of the National Administration of the NAVAREA co-ordinator;
- .12 be aware of the responsibilities of a NAVAREA, Sub-area and National Co-ordinator contained in IMO resolution A.706(17), as amended, paying particular attention to the specific guidance for the promulgation of internationally co-ordinated maritime safety information provided there-in; and
- .13 take into account the need for contingency planning

### **12.3 Management of the service**

#### **.1 Data priority:**

Most information broadcast on NAVTEX services relates to either Navigational Warnings or Meteorological Information. These types of information often originate from different organizations within a country and it is not until they arrive with the NAVTEX Co-ordinator that an assessment can be made as to whether there is too much information for the relevant broadcast time slot. Each data provider may consider their data to be more important and therefore, require transmission in full. However, the NAVTEX Co-ordinator needs to control the overall volume of data broadcast and may need to refer back to data providers to prioritise their information and reduce the amount of data to be broadcast. Some NAVTEX Co-ordinators utilize digital systems which include software that provides a readout of predicted transmission times for data held ready for broadcast. This enables the Co-ordinator to anticipate any problems and take action before the scheduled broadcast.

Data to meet purely national requirements shall not be broadcast on the International NAVTEX service, but shall be migrated to a national NAVTEX service (see section 14).

#### **.2 Data formatting:**

The period of each transmission shall be kept to a minimum by strictly formatting messages and avoiding the use of free text whenever possible.

### **12.4 Balancing the volume of data to be broadcast throughout the daily transmission cycle**

For many categories of message there is no option with regards to when they shall be transmitted. However, in order to minimize the risk of over-running the allocated 10 minute time slot, it is possible to balance the overall length of transmissions by broadcasting NAVAREA warnings at different times from weather forecasts and the weekly summary of navigation warnings in force. An example of how this may be managed is given below for a station with a B<sub>1</sub> transmitter identification character C:

Time Slot	Content
0020-0030	coastal warnings NAVAREA warnings
0420-0430	coastal warnings summary of navigational warnings in-force (once/week only)
0820-0830	coastal warnings weather forecasts
1220-1230	coastal warnings NAVAREA warnings
1620-1630	coastal warnings ice reports
2020-2030	coastal warnings weather forecasts

### 13 – BEST PRACTICE FOR THOSE USING THE SERVICE

**13.1** In order to ensure that all necessary maritime safety information has been received, it is recommended that the NAVTEX receiver is switched on at least 12 hours before sailing, or preferably left on at all times.

**13.2 Logging.** The reception of weather forecasts or navigational warnings on NAVTEX does not need to be noted in the radio log; the NAVTEX printout (or the non-volatile message memory) satisfies the requirements of regulation 17 of chapter IV of the 1974 SOLAS Convention, as amended.

### 14 – MUTUAL INTERFERENCE BETWEEN NAVTEX STATIONS

**14.1** The two principal causes of interference are:

- a) transmission overruns; and
- b) excessive power output.

**14.2** *Although NAVTEX continues to be generally reliable and an effective medium for the promulgation of maritime safety information, the world-wide infrastructure continues to expand and the volume of information that each Administration disseminates through the international NAVTEX service continues to increase. There is a danger that in some geographical areas, without firm management, both the system and system users may become overloaded with information on the single frequency used. This is of particular importance when handling messages of VITAL priority.*

**14.3** Many stations are filling their allotted 10 minute time slots and an increasing number are over-running. Instances of interference with neighbouring stations, as a result of over-running the time allocation, are also increasing. Where adjacent stations have transmitter identification characters which follow alphabetically (i.e. adjacent time slots), if the first station over runs, it may mask the phasing signal of the second station such that, to the user, it seems as if the second station is off the air. Safety-critical information from the second station, although broadcast, may not be received by the system users. Over-run is usually caused by one or more of the following which must be avoided at all costs, preferably by controlling the volume of data broadcast:

- .1 a significant increase in safety-critical activity such as cable laying. Navigational warnings promulgating such activity often include numerous waypoints which are listed by Latitude and Longitude;

- .2 meteorological information provided in a manner which is not concise and easily assimilated by the system user or for a much wider area than is covered by the NAVTEX station; and
- .3 additional information provided for non-SOLAS system users, e.g., longer-range weather forecasts for fishing and recreational vessels.

**14.4** As the GMDSS spreads to non-SOLAS mariners, their requirements for information are often different from the SOLAS ships and may be determined at a national level. SOLAS ships trading internationally usually pass through the area of coverage of a NAVTEX transmitter in a day; for them a 24-hour weather forecast usually suffices. However, fishing vessels and recreational vessels often remain in the same vicinity for several days and may require much longer range forecasts which take up more transmission time.

**14.5** In order to keep the quantity of information that is broadcast on 518 kHz to manageable levels and to reduce avoidable interference on this frequency, Administrations must:

- .1 monitor the volume of data broadcast and, together with adjacent Administrations, actively manage the system to ensure that interference caused by over-running allocated time slots is eliminated; and
- .2 transmit non-English language broadcasts for SOLAS vessels and broadcasts of information provided specifically for non-SOLAS vessels on 490 kHz or 4209.5 kHz as required. B<sub>1</sub> characters for these frequencies will be allocated by the IMO NAVTEX Co-ordinating Panel, on request.

**14.6** Excessive power output also causes interference between stations with the same B<sub>1</sub> transmitter identification character/time slot, but located in different regions. This has particularly been identified at night, as the number of operational NAVTEX stations increases. Occasionally, this can be caused by atmospheric conditions, but is generally caused by excessive power output from one of the stations. It is recommended that Administrations restrict the power output from their transmitters to that required to cover the designated NAVTEX service area, particularly at night, in order to avoid interference. As a general rule, transmitted power shall not exceed 1 kW by day and 300 watts by night.

**14.7** When interference is detected, particularly when it affects the service to system users, the matter shall be addressed immediately. When the interference is with adjacent stations, attempts shall be made to resolve the problem locally. Advice may also be sought from the NAVAREA Co-ordinator. If this is unsuccessful, the IMO NAVTEX Co-ordinating Panel shall be alerted to the problem and their advice sought. When the interference is from a station with the same B<sub>1</sub> character in a different area, the NAVTEX Co-ordinating Panel must be contacted and they will initiate any necessary investigation/action.

## **15 – NOTIFICATION OF NAVTEX SERVICES**

**15.1** National Administrations shall ensure that mariners are informed of the establishment of, and/or changes to, NAVTEX services by inclusion of full details in Notices to Mariners and lists of radio signals. In addition, full details shall be forwarded to the appropriate NAVAREA Co-ordinator, METAREA Issuing Service and:

- International Maritime Organization  
4 Albert Embankment  
London SE1 7SR  
United Kingdom
- International Telecommunication Union  
Radiocommunication Bureau  
Place des Nations  
1211 Genève 20  
Switzerland

## Annex 1

### IMO NAVTEX Co-ordinating Panel Terms of Reference

#### 1 Terms of Reference

- .1 advise Administrations planning to implement a NAVTEX service on the frequencies 518 kHz, 490 kHz or 4209.5 kHz, on the operational aspects of the system. In particular, advise on the optimum number of stations, the allocation of transmission identifying characters (B<sub>1</sub>) and broadcast message criteria;
- .2 co-ordinate with Administrations over the operational aspects of NAVTEX in the planning stages in order to prevent mutual interference owing to the number of stations, transmitter power, or transmission identifying character assignment;
- .3 remain aware of system problems which arise, through reports from sea and correspondence with operational NAVTEX Co-ordinators. When problems are identified, liaise with appropriate Administrations involved, NAVAREA Co-ordinators, METAREA Issuing Services, the Sub-Committee, IHO or WMO, as appropriate, recommend solutions or mitigating measures and, when agreed, co-ordinate their implementation; and
- .4 prepare documentation supporting the system for the Sub-Committee, including both that needed by Administrations to guide their operations, and that needed to inform the user of the service (mariner, shipowner and operator).

#### 2 Contact addresses

The NAVTEX Co-ordinating Panel can be contacted at the following addresses:

The Chairman  
IMO NAVTEX 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](mailto:info@imo.org)

#### 3 Panel membership and participation

**3.1** The IMO NAVTEX 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) International SafetyNET Co-ordinating Panel
- iii) Expert Team on Maritime Safety Services (ETMSS) of the WMO/IOC  
Joint Technical Commission for Oceanography and Marine Meteorology  
(JCOMM)

**3.3** The work of the Panel is conducted mainly by correspondence. Meetings, when appropriate, are announced in advance and normally scheduled to be held in the margins of other IMO or IHO meetings.

## Annex 2

### RECOMMENDATION ITU-R M.540\*

#### **Operational and Technical Characteristics for an Automated Direct-Printing Telegraph System for Promulgation of Navigational and Meteorological Warnings and Urgent Information to Ships**

##### **(Question 5/8)**

The CCIR,<sup>†</sup> (1978-1982-1990)

##### CONSIDERING

(a) that the availability of navigational and meteorological warnings and urgent information on board ships is of great importance for safety;

(b) that the existing radiocommunication system for promulgation of navigational and meteorological warnings and urgent information to ships can be improved by use of modern techniques;

(c) that the IMO has established the following definitions on the promulgation of maritime safety information:

- *NAVTEX* means the system for the broadcast and automatic reception of maritime safety information by means of narrow-band direct-printing telegraphy;
- *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, as set out in the NAVTEX manual, published by the IMO;
- *national NAVTEX service* means the broadcast and automatic reception of maritime safety information by means of narrow-band direct-printing telegraphy using frequencies and languages as decided by the Administrations concerned;

(d) that the 1988 Amendments to the International Convention for the Safety of Life at Sea, 1974, require that every ship to which the Convention applies shall be provided with a receiver capable of receiving international NAVTEX service broadcasts;

(e) that several countries are operating a co-ordinated international NAVTEX service based on narrow-band direct-printing in accordance with Article 14A of the Radio Regulations;

(f) that the system should be applicable to the maritime mobile service (both international and national);

(g) that it is desirable that the service fulfils the requirements of all types of ships desiring to use it;

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<sup>†</sup> The name "CCIR" was changed to "Radiocommunication Bureau" by the reorganization of the International Telecommunication Union on 1 March 1993.

(h) that although each area may need specific guidance, the use of standard technical and operational characteristics would facilitate the extension of the service,

**UNANIMOUSLY RECOMMENDS**

1. that the operational characteristics for the promulgation of navigational and meteorological warnings and urgent information using NBDP should be in accordance with Annex I;
2. that the technical characteristics for the promulgation of navigational and meteorological warnings and urgent information using NBDP should be in accordance with Annex II.

## Annex I to Recommendation ITU-R M.540

### OPERATIONAL CHARACTERISTICS

**1** Narrow-band direct-printing techniques should be used for an automated telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships. Common frequencies for such transmissions should be internationally agreed upon and the frequency 518 kHz has been designated for world-wide use in the international NAVTEX service (see Radio Regulations Nos. 474, 2971B and N2971B).

**1.1** For national NAVTEX services Administrations should also utilize the format of this Recommendation on the appropriate frequencies as defined in the Radio Regulations.

**2** The radiated power from the coast station transmitter should only be that sufficient to cover the intended service area of that coast station. The range extension occurring during night hours should also be considered.

**3** The information transmitted should primarily be of the type used for coastal waters preferably using a single frequency (Resolution No. 324 (Mob-87)).

**4** The transmission time allocated to each station should be restricted to that which is adequate for the anticipated messages to be broadcast to the area concerned.

**5** Scheduled broadcasts should take place at intervals not exceeding eight hours and be co-ordinated, to avoid interference with broadcasts from other stations.

#### **6** *Message priorities*

**6.1** Three message priorities are used to dictate the timing of the first broadcast of a new warning in the NAVTEX service. In descending order of urgency they are:

VITAL: for immediate broadcast, subject to avoiding interference to ongoing transmissions;

IMPORTANT: for broadcast at the next available period when the frequency is unused; and

ROUTINE: for broadcast at the next scheduled transmission period.

*Note:* Both VITAL and IMPORTANT warnings will normally need to be repeated, if still valid, at the next scheduled transmission period.

**6.2** In order to avoid unnecessary disruption to the service, the priority marking VITAL is to be used only in cases of extreme urgency, such as some distress alerts. In addition, VITAL messages are to be kept as brief as possible.

**6.3** Periods should be scheduled between the regular transmission periods permitting immediate/early transmission of VITAL messages.

**6.4** By use of the message serial number 00 in the preamble of a message (see also Annex 11 § 6) it is possible to override any exclusion of coast stations or of message types which might have been made in the receiving equipment.

**7** Initial shore-to-ship distress-related messages should first be broadcast on the appropriate distress frequency by coast stations in whose SAR area distress cases are handled.

**8** Participating transmitting stations should be provided with monitoring facilities to enable them to:

- monitor their own transmissions as to signal quality and transmission format;
- confirm that the channel is not occupied.

**9** In case a message is repeated by more than one transmitting station within the same NAVTEX region (e.g., for better coverage) the original preamble B<sub>1</sub>~B<sub>4</sub> (see annex II) should be used.

**10** In order to avoid overloading of the channel it is desirable to use a single language and where a single language is used it shall be English.

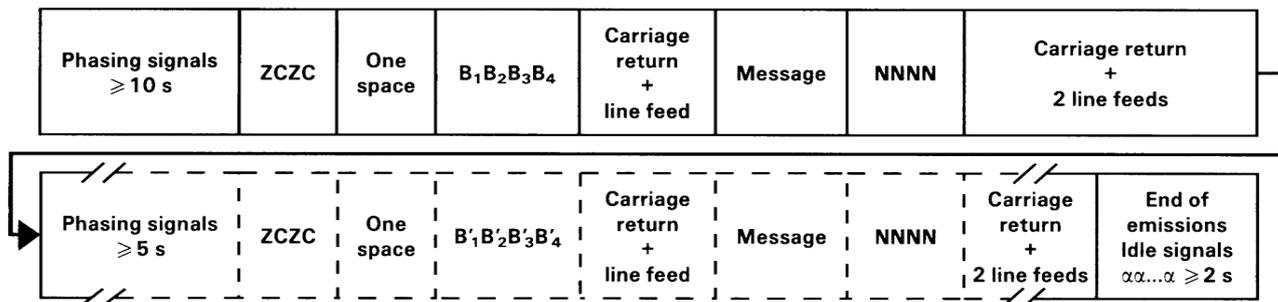
**11** Dedicated on-board equipment is recommended.

**12** Other operational characteristics and detailed guidance are given in the NAVTEX Manual developed by the International Maritime Organization.

**Annex II to Recommendation ITU-R M.540**

**TECHNICAL CHARACTERISTICS**

- 1 The signals transmitted should be in conformity with the collective B-mode of the direct-printing system specified in Recommendations 476 and 625.
- 2 The technical format of the transmission should be as follows:



in which ZCZC defines the end of the phasing period,

the B<sub>1</sub> character is a letter (A-Z)<sup>14</sup> identifying the transmitter coverage area,

the B<sub>2</sub> character is a letter (A-Z) for each type of message.

2.1 Both the B<sub>1</sub> characters identifying the different transmitter coverage areas and the B<sub>2</sub> characters identifying the different types of messages are defined by IMO and chosen from Table I of Recommendations 476 and 625, combination numbers 1-26.

2.1.1 Ship equipment should be capable of automatically rejecting unwanted information using character B<sub>1</sub>.

2.1.2 Ship equipment should be capable of disabling print-out of selected types of messages using character B<sub>2</sub> with the exception of messages with B<sub>2</sub> characters A, B, and D<sup>15</sup> (see also § 2.1).

2.1.3 If any facility is rejected or disabled in § 2.1.1 and 2.1.2 above, the extent of any such limitation must be clearly indicated to the user.

2.2 B<sub>3</sub>B<sub>4</sub> is a two-character serial number for each B<sub>2</sub>, starting with 01 except in special cases where the serial number 00 is used (see § 6 below).

2.3 The characters ZCZC B<sub>1</sub>B<sub>2</sub>B<sub>3</sub>B<sub>4</sub> need not be printed.

3 The printer should only be activated if the preamble B<sub>1</sub>~B<sub>4</sub> is received without errors.

4 Facilities should be provided to avoid printing of the same message several times on the same ship, when such a message has already been satisfactorily received.

<sup>14</sup> Only letters A-X are used on 518 kHz, 490 kHz and 4209.5 kHz, see Table 2 of the NAVTEX Manual.

<sup>15</sup> B<sub>2</sub> character L (continuation of B<sub>2</sub> subject group A), shall also not be capable of being suppressed (see IEC 61097-6).

- 5** The necessary information for the measures under § 4 above should be deduced from the sequence  $B_1B_2B_3B_4$  and from the message.
- 6** A message should always be printed if  $B_3B_4 = 00$ .
- 7** Extra (redundant) letter and figure shifts should be used in the message to reduce garbling.
- 8** In case a message is repeated by another transmitting station (e.g., for better coverage) the original preamble  $B_1\sim B_4$  should be used.
- 9** The equipment on board ships should be neither unduly complex or expensive.
- 10** The transmitter frequency tolerance for the mark and the space signals should be better than  $\pm 10$  Hz.

## Annex 3

### **IMO RESOLUTION MSC.148(77) (adopted on 3 June 2003)**

#### **Adoption of the Revised Performance Standards for Narrow-Band Direct-Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX)**

#### **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, shall be performed by the Maritime Safety Committee on behalf of the Organization,

NOTING the carriage requirement in SOLAS chapter IV/7.1.4 for a receiver capable of receiving International NAVTEX narrow-band direct-printing (NBDP) broadcasts for the promulgation of navigational and meteorological warnings to shipping,

NOTING FURTHER the success of the International NAVTEX service in the promulgation of Maritime Safety Information (MSI),

NOTING ALSO with regard to the enhanced storage, processing and display possibilities offered by recent technical advances,

CONSIDERING that further growth in information promulgated to ships will be constrained by the capacity of the International NAVTEX service and the increasing importance of National NAVTEX services,

HAVING CONSIDERED the recommendations on the revision of resolution A.525(13) MSC.148(77) made by the Sub-Committee on Radiocommunications and Search and Rescue at its seventh session,

1. ADOPTS the revised Recommendation on Performance Standards for Narrow-Band Direct-Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX), set out in the Annex to the present resolution;
2. RECOMMENDS Governments to ensure that NAVTEX receiver equipment:
  - (a) if installed on or after 1 July 2005 conforms to performance standards not inferior to those specified in the Annex to the present resolution;
  - (b) if installed before 1 July 2005, conforms to performance standards not inferior to those specified in the Annex to resolution A.525(13).

## **Annex to IMO RESOLUTION MSC.148(77)**

### **Revised recommendation on performance standards for Narrow-band direct-printing telegraph equipment for The reception of navigational and meteorological Warnings and urgent information to ships (NAVTEX)**

#### **1 INTRODUCTION**

1.1 The equipment, in addition to meeting the requirements of the Radio Regulations, the provisions of Recommendation ITU-R M.540 applicable to shipborne equipment and the general requirements set out in resolution A.694(17), should comply with the following performance standards.

#### **2 GENERAL**

2.1 The equipment should comprise radio receivers, a signal processor and:

either:

- .1 an integrated printing device; or
- .2 a dedicated display device<sup>1</sup>, printer output port and a non-volatile message memory; or
- .3 a connection to an integrated navigation system and a non-volatile message memory.

#### **3 CONTROLS AND INDICATORS**

3.1 Details of the coverage areas and message categories which have been excluded by the operator from reception and/or display should be readily available.

#### **4 RECEIVERS**

4.1 The equipment should contain one receiver operating on the frequency prescribed by the Radio Regulations for the International NAVTEX System. The equipment should contain a second receiver capable of working at the same time as the first one on at least two other frequencies recognized for the transmission of NAVTEX information. The first receiver should have priority in the display or printing of received information. Printing or displaying of messages from one receiver should not prevent reception by the other receiver.

4.2 The receiver sensitivity should be such that for a source with an e.m.f. of 2 $\mu$ V in series with a non-reactive impedance of 50  $\Omega$ , the character error rate is below 4%.

#### **5 DISPLAY DEVICE AND PRINTER**

5.1 The display device and/or printer should be able to display a minimum of 32 characters per line.

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<sup>1</sup> Where there is no printer, the dedicated display device should be located in the position from which the ship is normally navigated.

- 5.2** If a dedicated display device is used, the following requirements should be met:
- .1 an indication of newly received unsuppressed messages should be immediately displayed until acknowledged or until 24 hours after receipt; and
  - .2 newly received unsuppressed messages should also be displayed.
- 5.3** The display device should be able to display at least 16 lines of message text.
- 5.4** The design and size of the display device should be such that displayed information is easily read under all conditions by observers at normal working distances and viewing angles.
- 5.5** If automatic line feed entails division of a word, this should be indicated in the displayed/printed text.
- 5.6** When displaying received messages on a display device, a clear indication of the end of a message should be given by automatically adding line feeds after the message or including some other form of delineation. The printer or printer output should automatically insert line feeds after completing print of the received message.
- 5.7** The equipment should display/print an asterisk if the character is received corrupted.
- 5.8** Where the printer is not integrated, it should be possible to select the following data to be output to a printer:
- .1 all messages as they are received;
  - .2 all messages stored in the message memory;
  - .3 all messages received on specified frequencies, from specified locations or having specified message designators;
  - .4 all messages currently displayed; and
  - .5 individual messages selected from those appearing on the display.

## **6 STORAGE**

### **6.1 Non-volatile message memory**

**6.1.1** For each receiver fitted it should be possible to record at least 200 messages of average length 500 characters (printable and non-printable) in non-volatile message memory. It should not be possible for the user to erase messages from memory. When the memory is full, the oldest messages should be overwritten by new messages.

**6.1.2** The user should be able to tag individual messages for permanent retention. These messages may occupy up to 25% of the available memory and should not be overwritten by new messages. When no longer required, the user should be able to remove the tag on these messages which may then be overwritten in normal course.

## **6.2 Message identifications**

**6.2.1** The equipment should be capable of internally storing at least 200 message identifications for each receiver provided.

**6.2.2** After between 60 h and 72 h, a message identification should automatically be erased from the store. If the number of received message identifications exceeds the capacity of the store, the oldest message identification should be erased.

**6.2.3** Only message identifications which have been satisfactorily received should be stored; a message is satisfactorily received if the error rate is below 4%.

## **6.3 Programmable control memories**

**6.3.1** Information for location (B1)<sup>2</sup> and message (B2)<sup>2</sup> designators in programmable memories should not be erased by interruptions in the power supply of less than 6 h.

## **7 ALARMS**

**7.1** The receipt of search and rescue information (B2 = D) should give an alarm at the position from which the ship is normally navigated. It should only be possible to reset this alarm manually.

## **8 TEST FACILITIES**

**8.1** The equipment should be provided with a facility to test that the radio receiver, the display device/printer and non-volatile message memory are functioning correctly.

## **9 INTERFACES**

**9.1** The equipment should include at least one interface for the transfer of received data to other navigation or communication equipment.

**9.2** All interfaces provided for communication with other navigation or communication equipment should comply with the relevant international standards.<sup>3</sup>

**9.3** If there is no integrated printer, the equipment should include a standard printer interface.

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<sup>2</sup> Refer to Recommendation ITU-R M.540.

<sup>3</sup> Refer to publication IEC 61162.

## Annex 4

### EXTRACT FROM IMO RESOLUTION A.801(19), ANNEX 4

#### ***Criteria for use when providing a NAVTEX service***

**1** There are two basic areas which must be defined when establishing a NAVTEX service. They are:

*Coverage area:* An area defined by an arc of a circle having a radius from the transmitter calculated according to the method and criteria given in this annex.

*Service area:* A unique and precisely defined sea area, wholly contained within the coverage area, for which maritime safety information is provided from a particular NAVTEX transmitter. It is normally defined by a line that takes full account of local propagation conditions and the character and volume of information and maritime traffic patterns in the region.

**2** Governments desiring to provide a NAVTEX service should use the following criteria for calculating the coverage area of the NAVTEX transmitter they intend to install, in order to:

- determine the most appropriate location for NAVTEX stations having regard to existing or planned stations;
- avoid interference with existing or planned NAVTEX stations;
- establish a service area for promulgation to seafarers.

**3** The ground-wave coverage may be determined for each coast station by reference to Recommendation ITU-R PN.368-7 and ITU-R Report P.322<sup>16</sup> for the performance of a system under the following conditions:

Frequency	- 518 kHz
Bandwidth	- 500 Hz
Propagation	- ground-wave
Time of day	- <sup>17</sup>
Season	- 17
Transmitter power	- 18
Antenna efficiency	- 18
RF S/N in 500 Hz bandwidth	- 8 db <sup>19</sup>
Percentage of time	- 90

**4** Full coverage of NAVTEX service area should be verified by field strength measurements.

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<sup>16</sup> Recommendations ITU-R PN.368-7 and ITU-R Report P.322 are superseded by: Recommendation ITU-R P.368-9 and Recommendation ITU-R P.372-10 respectively.

<sup>17</sup> Administrations should determine time periods in accordance with NAVTEX time transmission table (NAVTEX Manual, Table 2) and seasons appropriate to their geographic area based on prevailing noise level.

<sup>18</sup> 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.

<sup>19</sup> Bit error rate  $1 \times 10^{-2}$ .

## Annex 5

### PROCEDURE FOR AMENDING THE NAVTEX MANUAL

**1** Proposals for amendments to the NAVTEX Manual shall be examined in substance by the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR), followed by approval of the Maritime Safety Committee.

**2** Amendments to the Manual should normally be approved at intervals of approximately two years or at such longer periods as may be determined by the Maritime Safety Committee. Amendments approved by the 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 and World Meteorological Organization, and the active participation of other bodies, shall be sought according to the nature of the proposed amendments.

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**ANNEX 2**

**DRAFT ASSEMBLY RESOLUTION [A...(27)]  
(adopted on [date])**

**IMO/WMO WORLDWIDE MET-OCEAN INFORMATION AND WARNING SERVICE  
GUIDANCE DOCUMENT**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

NOTING the International Convention for the Safety of Life at Sea (SOLAS), 1974, in particular Chapter V (Safety of Navigation), Regulation 5 (Meteorological Services and Warnings) of the 2001 amendments,

BEARING IN MIND the decisions of the 62nd Council of the World Meteorological Organization,

RECOGNIZING that the existing WMO GMDSS Marine Broadcast System, as amended, is an integral part of the IMO/WMO Worldwide Met-Ocean Information and Warning Service (WWMIWS) and further recognizing that the WMO GMDSS Marine Broadcast System also needs to be fully in harmony with the IMO/IHO World-Wide Navigational Warning Services, and to respond to requirements for maritime safety services expressed by IMO,

NOTING the provisions made for the promulgation of maritime safety information by the 1988 amendments to the International Convention for the Safety of Life at Sea, 1974, concerning radio communications for the global maritime distress and safety system,

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee at its [eighty-ninth] session,

- 1 ADOPTS the IMO/WMO Worldwide Met-Ocean Information and Warning Service – Guidance Document, as set out in the Annex to the present resolution;
- 2 RECOMMENDS Governments to implement the Worldwide Met-Ocean Information and Warning Service;
- 3 AUTHORIZES the Maritime Safety Committee to keep the annexed Guidance under review and update them as necessary in light of experience gained in their application.

ANNEX

**IMO/WMO WORLDWIDE MET-OCEAN INFORMATION AND WARNING SERVICE**

**GUIDANCE DOCUMENT**

**1 Introduction**

1.1 The International Convention for the Safety of Life at Sea (SOLAS), 1974, Chapter V (Safety of Navigation), Regulation 4 (Meteorological Services), as amended, states:

"(b) In particular, the Contracting Governments undertake to co-operate in carrying out, as far as practicable, the following meteorological arrangements:

(vii) To endeavour to obtain a uniform procedure in regard to the international meteorological services already specified, and, as far as is practicable, to conform to the Technical Regulations and recommendations made by the World Meteorological Organization, to which the Contracting Governments may refer for study and advice any meteorological question which may arise in carrying out the present Convention".

1.2 Resolution A.705(17), as amended, on the promulgation of maritime safety information, sets out the organization, standards and methods which should be used for the promulgation and reception of maritime safety information, including navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships, as documented in the International Convention for the Safety of Life at Sea, 1974, as amended. The WMO Executive Council, at its sixty-first session (June 2009), requested WMO to establish and develop, in collaboration with IMO, Terms of Reference for the development of an IMO/WMO Worldwide Met-Ocean Information and Warning Service Guidance document (WWMIWS), to complement the existing IMO/IHO World-wide Navigational Warning Services Guidance document (WWNWS), provided in resolution A.706(17), as amended. In this context, this document is intended to provide specific guidance for the promulgation of internationally co-ordinated meteorological information, forecast and warnings services, which does not apply to purely national services.

1.3 The regulatory framework for the provision of marine meteorological services within the new WMO GMDSS Marine Broadcast System was developed from Recommendation 3 (CMM-XI) in 1993, endorsed by the WMO Executive Council at its forty-fourth session. This new system reflects the evolution since the advent of the Global Maritime Distress and Safety System (GMDSS), as adopted by the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea, 1974, on the Global Maritime Distress and Safety System in November 1988, effective on 1 February 1992. The WMO GMDSS Marine Broadcast System is an integral part of the WWMIWS.

1.4 Future amendments to this guidance document will be considered formally and approved by both WMO and IMO in accordance with the procedure set out in paragraph 7. Proposed amendments shall be evaluated by the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) Expert Team on Maritime Safety Services, which includes an *ex-officio* representative of the IMO Secretariat, prior to any extensive WMO and IMO consideration.

## 2 Definitions

For the purposes of meteorological information, the following definitions apply:

- .1 *Coastal and offshore area* applies to areas for which Member States issue weather and sea bulletins, governed by the procedures in WMO-No.558 – Manual on Marine Meteorological Services;
- .2 *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;
- .3 *HF NBDP* means High Frequency narrow-band direct-printing, using radio telegraphy as defined in Recommendation ITU-R M.688;
- .4 *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>1</sup>;
- .5 *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;
- .6 *Issuing service* means a National Meteorological Service which has accepted responsibility for ensuring that meteorological warnings and forecasts for shipping are disseminated through the Inmarsat SafetyNET service to the designated area (METAREA) for which the Service has accepted responsibility under the broadcast requirements of the GMDSS<sup>2</sup>;
- .7 *Maritime safety information (MSI)*<sup>3</sup> means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships;
- .8 *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;
- .9 *METAREA Co-ordinator* means the authority charged with co-ordinating Marine Meteorological Information broadcasts by one or more National Meteorological Services acting as Preparation or Issuing Services within the METAREA;

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<sup>1</sup> As set out in the IMO NAVTEX Manual.

<sup>2</sup> As defined in WMO-No 558.

<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.

- .10 *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;
- .11 *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;
- .12 *NAVAREA* means a geographical sea area<sup>5</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;
- .13 *NAVTEX* means the system for the broadcast and automatic reception of maritime safety information by means of narrow band direct-printing telegraphy;
- .14 *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;
- .15 *Preparation service* means a National Meteorological Service which has accepted responsibility for the preparation of forecasts and warnings for parts of or an entire designated area (METAREA) in the WMO system for the dissemination of meteorological forecasts and warning to shipping under the GMDSS and for their transfer to the relevant Issuing Service for broadcast;
- .16 *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;
- .17 *Sub-Area* means a sub-division of a METAREA in which a number of countries have established a co-ordinated system for the promulgation of marine meteorological information. The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States; and
- .18 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 resolution A.705(17), as amended.

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<sup>5</sup> Which may include inland seas, lakes and waterways navigable by sea-going ships.

### **3 Meteorological Information Broadcasts**

#### **3.1 Methods**

3.1.1 Two principal methods are used for broadcasting marine meteorological information as part of MSI in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended, in the areas covered by these methods, as follows:

- .1 *NAVTEX*: broadcasts to coastal and offshore areas; and
- .2 *SafetyNET*: broadcasts which cover all the waters of the globe except for sea area A4, as defined by resolution A.801(19), Annex 3, paragraph 4, as amended.

3.1.2 Information shall be provided for unique and precisely defined sea areas, each being served only by the most appropriate of the above systems. Although there will be some duplication to allow a ship to change from one system to another, the majority of messages will only be broadcast on one system.

3.1.3 *NAVTEX* broadcasts shall be made in accordance with the standards and procedures set out in the *NAVTEX* Manual.

3.1.4 *SafetyNET* broadcasts shall be made in accordance with the standards and procedures set out in the *International SafetyNET* Manual.

3.1.5 HF NBDP may be used to promulgate marine meteorological information in areas outside Inmarsat coverage (SOLAS regulation IV/7.1.5).

3.1.6 In addition, Administrations may also provide marine meteorological information by other means.

#### **3.2 Scheduling**

##### **3.2.1 Automated methods (NAVTEX/SafetyNET)**

3.2.1.1 Meteorological warnings shall be broadcast as soon as possible or as dictated by the nature and timing of the event. Normally, the initial broadcast should be made as follows:

- .1 for *NAVTEX*, at the next scheduled broadcast, unless circumstances indicate the use of procedures for VITAL or IMPORTANT warnings; and
- .2 for *SafetyNET*, within 30 min of receipt of original information, or at the next scheduled broadcast.

3.2.1.2 Meteorological warnings shall be repeated in scheduled broadcasts in accordance with the guidelines promulgated in the *NAVTEX* Manual and *International SafetyNET* Manual as appropriate.

3.2.1.3 At least two scheduled daily broadcast times are necessary to provide adequate promulgation of meteorological information.

##### **3.2.2 Schedule changes**

3.2.2.1 Broadcast times for *NAVTEX* are defined by the B1 character of the station, allocated by the IMO *NAVTEX* Co-ordinating Panel.

3.2.2.2 Times of scheduled broadcasts under the international SafetyNET service are co-ordinated through the IMO SafetyNET Co-ordinating Panel.

3.2.2.3 Information on broadcast schedules and the content of bulletins are contained in WMO-No. 9 (Weather Reports), Volume D (Information for shipping).

### **3.3 Guidance**

3.3.1 Guidance for handling and formatting meteorological information is given in the Joint IMO/IHO/WMO Manual on Maritime Safety Information, as approved under MSC.1/Circ.1310, the NAVTEX Manual, the International SafetyNET Manual and the Manual on Marine Meteorological Services (WMO-No. 558).

### **3.4 Language**

3.4.1 All meteorological information shall be broadcast only in English in the International NAVTEX and SafetyNET services.

3.4.2 In addition to the required broadcasts in English, meteorological information may be broadcast in a national language using national NAVTEX and SafetyNET services and/or other means.

## **4 Meteorological Information**

### **4.1 General**

4.1.1 Marine meteorological services are provided to satisfy the requirements for information on marine environmental conditions and phenomena, established by national practices and international conventions in relation to marine operations.

4.1.2 Marine meteorological services are designed for the safety of marine operations and to promote, where possible, the efficiency and economy of marine activities.

4.1.3 There are three types of marine meteorological information: forecasts and warnings for the High Seas, forecasts and warnings for Coastal and Offshore areas and services for Ports and Harbour areas. The Marine Meteorological Information guidance and co-ordination are involved with only two of them:

- .1 Services for the High Seas, which will comprise:
  - (a) Warnings of gales and storms;
  - (b) Weather and sea bulletins, which shall include, in the order given hereafter:
    - Part I – Storm Warnings;
    - Part II – Synopsis of major features of the surface weather chart and, to the extent possible, significant characteristics of corresponding sea-surface conditions; and
    - Part III –Forecasts.
- .2 Services for Coastal and Offshore Areas, which will comprise Warnings, Synopses and Forecasts.

4.1.4 Operational guidance for handling and formatting meteorological information is given in detail in the Annex IV of the WMO Technical Regulations (Manual on Marine Meteorological Services – WMO-No. 558). It is summarized in the following paragraphs 4.2 and 4.3.

## **4.2 Services for the High Seas**

Services for the High Seas shall consist of:

### **4.2.1 Warnings**

4.2.1.1 Warnings shall be given for gales (Beaufort force 8 or 9) and storms (Beaufort force 10 or over), and for tropical cyclones (hurricanes in the North Atlantic and eastern North Pacific, typhoons in the Western Pacific, cyclones in the Indian Ocean and cyclones of similar nature in other regions). Warnings shall include:

- (a) Type of warning;
- (b) Date and time of reference in UTC;
- (c) Location of disturbance in terms of latitude and longitude or with reference to well-known landmarks;
- (d) Extent of affected area; and
- (e) Wind speed or force and direction in the affected areas.

4.2.1.2 Warnings for other severe conditions such as poor visibility, severe sea states (swell, risk of abnormal waves), ice accretion, etc., shall also be issued, as necessary.

4.2.1.3 When no warnings for gales, storms or tropical cyclones are to be issued, that fact shall be positively stated in Part I of each weather and sea bulletin.

### **4.2.2 Synopses**

4.2.2.1 Synopses will be broadcast as part of routine meteorological information, within Part II of weather and sea bulletins, and shall have the following content and order of items:

- (a) Date and time of reference in UTC;
- (b) Synopsis of major features of the surface weather chart; and
- (c) Direction and speed of movement of significant pressure systems and tropical disturbances.

### **4.2.3 Forecasts**

4.2.3.1 The forecasts given in Part III of weather and sea bulletins shall have the following content and order of items:

- (a) The valid period of forecast;
- (b) Name or designation of forecast area(s) within the main MSI area; and

- (c) A description of:
  - (i) Wind speed or force and direction;
  - (ii) Sea state;
  - (iii) Visibility when forecast is less than five nautical miles; and
  - (iv) Ice accretion, where applicable.

4.2.3.2 The forecasts should include expected significant changes during the forecast period, significant meteors such as freezing precipitation, snowfall or rainfall, and an outlook for a period beyond 24 hours. In addition, phenomena such as breaking seas, cross seas and abnormal or rogue waves should also be included, if feasible.

### **4.3 Services for the Coastal and Offshore Areas**

Services for the Coastal and Offshore Areas shall consist of:

#### **4.3.1 Warnings**

4.3.1.1 When included, warnings shall be placed at the beginning of the bulletin.

4.3.1.2 Warnings shall be given for:

- (a) Tropical cyclones (hurricanes in the North Atlantic and eastern North Pacific, typhoons in the Western Pacific, cyclones in the Indian Ocean and cyclones of similar nature in other regions);
- (b) Gales (Beaufort force 8 or 9) and storms (Beaufort force 10 or over); and
- (c) Ice accretion.

#### **4.3.2 Synopses and Forecasts**

4.3.2.1 Synopses and Forecasts should have the following content:

- (a) A synopsis of major features of the surface weather chart;
- (b) The valid period of forecast;
- (c) Name or designation of forecast area(s); and
- (d) A description of:
  - (i) Wind speed or force and direction;
  - (ii) Visibility when forecast is less than five nautical miles;
  - (iii) Ice accretion, where applicable; and
  - (iv) Sea and swell.

## **5 Issuing and Preparation Services**

### **5.1 Issuing Service**

5.1.1 An Issuing Service is a National Meteorological Service which has accepted responsibility for ensuring that meteorological forecasts and warnings for shipping are disseminated through the Inmarsat SafetyNET and NAVTEX services to the designated area for which the Service has accepted responsibility under the broadcast requirements of the GMDSS. The forecasts and warnings for broadcasts may have been prepared solely by the issuing service, or by another preparation service, or a combination of both, on the basis of negotiations between the services concerned, or otherwise, as appropriate. The issuing service is responsible for composing a complete broadcast bulletin on the basis of information input from the relevant preparation services and for broadcasting this in accordance with the guidelines contained within the International SafetyNET Manual and the International NAVTEX Manual. The issuing service is also responsible for monitoring the broadcasts of SafetyNET information to its designated area of responsibility.

#### **NOTES:**

- (1) For some METAREAS there may be only one preparation service, which will be the same National Meteorological Service as the issuing service (e.g., United Kingdom for area I, Argentina for area VI and Australia for area X).
- (2) An appropriate format for the attribution of the origins of the forecast and warning information contained in a broadcast bulletin may be developed on the basis of negotiations among the services concerned.
- (3) In situations where appropriate information, data or advice from other designated preparation services for a given area of responsibility is not available, it is the responsibility of the issuing service for that area to ensure that complete broadcast coverage for the area is maintained.

### **5.2 Preparation Service**

5.2.1 A Preparation Service is a National Meteorological Service which has accepted responsibility for the preparation of forecasts and warnings for parts of, or an entire, designated area (METAREA) in the WMO system for the dissemination of meteorological forecasts and warnings to shipping under the GMDSS and for their transfer to the relevant issuing service for broadcast.

## **6 METAREA Co-ordinator Resources and Responsibilities**

### **6.1 METAREA Co-ordinator resources**

6.1.1 The METAREA co-ordinator shall have:

- .1 the expertise and information sources of National Meteorological Services; and
- .2 effective communications, e.g., telephone, e-mail, facsimile, internet, telex, etc., with National Meteorological Services in the METAREA, with other METAREA co-ordinators, and with other data providers.

## **6.2 METAREA Co-ordinator responsibilities**

### 6.2.1 The METAREA co-ordinator shall:

- .1 act as the central point of contact on matters relating to meteorological information and warnings within the METAREA;
- .2 promote and oversee the use of established international standards and practices in the promulgation of meteorological information and warnings throughout the METAREA;
- .3 co-ordinate preliminary discussions between neighbouring Members, seeking to establish and operate NAVTEX services, prior to formal application; and
- .4 contribute to the development of international standards and practices through attendance and participation in the JCOMM Expert Team on Maritime Safety Services meetings, and also attend and participate in relevant IMO, IHO and WMO meetings as appropriate and required.

### 6.2.2 The METAREA co-ordinator shall also ensure that within its METAREA, National Meteorological Services which act as Issuing Services have the capability to:

- .1 select meteorological information and warnings for broadcast in accordance with the guidance given in paragraphs 4 and 5 above; and
- .2 monitor the SafetyNET transmission of their bulletins, broadcast by the Issuing Service.

### 6.2.3 The METAREA co-ordinator shall also ensure that within its METAREA, National Meteorological Services which act as Preparation Services have the capability to:

- .1 endeavour to be informed of all meteorological events that could significantly affect the safety of navigation within their area of responsibility;
- .2 assess all meteorological information immediately upon receipt in the light of expert knowledge for relevance to navigation within their area of responsibility;
- .3 forward marine meteorological information that may require wider promulgation directly to adjacent METAREA co-ordinators and/or others as appropriate, using the quickest possible means;
- .4 ensure that information concerning all meteorological warning subject areas listed in paragraph 4 that may not require a METAREA warning within their own area of responsibility is forwarded immediately to the appropriate National Meteorological Services and METAREA co-ordinators affected by the meteorological event; and
- .5 maintain records of source data relating to meteorological information and warning messages within their area of responsibility.

**7 Procedure for amending the Worldwide Met-Ocean Information and Warning Service Guidance document**

7.1 Proposed amendments to the Worldwide Met-Ocean Information and Warning Service should be submitted to the Maritime Safety Committee for evaluation.

7.2 Amendments to the service 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 the 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.

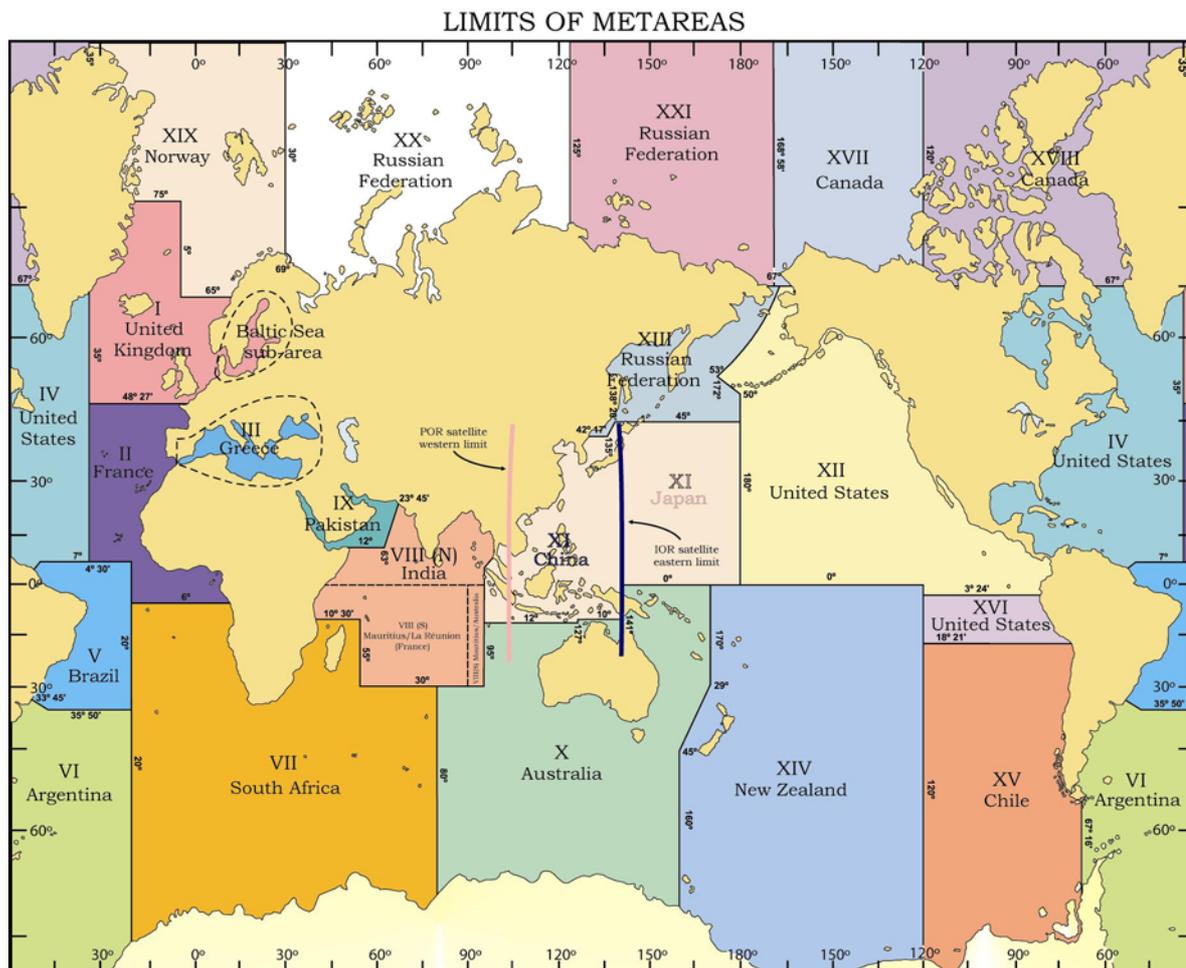
7.3 The agreement of the World Meteorological Organization and the active participation of other bodies should be sought according to the nature of the proposed amendments.

7.4 When the proposals for amendment have been examined in substance, the Maritime Safety Committee will entrust the Sub-Committee on Radiocommunications and Search and Rescue with the ensuing editorial tasks.

7.5 The METAREA schedule of broadcast times and frequencies, not being an integral part of the service and being subject to frequent changes, will not be subject to the amendment procedures.

## Appendix

### METAREAS for co-ordinating and promulgating meteorological warnings and forecasts



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

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### **ANNEX 3**

#### **LIAISON STATEMENT TO ITU-R WORKING PARTY 5B**

##### **NEAR REAL-TIME EXCHANGE OF MARITIME DOMAIN INFORMATION**

1 IMO would like to thank ITU-R WP 5B for the liaison statement, sent in December 2009, providing information regarding its study on the technology and characteristics of various radiocommunication-based systems which provide near real-time exchange of maritime domain information (Annex 34 to Document 5B/417).

2 The Sub-Committee on Radiocommunications and Search and Rescue, at its fourteenth session (COMSAR 14), 8 to 12 March 2010, noted the information provided and agreed that no further action was necessary at that time, but that members should monitor further activity in WP 5B (COMSAR 14/WP.5, paragraph 4.13). COMSAR 14 further invited interested Member Governments and organizations to submit comments and suitable proposals, for consideration by COMSAR 15.

3 COMSAR 15, 7 to 11 March 2011, noted that WP 5B had not made any progress regarding the further development of a Working document towards a draft new report ITU-R M. [EXCH-MDI] on near real-time exchange of maritime domain information. COMSAR 15 further noted that it had not received any submissions and, therefore, was not in a position to provide WP 5B with any additional information regarding this matter.

4 Following the above, WP 5B is invited to note that IMO is not in a position to provide WP 5B with any additional information to enhance the further development of a Working document towards a draft new report.

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## ANNEX 4

### REVISED DRAFT IMO POSITION ON WRC-12 AGENDA ITEMS CONCERNING MATTERS RELATING TO MARITIME SERVICES

#### 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 maritime services and maritime applications.

#### 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 systems (UAS) with piloted aircraft in non-segregated airspaces is becoming vital for the further development of UAS applications that will fill many diverse requirements. For example these types of systems could be employed for SAR purposes. 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), "Frequencies for distress and safety communications for the GMDSS", indicates that in addition to the availability for routine non-safety purposes, the bands 1 530-1 544 MHz (space-to-Earth) and 1 626.5-1 645.5 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 1 530-1 544 MHz (space-to-Earth) and 1 626.5-1 645.5 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.

If WRC-12 decides to amend Resolution 222 (Rev.WRC-07), letter "f" under the section "further considering" reading "that future requirements for GMDSS spectrum may require additional allocations" should be retained.

## 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 sub-bands within Appendix 17 for new technologies.

### **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.

The outcome of studies in ITU-R provided a focused effort to improve three areas:

- 1 Automatic Identification System (AIS), including requirements for satellite detection of AIS;
- 2 new abilities to communicate safety and security information for ships and ports; and
- 3 improvement of the communication environment for port operations and ship movement, including VHF Data transmission capability.

Ad 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 WP5B in March 2009. In essence operations on the frequencies AIS1 and AIS 2 should be regarded as supporting safety functions not only when used in search and rescue operations. Also, the current Radio Regulations (RR 30.11A) do not adequately provide protection for the use of AIS1 and AIS2 by search and rescue aircraft.

*Satellite-AIS<sup>1</sup>*

Additional AIS channel or channels may be required to accommodate global ship-tracking capabilities and to enhance ships' safety and security.

IMO has taken note of the result of the studies which have led to the revision of ITU-R M.1371 (currently version 4) in order to introduce a new message 27 dedicated to the satellite detection of AIS messages. Additionally, the new Report ITU.R M.2169 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.

Ad 2 *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. In this respect, organizations forming the World-Wide Radio Warning Service might have an interest in implementing a new digital broadcasting system around 500 kHz. Therefore, there may be a requirement for additional spectrum to be allocated for this purpose.

Ad 3 *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.

*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

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<sup>1</sup> IMO's Maritime Safety Committee, at its eighty-sixth meeting in May 2009, in considering the issue of satellite detection of AIS, had noted that:

1. considerable concerns had been raised in the Committee concerning the development, implementation and operation of the 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.

implementation of a number of single frequency channels that are derived from two frequency channels. This would be for port operation use.

IMO has noted that one objective will be to identify a simplex channel, outside the GMDSS channels, for man overboard (MOB) equipment. IMO considers the identification of a dedicated worldwide harmonized channel for this usage to be of great benefit for the maritime community, since there are major concerns concerning the use of GMDSS frequencies by non-GMDSS systems.

Several topics which were initially addressed under this agenda item, proved to be too complex for the studies to be completed in time to recommend action by WRC-12. These areas included:

- the next generation of Global Maritime Distress and Safety System;
- implementation of e-navigation which is the harmonized creation, collection, integration, exchange and presentation of maritime 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;
- mesh networking for improved safety communications in the maritime environment; and
- container and cargo identification systems to support global commerce and enhanced port security.

These remaining topics will continue to be studied within the ITU-R, with possible inclusion into a future WRC where amendments to operational regulations or frequency allocations may be necessary. In the expectation that no proposal will be submitted on these topics to WRC-12, no IMO position has been developed concerning these items.

### **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, including for the use by search and rescue aircraft, taking into account that operations on these frequencies should be regarded as having a safety function not only when used in search and rescue operations.
- 3 IMO supports an allocation to the mobile satellite service (Earth-to-space) relating to the frequencies of Channel 75 and 76 of Appendix 18 and the consequential 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 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 review of the elements and procedures of

the GMDSS, IMO supports an exclusive primary allocation to the maritime mobile service in the band 495-505 kHz in all three regions and a co-primary allocation in the band 510-525 kHz in Region 2, whilst maintaining the existing maritime mobile primary allocation in the band 415 kHz – 526.5 kHz.

- 5 IMO supports a review of Appendix 18 for fulfilling additional requirements for VHF data services and the identification of more channels for availability as both single-frequency and two-frequency channels.
- 6 IMO supports further joint IMO/ITU-R studies towards identification of a channel or channels for future applications, including man overboard (MOB) equipment.

#### **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).

ITU-R studies of the band 154-156 MHz indicate that there is the potential for harmful interference to maritime mobile service safety channels (channel 16 (156.800 MHz  $\pm$  37.5 kHz) and channel 70 (156.525 MHz  $\pm$  12.5 kHz) and the AIS channels (AIS 1 (161.975 MHz  $\pm$  12.5 kHz) and AIS 2 (162.025 MHz  $\pm$  12.5 kHz)) used on aircraft and other high altitude craft.

#### **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 tsunamis and assisting authorities in search and rescue planning, benefits the safety of life. Given the maritime applications of these radars, and benefit to maritime safety and search and rescue operations, IMO supports, in principle, allocations which would enable the operation of HF Ocean sensing radars for these purposes.

However, IMO emphasizes the need to ensure that any allocation made as a result of this agenda item and the technical characteristics of these radars do 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 1.18**

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 these technologies in future maritime mobile service systems.

#### **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.

### **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.

In this regard IMO has noted that existing container RFID application infrastructures, of many millions of dollars, globally use different frequencies in the ISM bands.

#### **IMO position**

Usage of the ISM bands for container RFID applications should continue to be allowed.

IMO opposes operation of short-range devices for non-maritime purposes 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 415-526.5 kHz is currently allocated to the maritime mobile service (MMS), broadcasting service (BS), aeronautical mobile service (AMS), land mobile service (LMS) and aeronautical radionavigation service (ARNS). Administrations authorizing the use of frequencies in the band 495-505 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, together with regional services on 424 kHz, will remain important for maritime purposes and should be protected.

With respect to the band 415 -526.5 kHz, under Agenda item 1.10, IMO is developing new requirements (1) for the promulgation of additional security-related information, (2) for the implementation of e-navigation and (3) in reviewing the elements and procedures of the GMDSS. 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 in some cases may 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, and 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**

Review of the GMDSS

Following a Scoping exercise by IMO's COMSAR Sub-Committee, IMO is expected to start an in-depth review of the elements and procedures of the GMDSS from 2012, likely to lead to the introduction of additional systems into the GMDSS , a review of SOLAS chapter IV, and possible changes to the provisions of the Radio Regulations (RR) relating to the GMDSS.

Radio devices coming onto the market requiring MMSIs increase the potential for MMSI resource exhaustion. As a result, IMO has concerns on whether sufficient availability of MMSIs exists in the near future.

Moreover, in recognition of radio devices for maritime applications which continue to be developed, innovative approaches to MMSI assignment should be explored. Additionally, assignment principles for means of identification in the RR Article 19 need to be reviewed. The text for the future agenda item given in the IMO position shown below is intended to reflect this concern.

## Implementation of e-navigation

In 2012, IMO is expected to finalize the development of an e-navigation strategy implementation plan.

IMO considers e-navigation as *"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"*.

Initial consideration showed that e-navigation would require stable data communications systems. IMO technical bodies have identified that e-navigation could not be deployed without additional frequency allocations for advanced maritime systems. Based on respective future studies both in IMO and ITU, spectrum requirements would need to be refined and validated.

### **IMO position**

The agenda of the next World Radiocommunication Conference should make provision to enable necessary amendments to ITU Regulatory provisions, including consideration of additional allocation of spectrum, with respect to:

- 1 the review of the GMDSS; and
- 2 the implementation of e-navigation.

Possible text for a future agenda item:

"to consider measures to review the operational procedures and to ensure spectrum availability for the maritime mobile service and the mobile-satellite service for the purpose of modernizing the Global Maritime Distress and Safety System (GMDSS) and to satisfy the radiocommunications requirements identified for e-navigation, taking into account the advice of the International Maritime Organization and the needs of all classes of ships, including but not limited to any consequential revisions to the use of the band 415-526.5 kHz and to the frequencies, channelling arrangements and the extent of Appendix 18 to the Radio Regulations".

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<sup>2</sup>.*

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.*

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.*

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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.

<sup>2</sup> 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.585-4

Assignment and use of maritime mobile service identities

(1982-1986-1990-2003-2007)

*This has now been replaced by M.585-5.  
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.*

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)

Co-ordination 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 HF bands allocated to the maritime mobile service contained in Appendix 17 with a view to improving efficiency through 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 co-ordination 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 were 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

*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.*

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**ANNEX 5**

**DRAFT MSC CIRCULAR**

**REVISED QUESTIONNAIRE ON SHORE-BASED FACILITIES FOR THE  
GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)**

1 The Maritime Safety Committee, at its [ninetieth session (16 to 25 May 2012)], 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 fifteenth session.

2 The revised questionnaire contains the revision of MSC.1/Circ.1382, annexes 10 and 11 related to Cospas-Sarsat Services.

3 Member Governments, including those which have submitted answers to MSC/Circ.684 and MSC.1/Circ.1382, 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 Co-ordinators and search and rescue authorities.

5 This questionnaire supersedes MSC.1/Circ.1382.

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 NBDP	MCC	LUT
	A1	A2	A3 & A4	B	C	Inmarsat Fleet F77			NAV	MET	SAR			

ANNEX 2

**Sea Area A1 (Within range of shore-based VHF DSC coverage)**

- 1 Does your Administration intend to establish Sea Area A1?  
If not operational now, indicate the date of operation in the following table. YES NO Is it operational now? YES NO
- 2 Do they keep fulltime DSC watch on channel 70?  
If not, indicate watch hours in the following table. YES NO
- 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 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 Co-ordination 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

**518 kHz NAVTEX Service**

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 TO ANNEX 7

**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 bandwidth - 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				(2)		

- (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			LUT			RCC Associated
	Location	Designator	Status of implementation	Location	Type (LEO GEO MEO)	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 currently used by the country:

**EPIRB CODING METHODS**

Country code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime user		Serial user	Radio call sign	User location			Standard location		National location
	MMSI	Radio call sign	EPIRB with serial number	Radio call sign	MMSI	EPIRB with serial number	Radio call sign	MMSI	Serial number	Serial number assigned by competent administration

**PLB CODING METHODS** (if applicable)

Country code	USER PROTOCOLS		LOCATION PROTOCOLS		
	Serial user		User Location	Standard location	National location
	PLB with serial number		PLB with serial number		Serial number assigned by competent administration

For reference on 406 MHz EPIRB coding methods, use document C/S G.005 "Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval" available on the Cospas-Sarsat website ([www.cospas-sarsat.org](http://www.cospas-sarsat.org)).

3 EPIRB Registration Information:

3.1 *Point of contact for 406 MHz EPIRB register:*

YES NO

Open 24 hours a day, all days of the year?

If not, specify the opening hours (UTC), days etc:

*name, address, telephone, e-mail, AFTN, telex, fax.*

3.2 *Administrative points of contact for 406 MHz EPIRB matters (coding, registration and type approval):*

*name, address, telephone, e-mail, telex, fax.*

4 How often does your Administration update the database?



**ANNEX 6**

**DRAFT MSC CIRCULAR**

**BASIC SAFETY GUIDANCE FOR YACHT RACES OR  
OCEANIC VOYAGES BY NON-REGULATED CRAFT**

1 The Maritime Safety Committee, at its [ninetieth session (16 to 25 May 2012)], approved the annexed Basic safety guidelines for yacht races or oceanic voyages by non-regulated craft.

2 The purpose of this circular is to reduce those risks that could lead to loss of life or severe physical injuries to both crew and would-be rescuers, and to reduce the need for extended and expensive search and rescue (SAR) operations.

3 Member Governments are invited to bring the information to the attention of all parties concerned for consideration and action, as appropriate.

4 This circular supersedes MSC/Circ.1174 and MSC.1/Circ.1366.

## ANNEX

### **BASIC SAFETY GUIDANCE FOR YACHT RACES OR OCEANIC VOYAGES BY NON-REGULATED CRAFT**

#### **GENERAL**

1 The purpose of this circular is to provide basic safety guidance for yacht races or oceanic voyages by non-regulated craft to reduce those risks that could lead to loss of life or severe physical injuries to both crew and would-be rescuers, and to reduce the need for extended and expensive search and rescue (SAR) operations.

2 Detailed guidance can be obtained from:

- .1 ISAF Offshore Special Regulations: [www.sailing.org/specialregs](http://www.sailing.org/specialregs); and
- .2 International Ocean Rowing Society: [www.oceanrowing.com/index.htm](http://www.oceanrowing.com/index.htm).

3 Major yacht races or oceanic voyages by non-regulated craft present, at times, a significant coordination issue for SAR service providers in relation to distress and emergency incidents. Timely and effective responses are aided by the gathering and preparation of relevant information prior to the race or voyage.

4 The aim of this circular is to provide a set of guidelines, for skippers and crew on board, yacht race organizers and persons ashore in contact with a non-regulated craft, to facilitate timely, accurate and responsive preparation for a yacht race or oceanic voyages by non-regulated craft.

5 The focus of these guidelines is on proper preparation on board, and the collection and storing of relevant data ashore, aiming, in case of an incident, to establish robust lines of communication between the Rescue Co-ordination Centre (RCC) in charge of the SAR operation and the race organizers or a responsible person ashore in contact with a non-regulated craft. The collection and storing of data, including information to support medical assistance at sea, should be the responsibility of the race organizers or the responsible person ashore.

6 In the event of an incident the most suitable RCC should be alerted as an initial point of contact. This RCC will contact and liaise with other RCCs as necessary. This allows for easy access to the data held by the race organizer or the responsible person ashore.

#### **GUIDANCE FOR PREPARATION ON BOARD**

##### **The craft**

7 The craft should be of suitable construction for the intended voyage, possess adequate buoyancy and stability and carry appropriate high visibility markings.

### **Provisions and safety equipment**

- 8 The following safety equipment should be provided:
- .1 appropriate liferaft(s);
  - .2 sufficient lifejacket(s) and, if appropriate, immersion suits for all crew members;
  - .3 electronic positioning system with all necessary charts for the voyage;
  - .4 distress signals and other approved signalling devices;
  - .5 radar reflector;
  - .6 sufficient food, water and, if required, fuel for the voyage;
  - .7 adequate medical equipment; and
  - .8 suitable clothing with high visibility markings.
- 9 The crew should be so equipped as to enable them to survive for 5 days before rescue.

### **Radiocommunications**

10 The craft should be equipped with two means of distress alerting one of which is capable of two-way communications suitable to the area of operations. One system to be carried should be a 406 MHz beacon, properly encoded and registered. Hand-held radios capable of operating on maritime and, if appropriate, aeronautical short-range frequencies should also be carried.

### **Voyage planning**

11 The skipper should prepare a voyage plan and leave that plan with the responsible person ashore together with details of the craft. The person in charge of the craft should submit a voyage plan to the Maritime Administration at the port of departure, if required by that Maritime Administration.

### **Crew training**

- 12 All members of the crew should have satisfactorily completed appropriate:
- .1 training for the intended voyage, e.g., navigation and communications with appropriate certification where necessary;
  - .2 survival course(s); and
  - .3 first aid course(s).

## **GUIDANCE FOR PREPARATION ASHORE**

### **Information to be provided to the most suitable RCC**

13 Race organizers or a responsible person ashore in contact with a non-regulated craft should provide the following information to the most suitable RCC. (The "most suitable" RCC will be determined by circumstances. It may be the RCC local to the race organizers or the responsible person ashore; or the RCC in whose SAR region the race or voyage will take place; or – if several SAR regions will be crossed – one or more of the relevant RCCs. RCCs may or may not require information prior to any accident. The important point is that all parties – the race organizers or responsible person ashore, and the RCCs – should know where the necessary information is stored and how to access it in the event of an emergency.)

- .1 Point of contact
  - 24-hour telephone/facsimile/e-mail/website details for:
    - .1 race operations officer;
    - .2 race media officer; or
    - .2 responsible person in contact with the non-regulated craft.
- .2 Vessel description and crew details
  - .1 vessel description with details and electronic pictures (updated);
  - .2 communications equipment carried including specific contact details of the yacht;
  - .3 number of people on board, their names and nationality, and contact details for next of kin; and
  - .4 capability of crew members.
- .3 Information about the voyage
  - .1 copy of the race rules, if appropriate, in particular the emergency procedure section;
  - .2 route and intended schedule, including SAR regions to be entered; and
  - .3 agreed means of routine contact with the vessel(s).

### **Information to be available for medical assistance**

14 The race organizer or the person in contact with a non-regulated craft should have available on demand the following information:

- .1 for each vessel:
  - .1 list of medicines and medical equipment carried;

- .2 list of medical competence on board; and
  - .3 details of any Telemedical Assistance Service (TMAS) or private medical service arranged by the vessel.
- .2 for each crew member:
- .1 name and contact details of physician who certified the person fit for the race or voyage;
  - .2 name and contact details of the crew member's home physician;
  - .3 method for gaining quick access to medical records if necessary; and
  - .4 details of first aid or other medical training received.

## **DISTRESS ALERTING**

On board, giving the alert

15 In the event of a distress situation, two-way communications should be established indicating the nature of distress and position given. A 406 MHz beacon should be activated and left switched on until contact has been established with the SAR authorities by other means and the SAR authorities have given their approval for the beacon to be switched off.

On shore, receiving the alert

16 Race organizers or a responsible person ashore in contact with a non-regulated craft becoming aware of a distress situation, or concerned that such a situation may exist, should contact the appropriate RCC. The RCC contacted will pass the information to the RCC responsible for the SAR region in which the incident has occurred as necessary, and will ensure that contact is established between the coordinating RCC and the race organizers or responsible person to enable the efficient exchange of information.

## **Other Incidents**

17 The previous section relates to a distress situation. However other incidents may arise which require external information and/or assistance; for example:

- .1 craft damage;
- .2 medical problems; and
- .3 loss of communications.

18 In all non-distress cases participants should contact race organizers or the responsible person ashore if they can and advise them of the situation. The race organizers or the responsible person ashore should liaise with the appropriate RCC as necessary to develop and implement a response plan.

\*\*\*



**ANNEX 7**

**DRAFT MSC CIRCULAR**

**REVISED GUIDELINES ON ANNUAL TESTING  
OF 406 MHz SATELLITE EPIRBs**

1 The Maritime Safety Committee, at its [ninetieth session (16 to 25 May 2012)], approved the annexed revised Guidelines on annual testing of 406 MHz satellite EPIRBs, as required by SOLAS regulation IV/15.9.

2 Member Governments are invited to bring these Guidelines to the attention of shipping companies, shipowners, ship operators, equipment manufacturers, classification societies, shipmasters and all parties concerned.

3 This circular supersedes MSC/Circ.1040.

ANNEX

**GUIDELINES ON ANNUAL TESTING OF 406 MHz SATELLITE EPIRBs**

1 The annual testing of 406 MHz satellite EPIRBs is required by SOLAS regulation IV/15.9.

2 The testing should be carried out using suitable test equipment capable of performing all the relevant measurements required in these guidelines. All checks of electrical parameters should be performed in the self-test mode, if possible.

3 The examination of the installed 406 MHz satellite EPIRB should include:

- .1 checking position and mounting for float-free operation;
- .2 verifying the presence of a firmly attached lanyard in good condition; the lanyard should be neatly stowed, and must not be tied to the vessel or the mounting bracket;
- .3 carrying out visual inspection for defects;
- .4 carrying out the self-test routine;
- .5 checking that the EPIRB identification (15 Hex ID and other required information) is clearly marked on the outside of the equipment;
- .6 decoding the EPIRB 15 Hexadecimal Identification Digits (15 Hex ID) and other information from the transmitted signal, checking that the decoded information (15 Hex ID or MMSI/callsign data, as required by the Administration) is identical to the identification marked on the beacon;
- .7 check that the MMSI number encoded in the beacon corresponds with the MMSI number assigned to the ship;
- .8 checking registration through documentation or through the point of contact associated with that country code;
- .9 checking the battery expiry date;
- .10 checking the hydrostatic release and its expiry date, as appropriate;
- .11 checking the emission in the 406 MHz band using the self-test mode or an appropriate device to avoid transmission of a distress call to the satellites;
- .12 if possible, checking emission on the 121.5 MHz frequency using the self-test mode or an appropriate device to avoid activating the SAR system;
- .13 checking that the EPIRB has been maintained by an approved shore-based maintenance provider at intervals required by the Administration;
- .14 after the test, remounting the EPIRB in its bracket, checking that no transmission has been started; and
- .15 verifying the presence of beacon operating instructions.

\*\*\*

## ANNEX 8

### DRAFT AMENDMENTS TO THE IAMSAR MANUAL

#### PROPOSED AMENDMENTS TO IAMSAR MANUAL – VOLUME I

**Note:** changes are proposed to the 2010 version of the Manual, taking into account the amendments approved by MSC 87, as laid down in MSC.1/Circ.1367

#### 1 Abbreviations and Acronyms

- Add the following text on page vii:

**AIS-SART** ... Automatic Identification System-Search and Rescue Transmitter

- **IBRD** ... International 406 MHz Beacon Registration Database

- Delete the following text on page vii:

**RTG** ... radio telegraph

#### 2 Glossary

- Amend the existing entry on page ix as follows:

**Cospas-Sarsat system** A satellite system designed to detect distress beacons transmitting on the ~~frequencies of 121.5 MHz and~~ frequency of 406 MHz

- Add new entries:

**Locating** The finding of ships, aircraft, units or persons in distress

**Place of safety** A location where rescue operations are considered to terminate; where the survivors' safety of life is no longer threatened and where their basic human needs (such as food, shelter and medical needs) can be met; and, a place from which transportation arrangements can be made for the survivors' next or final destination. A place of safety may be on land, or it may be aboard a rescue unit or other suitable vessel or facility at sea that can serve as a place of safety until the survivors are disembarked to their next destination.

#### 3 Chapter 2

- Add new paragraph 2.1.3:

**2.1.3** Establishment of the global aeronautical and maritime SAR systems under their respective international conventions provides the framework for a national system to handle SAR matters on land within the State and its SRR. Local government authorities and police would typically have the responsibility for land SAR and may not involve an RCC. However, the national SAR system should have arrangements

in place for coordination with local authorities for land SAR response, as appropriate. In some cases, the national SAR system may be designated as being responsible for conducting certain land SAR operations; or, it may have a supporting role because the RCC received the initial alert or the local authorities requested the support of nearby national SAR facilities.

#### 4 Chapter 4

- Replace paragraphs 4.2.2 (e), 4.2.3 and 4.2.4 with the following text:

**4.2.2 (e) Common Language.** The need for RCC staff and SAR unit crews to be proficient in speaking, writing and comprehending a common language to ensure effective information transfer is vital to successful conduct of SAR operations. In the case of a SAR action involving cooperative input from a number of RCCs and SRUs within a region, the most convenient language may be a common regional language. In the case of a SAR action likely to extend beyond regional areas, the appropriate common language is English. English, in any case, serves as the default SAR operational language in all cross-boundary operations where there is no other common language. Defining and mandating specific levels of proficiency in languages for RCC staff and SRU crews is, however, impractical because the regulatory framework of SAR services is insufficiently robust to support its implementation and maintenance. SAR service providers should, nonetheless, appreciate that where there is dependence upon spoken communication, mistaken transfer of operational information has been shown to be the most common causal factor in the occurrence of accidents and incidents and that every effort should be made to mitigate its risks by requiring SAR staff to attain a high level of appropriate language proficiency. As supportive tools, in undertaking coordination across language barriers, SAR service providers may take advantage of commercial interpretation services that are now readily available. Confirmation of verbal conversations with facsimile or other written messages can reduce misunderstandings and expedite coordination processes.

**4.2.3** Publications which can be used to alleviate language barriers between vessels, aircraft, survivors, and SAR personnel include: the International Code of Signals, the Standard Marine Communication Phrases (SMCP) and Appendix I – SITREPs and Codes, of IAMSAR Manual, Volume II. These documents should be included in RCC libraries and be understood by the staff who should be able to recognize coded messages based on these references. Ships should carry these documents and SRUs should carry the Code.

**4.2.4** While tools like the International Code of Signals and SMCP are readily available and can be genuinely useful, they should not be thought of as total solutions for the challenges of communicating effectively across language barriers. Because of the range of topics and behaviours requiring common understanding, effective transfer of information in situations of operational emergency is dependent upon a very comprehensive command of language. Thus, no form of standardized phraseology or code can address the extent of need. A high level of proficiency in common (or plain) language is necessary.

- Add in paragraph 4.4.4 (a), second line, the following new text:
  - required to carry the 406 MHz distress beacon called an emergency ...
- Amend paragraph 4.4.4 (a), second sentence, as follows:
  - Designated SAR aircraft ~~shall~~ should be able to home on ELT 121.5 MHz and 406 MHz signals for locating a distress scene and survivors.
- Add in paragraph 4.4.4 (b) first line, the following new text:
  - Similarly, certain vessels must carry the 406 MHz distress beacon called an emergency position ...
- Add new paragraph after paragraph 4.4.4 (c):

**4.4.4 (d)** The 406 MHz personal locator beacon (PLB) is not a mandated international carriage requirement, but may be carried on a person and has similar characteristics to the ELT and EPIRB distress beacons. However, the PLB has different specifications.
- Amend paragraph 4.4.6, first line, as follows:
  - For operations, accurate position information received with the 406 MHz distress beacon ~~an ELT or EPIRB~~ alert ...
- Add in paragraph 4.4.12, beginning of the second bullet, the following new text:
  - AIS to detect the AIS-search and rescue transmitter (SART) and/or ...
- Amend paragraph 4.4.12, fourth bullet, as follows:
  - capability to activate ~~uate~~ ~~one of the radiotelephone alarms or DSC alerts~~ radio aboard vessels in the vicinity ~~to help establish communications with them more directly.~~
- Amend paragraph 4.5.8, last sentence, as follows:
  - However, 121.5 MHz alerts ~~via Cospas-Sarsat will always need to be routed to a SPOC (usually an ARCC or MRCC) and aircraft usually will alert~~ may normally be heard by aircraft in flight which would usually report the alert to an ATC on the frequency used for air traffic control and then continue on that frequency.
- Amend paragraph 4.5.15, beginning of the first sentence, as follows:
  - Registration of ELTs, EPIRBs, 406 MHz distress beacons and other ...
- Amend in paragraph 4.5.17, in the first, second and third lines of text, the following:
  - change "ELT/EPIRB" to "406 MHz distress beacons"

- Add new paragraph after paragraph 4.5.17:

**4.5.18** 406 MHz distress beacons can be registered in the International 406 MHz Beacon Registration Database (IBRD), available online and free-of-charge. The IBRD provides access to beacon owners who wish to directly register their beacons in the IBRD, when no registration facility exists in their country or the responsible Administration has agreed to allow direct registration in the IBRD. Administrations can also opt to centrally control the registration of beacons identified with their country code, but wish to make registration data available to international SAR services via the IBRD.

All SAR services need to access beacon registration data held in the IBRD to efficiently process distress alerts. Administrations should designate a National Point of Contact to the Cospas-Sarsat Secretariat (contact details are contained in Appendix D). Cospas-Sarsat will accept designations from the Cospas-Sarsat Representative or, for non-participating countries, the representative of an IMO or ICAO Member State. Cospas-Sarsat will provide each National IBRD Point of Contact with user identifications and passwords to be used by:

- National Data Providers for registration of beacons with their country code(s);
- SAR services for IBRD queries; and
- authorized shore based service facilities and inspectors to verify proper coding and actual registration of the beacon.

These IBRD user identifications and passwords should be distributed within each country under the responsibility of the National IBRD Point of Contact.

Further guidance on the IBRD registration process, including a letter template to request password access to the IBRD for SAR services, is provided on the Cospas-Sarsat website.

- Amend in paragraphs 4.5.20, first and second lines, paragraph 4.5.21, first line, paragraph 4.5.22, first and second lines, and paragraph 4.5.22, fourth and sixth bullets, the following:
  - change "ELT/EPIRB" to "406 MHz distress beacons"
- Delete in paragraph 4.5.24, third bullet, the following word:
  - satellite
- Renumber 4.5.18 to 4.5.27 into 4.5.19 to 4.5.28
- Add in paragraph 4.5.28 (added as new paragraph 4.5.27 by MSC.1/Circ.1367) a new last sentence, as follows:
  - The SAR service of the Contracting Government requests LRIT information for SAR only via the LRIT Data Center serving the Contracting Government.

**5 Appendix D**

- Replace existing text with table below:

Information Sources	
The following contacts may be helpful in obtaining reference documents mentioned in this Manual. International documents are available in the official languages of the sponsoring organizations. The organization's website should have the most current contact information such as telephone, facsimile and e-mail.	
International Civil Aviation Organization (ICAO) 999 University Street Montreal, Quebec Canada H3C 5H7	Website: <a href="http://www.icao.int">www.icao.int</a> E-mail: <a href="mailto:icaohq@icao.int">icaohq@icao.int</a>
International Maritime Organization (IMO) 4 Albert Embankment London SE1 7SR United Kingdom	Website: <a href="http://www.imo.org">www.imo.org</a> E-mail: <a href="mailto:info@imo.org">info@imo.org</a>
International Telecommunication Union (ITU) Bureau des radiocommunications (BR) Place des Nations CH-1211 Genève 20 Suisse	Website: <a href="http://www.itu.int/ITU-R/">www.itu.int/ITU-R/</a> E-mail: <a href="mailto:brmail@itu.int">brmail@itu.int</a>
Inmarsat 99 City Road London EC1Y 1AX United Kingdom	Website: <a href="http://www.inmarsat.com">www.inmarsat.com</a> E-mail: <a href="mailto:customer_care@inmarsat.com">customer_care@inmarsat.com</a>
International Cospas-Sarsat Programme 700 de la Gauchetière West, Suite 2450 Montreal, Quebec H3B 5M2 Canada	Website: <a href="http://www.cospas-sarsat.org">www.cospas-sarsat.org</a> E-mail: <a href="mailto:mail@cospas-sarsat.int">mail@cospas-sarsat.int</a>
Centro Internazionale Radio-Medico (CIRM) Viale dell'Architettura, 41 00144 Rome Italy	Website: <a href="http://www.cirm.it">www.cirm.it</a> Email: <a href="mailto:telesoccorso@cirm.it">telesoccorso@cirm.it</a> Telex: 612068 C.I.R.M. I
Amver Maritime Relations 1 South Street USCG Battery Park Building New York, NY 10004 United States	Website: <a href="http://www.amver.com">www.amver.com</a>
Global Positioning System (GPS) U.S. Coast Guard NAVCEN MS 7310 7323 Telegraph Road Alexandria, VA 20598-7310 United States	Website: <a href="http://www.navcen.uscg.gov">www.navcen.uscg.gov</a>
Global Navigation Satellite System (GLONASS)	Website: <a href="http://www.glonass-ianc.rsa.ru">www.glonass-ianc.rsa.ru</a> E-mail: <a href="mailto:glonass-ianc@mcc.rsa.ru">glonass-ianc@mcc.rsa.ru</a>

## 6 Appendix E

- Amend on page E-2, last bullet, the following:
  - change "satellite ELTs and EPIRBs" to "406 MHz distress beacons (ELTs, EPIRBs and PLBs)",
- Amend on page E-3, first bullet, the following:
  - change "ELT/EPIRB" to "406 MHz distress beacons"
- Delete on page E-3, second bullet, the following word:
  - satellite
- Amend on page E-3, sixth and eighth bullets, the following:
  - change "ELT/EPIRB" to "406 MHz distress beacons"

## 7 Appendix F

- Amend on page F-1, the following:
  - change "Primary SAR" to "Enhanced Capability SAR System"
- Amend on page F-1, the following:
  - change "Limited SAR" to "Basic (essential) Capability SAR System"
- Delete on page F-2, title line, the following words:
  - Commercial
  - (CMSS)

## 8 Appendix G

- Amend paragraph G.3.5, as follows:
  - The installation of automatic radiotelephone alarm signal devices or carriage of DSC-capable radios is a matter for determination by SAR authorities in light of use that may be made of such devices in the areas concerned, particularly with regard to the number of ships carrying this equipment.
- Add new paragraph after paragraph G.3.5:

**G.3.6** In accordance with the SOLAS Convention, every passenger ship shall be provided with means for two-way on-scene radiocommunications for SAR purposes using the aeronautical frequencies 121.5 MHz and 123.1 MHz from the position from which the ship is normally navigated.

- Add in paragraph G.4.3 a new last sentence, as follows:
  - HF radio can be useful in polar regions where geostationary satellite coverage may be limited. Also, HF email capability exists.
- Add in paragraph G.4.4 a new last sentence, as follows:
  - AIS transmission from ships provides vessel identity, location and other information which can be useful for SAR purposes.
- Amend paragraph G.5.1, opening phrase, as follows:
  - Delete "After February 1, 1999"
  - change lower case "s" to upper case "S"
- Amend paragraph G.5.7, as follows:
  - ~~Introduction of GMDSS aboard only some vessels adds capabilities for those vessels, but also introduces incompatibility between those vessels and vessels not GMDSS-equipped. It also introduces need for SAR authorities to support two maritime mobile systems both ashore and afloat. IMO recognizes this incompatibility and has developed guidance on some matters common to SOLAS-convention vessels and non-regulated craft; and, decided that all GMDSS ships, while at sea, shall continue to maintain, when practicable, a continuous listening watch on VHF channel 16 since ~~When most ships discontinue watchkeeping on Channel 16, most small vessels will still depend on channel 16 for distress, safety and calling.~~~~
- Rename section G.6, as follows:
  - **G.6 406 MHz Distress Beacons**
- Replace paragraphs G.6.1, G.6.2 and G.6.3 with the following paragraphs:
  - G.6.1** There are three types of 406 MHz distress beacons: the maritime emergency position-indicating radio beacon (EPIRB) which is part of the GMDSS, the aeronautical emergency locator transmitter (ELT), and the personal locator beacon (PLB). All three types of this distress beacon have their signals relayed via Cospas-Sarsat satellites, local user terminals (LUTs) and mission control centers (MCCs) to SAR Points of Contact (SPOCs) which include RCCs.
  - G.6.2** Many civil aircraft worldwide, especially operating on international flights and over ocean areas, are required to carry the 406 MHz distress beacon. However, some national regulations may allow for the 121.5 MHz ELT on domestic flights. This old style ELT depends on other aircraft or airport facilities to detect its aural signal.
- Amend paragraph G.6.4, as follows:
  - ~~Most ELTs and EPIRBs~~ 406 MHz Distress Beacons provide a homing signals capability on 121.5/243/406 MHz; ~~some also on 243 MHz,~~ and some may also integrate SARTs into their designs.

- Renumber paragraphs G.6.4 and G.6.5 to G.6.3 and G.6.4.
- Add new paragraph after paragraph G.6.4:

**G.6.5** The 406 MHz 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.

- Add on Page G-4, new section, as follows:

## **G.9 Mobile Telephone – Satellite and Cellular**

**G.9.1** A mobile telephone can be a satellite or cellular telephone. The satellite telephone connects to orbiting satellites and can provide regional or global coverage. Cellular telephones connect to a local terrestrial network of radiocommunications base stations known as cell sites. The mobile telephone enables the caller to connect to and from the public telephone network including other mobile telephones, and fixed telephone lines. Portable satellite and cellular telephone systems were not developed as part of the international SAR system and have limitations for distress alerting. But, since any available means may be used for distress alerting, national administrations should make appropriate arrangements and establish procedures to handle distress alerts from mobile telephones.

**G.9.2** Due to the widespread use of cellular telephones, specific guidance has been provided in the IAMSAR Manual, Volume II, Chapter 2 Communications. Many aspects of the guidance in that section regarding cellular telephones can also apply to the satellite telephone.

## **9 Index**

- Delete page Index-1, the following:
  - 500 kHz 4.4

## PROPOSED AMENDMENTS TO IAMSAR MANUAL – VOLUME II

Note: changes are proposed to the 2010 version of the Manual

### 1 Chapter 2

- Add new paragraph after paragraph 2.7.7:

**2.7.8** Portable satellite handsets are available which provide voice and text messaging capabilities. Some of these handsets use GNSS to provide position information, which may be made available to the RCC. These handsets are not normally designed for use in the maritime environment, for example they may not be waterproof. They are also not GMDSS compliant.

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ANNEX 9

PROPOSED BIENNIAL AGENDA FOR THE 2012-2013 BIENNIUM IN SMART TERMS AND ITEMS TO BE PLACED ON THE COMMITTEE'S POST-BIENNIAL AGENDA THAT FALL UNDER THE PURVIEW OF THE SUB-COMMITTEE \*

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)					
PLANNED OUTPUTS 2012-2013 (resolution A.[...](27))		Parent organ(s)	Coordinating organ(s)	Involved organ(s)	Target completion year
Number **	Description				
1.1.2.10 <del>1.1.2.17</del>	<b>Consideration of Radiocommunication ITU-R Study Group matters</b> <del>Liaison statements to/from ITU: radiocommunications</del>	MSC	COMSAR		Continuous
1.1.2.10 <del>1.1.2.17</del>	<b>Consideration of ITU World Radiocommunication Conference matters</b>	MSC	COMSAR		Continuous
1.3.5.2	<b>Development of amendments to the ICAO/IMO IAMSAR Manual</b>	MSC	COMSAR		Continuous
2.0.3.2	<del>Matters concerning Search and Rescue (SAR) 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 routing distress information in the GMDSS</del>	MSC	COMSAR		Continuous
2.0.3.6	<b>Development of guidelines on harmonized aeronautical and maritime search and rescue procedures, including SAR training matters</b>	MSC	COMSAR		<del>2011</del> 2012
5.1.1.7	<del>Safety provisions applicable to tenders operating from passenger ships</del>	MSC	DE	FP, COMSAR, NAV, SLF, STW	2011
5.1.2.3	<b>Development of measures to protect the safety of persons rescued at sea</b>	MSC	COMSAR	FSI/FAL	<del>2011</del> 2012

\* Items printed in bold have been selected for the draft provisional agenda for COMSAR 16. Struck-out text indicates proposed deletions and shaded text indicates proposed changes. Deleted outputs will be maintained in the report on the status of planned outputs.

\*\* Numbers refer to the planned outputs for the 2010-2011 biennium.

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)					
PLANNED OUTPUTS 2012-2013 (resolution A.[...](27))		Parent organ(s)	Coordinating organ(s)	Involved organ(s)	Target completion year
Number **	Description				
5.2.4	Development of Assembly resolution on World-Wide Met-Ocean Information and Warning Service	MSC	COMSAR		2011
5.2.5.1	Amendments to NAVTEX and SafetyNET	MSC	COMSAR		2011
5.2.5.2	<b>Global Maritime Distress and Safety System (GMDSS): Consideration of operational and technical coordination provisions of maritime safety information (MSI) services, including development and 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
5.2.5.5	<b>Consideration of developments in Satellite services (Inmarsat and Cospas-Sarsat)</b>	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>Developments in maritime radiocommunication systems and technology</b>	MSC	COMSAR		2011 2012
5.2.5.9	Revision of Performance Standards for float-free satellite EPIRBs operating on 406 MHz (resolution A.810(19))	MSC	COMSAR		2011
5.2.5.10	<b>Scoping exercise to establish the need for a review of the elements and procedures of the GMDSS</b>	MSC	COMSAR		2012
5.2.5	<b>Development of measures to avoid false distress alerts</b>	MSC	COMSAR	NAV	2013
5.2.6.1	<b>Development of an e-navigation strategy implementation plan for the e-navigation strategy</b>	MSC	NAV	COMSAR/STW	2012
12.1.2.2	Casualty analysis	MSC	FSI	COMSAR	Continuous

ITEMS TO BE PLACED ON THE COMMITTEE'S POST-BIENNIAL AGENDA THAT FALL UNDER THE PURVIEW OF THE SUB-COMMITTEE

MARITIME SAFETY COMMITTEE								
ACCEPTED POST-BIENNIAL OUTPUTS				Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Timescale (sessions)	References
No.	Reference to Strategic Directions	Reference to High-level Actions	Description					
1	5.2	5.2.4	Development of guidelines for wing-in-ground craft	MSC	DE	FP, COMSAR, NAV, SLF, STW	2 sessions	

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## ANNEX 10

### DRAFT PROVISIONAL AGENDA FOR COMSAR 16

- Opening of the session
- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Global Maritime Distress and Safety System (GMDSS)
  - .1 Further development of the GMDSS master plan on shore-based facilities
  - .2 Consideration of operational and technical coordination provisions of maritime safety information (MSI) services, including the development and 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 Consideration of radiocommunication ITU-R Study Group matters
  - .2 Consideration of ITU World Radiocommunication Conference matters
- 5 Consideration of developments in Inmarsat and Cospas-Sarsat
- 6 Search and Rescue (SAR)
  - .1 Development of guidelines on harmonized aeronautical and maritime search and rescue procedures, including SAR training matters
  - .2 Further development of the Global SAR 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 Development of amendments to the IAMSAR Manual
- 9 Development of measures to avoid false distress alerts
- 10 Development of measures to protect the safety of persons rescued at sea
- 11 Development of an e-navigation strategy implementation plan
- 12 Biennial agenda and provisional agenda for COMSAR 17

- 13 Election of Chairman and Vice-Chairman for 2013
- 14 Any other business
- 15 Report to the Maritime Safety Committee

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## ANNEX 11

## REPORT ON THE STATUS OF PLANNED OUTPUTS FOR THE 2010-2011 BIENNIUM

Planned output number in the High-level Action Plan for 2010-2011	Description	Target completion year	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1	Status of output for Year 2	References
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		Ongoing	Ongoing	COMSAR 15/16, section 4
1.3.5.2	Amendments to the ICAO/IMO IAMSAR Manual	Continuous	MSC	COMSAR		Ongoing	Ongoing	MSC 71/23, paragraph 20.2; COMSAR 15/16, section 8
2.0.3.2	Further development of the Global SAR Plan for the provision of maritime SAR services, including procedures for routing distress information in the GMDSS	Continuous	MSC	COMSAR		Ongoing	Ongoing	COMSAR 15/16, section 6
2.0.3.4	Reports of WMU project on SAR related to passenger ships	2011	MSC	COMSAR		Completed	Completed	COMSAR 14/17, section 6

Planned output number in the High-level Action Plan for 2010-2011	Description	Target completion year	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1	Status of output for Year 2	References
2.0.3.6	Harmonized aeronautical and maritime search and rescue procedures, including SAR training matters	2011	MSC	COMSAR		In progress	In progress	COMSAR 15/16, section 6
5.1.1.7	Non-mandatory instruments: safety provisions applicable to tenders operating from passenger ships	2011	MSC	DE	COMSAR	Completed	Completed	MSC 84/24, paragraph 22.35; COMSAR 15/16, section 9
5.1.2.3	Measures to protect the safety of persons rescued at sea	2011	MSC	COMSAR	FSI/FAL	In progress	In progress	MSC 84/24, paragraph 22.36; COMSAR 15/16, section 10
5.2.5.1	Non-mandatory instruments: amendments to NAVTEX and SafetyNET	2011	MSC	COMSAR		Completed	Completed	COMSAR 15/16, 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		Ongoing	Ongoing	COMSAR 15/16, 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		Ongoing	Ongoing	COMSAR 15/16, section 3

Planned output number in the High-level Action Plan for 2010-2011	Description	Target completion year	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1	Status of output for Year 2	References
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	In progress	MSC 86/26, paragraph 23.20; COMSAR 15/16, section 3
5.2.5.5	Satellite services (Inmarsat and Cospas-Sarsat)  Developments in Inmarsat and Cospas-Sarsat monitored	Continuous	MSC	COMSAR		Ongoing	Ongoing	COMSAR 15/16, section 5
5.2.5.6	Future mobile satellite communication systems evaluated and recognized for use in the GMDSS	2011	MSC	COMSAR		In progress	In progress	MSC 84/24, paragraph 22.75
5.2.5.7	Reports on developments in maritime radiocommunication systems and technology	2011	MSC	COMSAR		In progress	In progress	MSC 74/24, paragraph 21.25.1; COMSAR 15/16, section 7
5.2.5.8	Procedures for updating shipborne navigation and communication equipment	2010	MSC	NAV	COMSAR	Completed	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	Completed	MSC 86/26, paragraph 23.19; COMSAR 15/16, section 12

Planned output number in the High-level Action Plan for 2010-2011	Description	Target completion year	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1	Status of output for Year 2	References
5.2.6.1	Non-mandatory instruments: an implementation plan for the e-navigation strategy	2012	MSC	NAV	COMSAR/STW	In progress	In progress	MSC 85/26, paragraph 23.22; COMSAR 15/16, section 11
12.1.2.2	Casualty analysis	Continuous	MSC	FSI	COMSAR	Ongoing	Ongoing	MSC 70/23, paragraphs 9.17 and 20.4; MSC 78/26, paragraph 24.8

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