

# INTERNATIONAL HYDROGRAPHIC ORGANIZATION



**JOINT IHO/IMO/WMO**

## **MANUAL ON MARITIME SAFETY INFORMATION (MSI)**

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**REVISED JOINT IMO/IHO/WMO MANUAL ON  
MARITIME SAFETY INFORMATION (MSI)**

- 1 The Maritime Safety Committee (MSC), at its ninety-fourth session (17 to 21 November 2014), noted and approved the revised Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI), as prepared by WMO and IHO and agreed by the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) at its first session (30 June to 4 July 2014).
- 2 MSC 94 noted that section 7 provides extensive guidance and examples on the structure and text to be used in navigational warnings and that, to ensure greater uniformity, this section would be provided in the English language in an additional annex in the circulars and publications in the Spanish and French languages.
- 3 The Committee was of the opinion that the widest possible use of the manual should be encouraged and invited Member Governments to bring the annexed Joint IMO/IHO/WMO Manual to the attention of mariners and those involved in the promulgation of navigational warnings and meteorological forecasts and warnings.
- 4 This circular supersedes MSC.1/Circ.1310.
- 5 The Committee decided that the amendments will come into force on 1 January 2016.

**Contents**

|                                                                                | <i>Page</i> |
|--------------------------------------------------------------------------------|-------------|
| Foreword .....                                                                 | 3           |
| 1 General information .....                                                    | 5           |
| 2 Promulgation of maritime safety information .....                            | 5           |
| 3 NAVAREA/Sub-Area/National Coordinators' resources and responsibilities ..... | 15          |
| 4 Navigational warnings for the World-Wide Navigational Warning Service .....  | 19          |
| 5 The structure of navigational warnings .....                                 | 22          |
| 6 Message format of navigational warnings .....                                | 24          |
| Part 1 – Preamble .....                                                        | 24          |
| Part 2 – Warning .....                                                         | 26          |
| Part 3 – Postscript .....                                                      | 27          |
| 7 Guidance and examples for navigational warnings by type of hazard .....      | 28          |
| 8 METAREA Coordinator resources and responsibilities .....                     | 77          |
| 9 Meteorological warnings and forecasts .....                                  | 78          |
| 10 Examples for meteorological warnings and forecasts .....                    | 86          |
| 11 Search and rescue notification .....                                        | 91          |
| 12 Procedure for amending the joint IMO/IHO/WMO Manual on MSI .....            | 91          |

## Foreword

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 Sub-Committee on Radiocommunications, the International Hydrographic Organization (IHO) and the World Meteorological Organization (WMO), a joint document on the drafting of maritime safety information broadcasts was produced (the Joint IMO/IHO/WMO Manual on Maritime Safety Information). The document was circulated to IHO Member States under IHB CL 10/1994 and as COMSAR/Circ.4 by the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) after its first session in February 1996, which action was endorsed by the Maritime Safety Committee at its sixty-sixth session in May/June 1996.

The publication contained sections from IMO resolution A.706(17), "*World-Wide Navigational Warning Service*", as amended, and relevant sections of the WMO Publication *Manual on Marine Meteorological Services* (WMO No.558).

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

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

The WMO Executive Council, at its sixty-first session in June 2009, requested WMO to establish and develop, in collaboration with the IMO, terms of reference for an IMO/WMO World-Wide Met-ocean Information and Warning Service guidance document (WWMIWS), to complement the existing IMO/IHO World-Wide Navigational Warning Service guidance document (WWNWS), provided in resolution A.706(17), as amended. This new IMO/WMO guidance document is intended to provide specific guidance for the promulgation of internationally coordinated meteorological information, forecast and warnings services for the GMDSS, which does not apply to purely national services.

The WMO Executive Council adopted the WWMIWS at its sixty-second session in June 2010. It was submitted to IMO's Maritime Safety Committee at the end of 2010, which requested its COMSAR Sub-Committee to review it before its approval at its eighty-ninth session in May 2011. It was officially adopted by the IMO Assembly at its twenty-seventh

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

session in November 2011 and the WWMIWS is included in the regulatory publications as IMO resolution A.1051(27). Future amendments to this guidance document will be considered formally and approved by both WMO and IMO. Proposed amendments shall be evaluated by the JCOMM Expert Team on Maritime Safety Services (ETMSS), which includes an ex-officio representative of the IMO Secretariat, prior to any extensive WMO and IMO consideration.

The Committee was of the opinion that the widest possible use of the manual should be encouraged and invited Member Governments to bring the Joint IMO/IHO/WMO Manual to the attention of mariners and those involved in the promulgation of navigational warnings and meteorological forecasts and warnings.

Although this is an IMO publication, it is intended that the responsible organizations will maintain their respective sections of this Joint IMO/IHO/WMO Manual.

## 1 GENERAL INFORMATION

This Manual provides a practical guide for anyone who is concerned with drafting navigational warnings or with the issuance of meteorological forecasts and warnings under the Global Maritime Distress and Safety System (GMDSS). Maritime Safety Information (MSI) is promulgated in accordance with the requirements of IMO resolution A.705(17), as amended. Navigational warnings are issued under the auspices of the IMO/International Hydrographic Organization (IHO) World-Wide Navigational Warning Service (WWNWS) in accordance with the requirements of IMO resolution A.706(17), as amended. Meteorological forecasts and warnings are issued under the auspices of the IMO/World Meteorological Organization (WMO) World-Wide Met-ocean Information and Warnings Service (WWMIWS) in accordance with the requirements of IMO resolution A.1051(27). In order to achieve the necessary impact on the mariner it is essential to present timely and relevant information in a consistent format that is clear, unambiguous and brief. Within this Manual, it is particularly intended to provide the best form of words for use in all types of navigational warnings and meteorological forecasts and warnings that are required to be broadcast in the English language.<sup>2</sup> Note has been taken of the *IMO standard marine communication phrases* (resolution A.918(22)), where appropriate.

This Manual cannot provide specimen texts for every type of event which may occur. However, the principles illustrated herein may be applied in general to drafting messages for every kind of navigational warning and covering all types of hazards and for the issuance of meteorological forecasts and warnings.

Resolution A.706(17), as amended, on the *World-Wide Navigational Warning Service* (MSC.1/Circ.1288/Rev.1) at section 5.3.1, requires that "All NAVAREA, Sub-area and coastal warnings should be broadcast only in English in the International NAVTEX and SafetyNET services". Resolution A.1051(27) on the *IMO/WMO World-Wide Met-Ocean Information and Warnings Service* at section 3.4.1 requires that "All Meteorological information shall be broadcast only in English in the International NAVTEX and SafetyNET services". Where this Manual has been produced in languages other than English then the message examples given in the English language text should be used.

## 2 PROMULGATION OF MARITIME SAFETY INFORMATION

### 2.1 Introduction

2.1.1 The Maritime Safety Information Service of the GMDSS is the internationally and nationally coordinated network of broadcasts containing information which is necessary for safe navigation, received on ships by equipment which automatically monitors the appropriate transmissions, displays information which is relevant to the ship and provides a print capability. This concept is illustrated in figure 1.

2.1.2 Maritime safety information is of vital concern to all ships. It is therefore essential that common standards are applied to the collection, editing and dissemination of this information. Only by doing so will the mariner be assured of receiving the information he needs, in a form which he understands, at the earliest possible time.

2.1.3 The purpose of IMO resolution A.705(17), as amended "*Promulgation of Maritime Safety Information*" is to set out the organization, standards and methods which should be used for the promulgation and reception of maritime safety information.

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<sup>2</sup> See WMO Publication *Manual on Marine Meteorological Services* (WMO No 558).

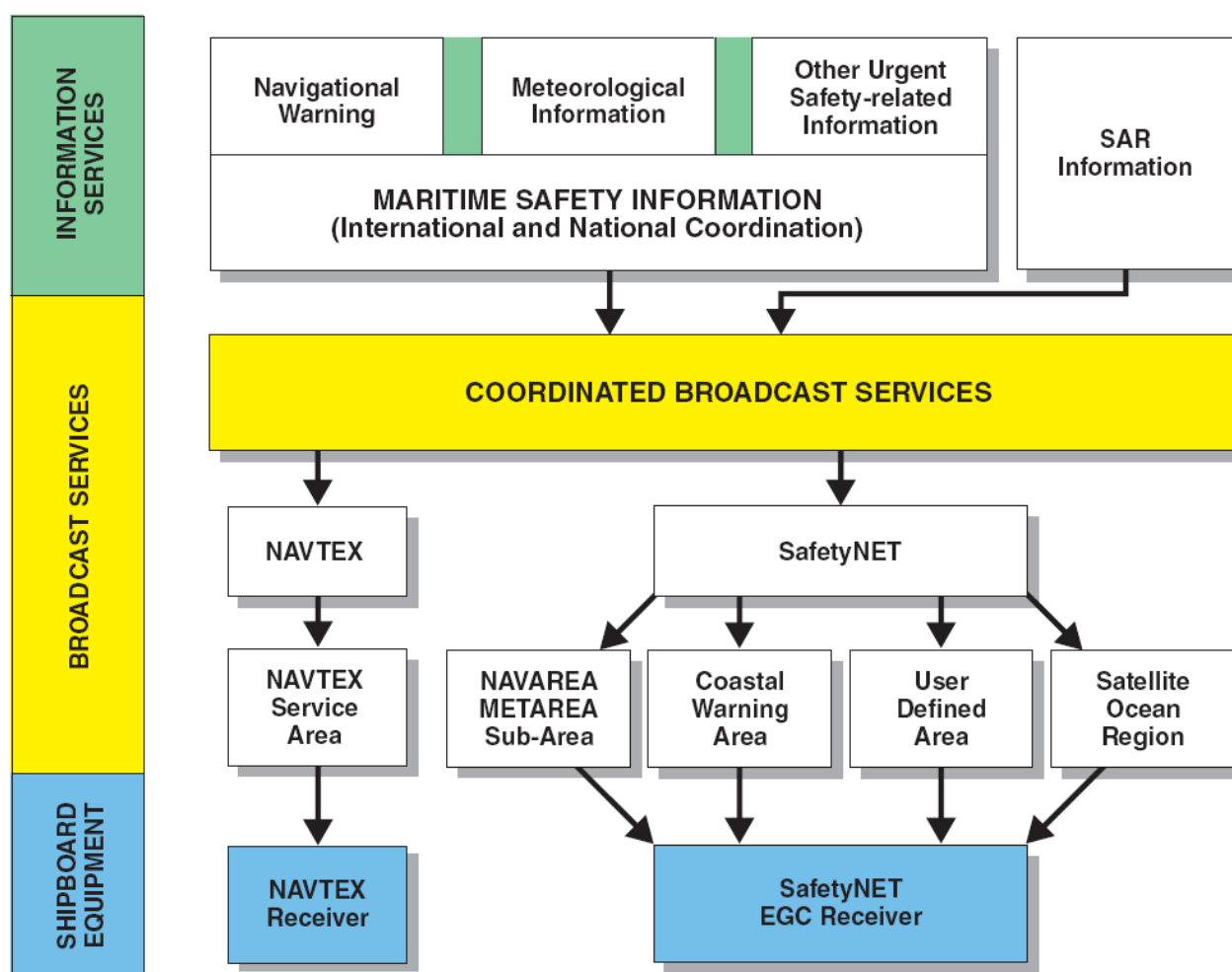


**Figure 1** – *The maritime safety information service of the Global Maritime Distress and Safety System*

## 2.2 Definitions

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

- .1 *Coast Earth Station (CES)* means a fixed terrestrial radio facility acting as a gateway between terrestrial networks and the Inmarsat satellites in the maritime mobile-satellite service. This may also be referred to as a Land Earth Station (LES).
- .2 *Coastal warning* means a navigational warning or in-force bulletin promulgated as part of a numbered series by a National Coordinator. Broadcast should 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.)
- .3 *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 coordinating the broadcast of coastal maritime safety information through the SafetyNET service.

- .4 *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.
- .5 *HF NBDP* means High Frequency narrow-band direct-printing, using radio telegraphy as defined in Recommendation ITU-R M.688, as amended.
- .6 *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 Coordinator, Sub-area Coordinator or National Coordinator.
- .7 *International NAVTEX service* means the coordinated 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>
- .8 *International SafetyNET service* means the coordinated broadcast and automatic 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.
- .9 *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 METAREA for which the Service has accepted responsibility under the broadcast requirements of the GMDSS.
- .10 *Local warning* means a navigational warning which covers inshore waters, often within the limits of jurisdiction of a harbour or port authority.
- .11 *Main shipping lanes* means those routes used by international shipping.
- .12 *Maritime safety information (MSI)*<sup>4</sup> means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.
- .13 *Maritime safety information service* means the internationally and nationally coordinated network of broadcasts containing information which is necessary for safe navigation.
- .14 *METAREA* means a geographical sea area<sup>5</sup> established for the purpose of coordinating the broadcast of marine meteorological information. The term METAREA followed by a roman numeral may be used to identify a particular sea area. The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States. (See figure 3).

<sup>3</sup> As set out in the IMO NAVTEX Manual.

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

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

- .15 *METAREA Coordinator* means the authority charged with coordinating marine meteorological information broadcasts by one or more National Meteorological Services acting as Preparation or Issuing Services within the METAREA.
- .16 *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.
- .17 *National Coordinator* means the national authority charged with collating and issuing coastal warnings within a national area of responsibility.
- .18 *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.
- .19 *National SafetyNET service* means the broadcast and automatic reception of maritime safety information via the Inmarsat EGC system, using languages as decided by the Administration concerned.
- .20 *NAVAREA* means a geographical sea area<sup>5</sup> established for the purpose of coordinating the broadcast of navigational warnings. The term NAVAREA followed by a roman numeral may be used to identify a particular sea area. The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States. (See figure 2).
- .21 *NAVAREA Coordinator* means the authority charged with coordinating, collating and issuing NAVAREA warnings for a designated NAVAREA.
- .22 *NAVAREA warning* means a navigational warning or in-force bulletin promulgated as part of a numbered series by a NAVAREA Coordinator.
- .23 *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.
- .24 *NAVTEX* means the system for the broadcast and automatic reception of maritime safety information by means of narrow-band direct-printing telegraphy.
- .25 *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.
- .26 *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.

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

- .27 *NAVTEX Coordinator* means the authority charged with operating and managing one or more NAVTEX stations broadcasting maritime safety information as part of the International NAVTEX service.
- .28 *Other urgent safety-related information* means maritime safety information broadcast to ships that is not defined as a navigational warning or meteorological 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.
- .29 *Preparation Service* means a National Meteorological Service which has accepted responsibility for the preparation of forecasts and warnings for parts of or an entire 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.
- .30 *SafetyNET* means the international service for the broadcast 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.
- .31 *SAR information* means distress alert relays and other urgent search and rescue information broadcast to ships (See section 11.1).
- .32 *Sea Area A1* means an area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC<sup>6</sup> alerting is available, as may be defined by a Contracting Government.
- .33 *Sea Area A2* means an area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.
- .34 *Sea Area A3* means an area, excluding sea areas A1 and A2, within the coverage of an Inmarsat geostationary satellite in which continuous alerting is available.
- .35 *Sea Area A4* means an area outside sea areas A1, A2 and A3.
- .36 *Sub-area* means a subdivision of a NAVAREA/METAREA in which a number of countries have established a coordinated 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.
- .37 *Sub-area Coordinator* means the authority charged with coordinating, collating and issuing Sub-area warnings for a designated Sub-Area.

<sup>6</sup> Digital selective calling (DSC) means a technique using digital codes which enables a radio station to establish contact with and transfer information to another station or group of stations and complying with the relevant recommendations of the International Radio Consultative Committee ((CCIR) – "Radiocommunications Bureau of the International Telecommunication Union (ITU)" from 1 March 1993).

- .38 *Sub-area warning* means a navigational warning or in-force bulletin promulgated as part of a numbered series by a Sub-area Coordinator. Broadcast should be made by the International NAVTEX service to defined NAVTEX service areas or by the International SafetyNET service (through the appropriate NAVAREA Coordinator).
- .39 *User defined area* means a temporary geographic area, either circular or rectangular, to which maritime safety information is addressed.
- .40 *UTC* means Coordinated Universal Time which is equivalent to GMT (or ZULU) as the international time standard.
- .41 *World-Wide Navigational Warning Service (WWNWS)*<sup>7</sup> means the internationally and nationally coordinated service for the promulgation of navigational warnings.
- .42 *World-Wide Met-ocean Information and Warning Service (WWMIWS)*<sup>8</sup> means the internationally coordinated service for the promulgation of meteorological forecasts and warnings.
- .43 In the operating procedures, *coordination* 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 resolutions A.705(17), as amended, A.706(17), as amended and A.1051(27).

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<sup>7</sup> As set out in resolution A.706(17), as amended.

<sup>8</sup> As set out in resolution A.1051(27).

## 2.2.2 Delimitation of NAVAREAs

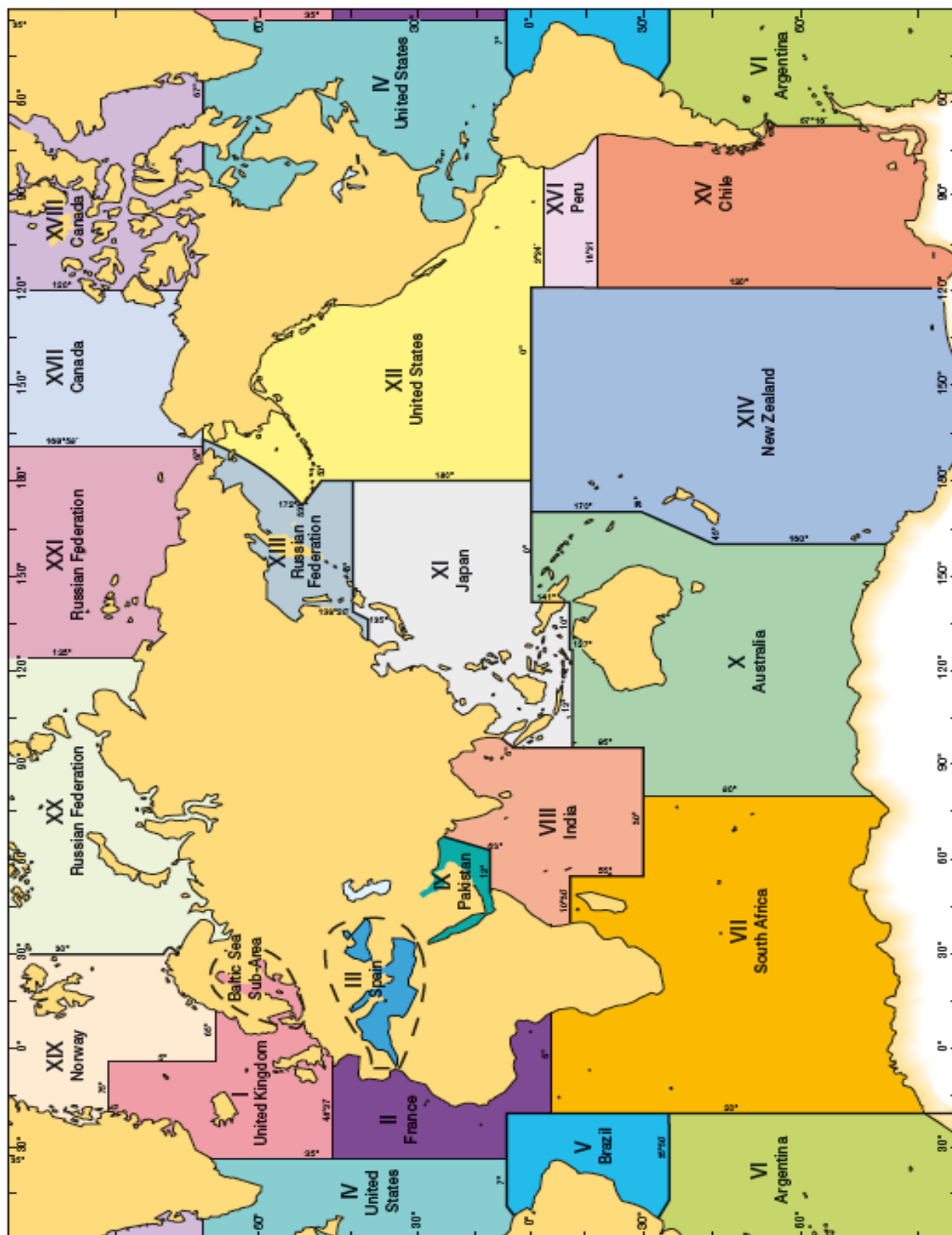


**Figure 2** – NAVAREAs for coordinating and promulgating navigational warnings under the World-Wide Navigational Warning Service

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

### 2.2.3 Delimitation of METAREAs

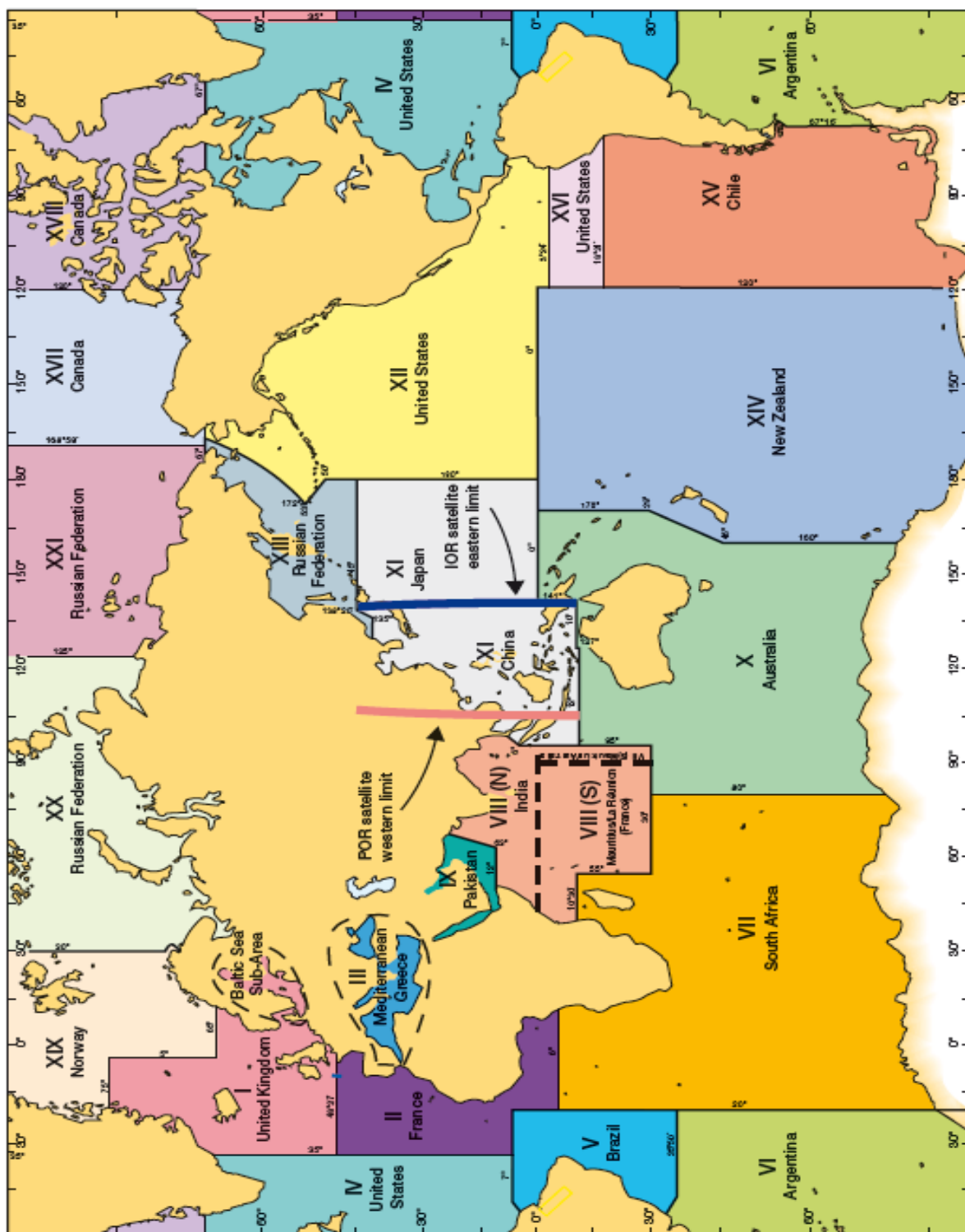


**Figure 3 – METAREAs for coordinating and promulgating meteorological warnings and forecasts within the GMDSS**

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

## 2.3 Broadcast methods

2.3.1 Two principal methods are used for broadcasting maritime safety information 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 waters; and
- .2 **SafetyNET:** broadcasts which cover all the waters of the globe except for Sea Area A4, as defined by IMO resolution A.801(19), annex 3, as amended.

2.3.2 Information should be provided for unique and precisely defined sea areas, each being served only by the most appropriate of the above methods. Although there will be some duplication to allow a ship to change from one method to another, the majority of warnings will be broadcast either on NAVTEX or SafetyNET.

2.3.3 NAVTEX broadcasts should be made in accordance with the standards and procedures set out in the NAVTEX Manual.

2.3.4 SafetyNET broadcasts should be made in accordance with the standards and procedures set out in the International SafetyNET Manual.

2.3.5 HF NBDP may be used to promulgate maritime safety information in areas outside Inmarsat or NAVTEX coverage (SOLAS regulation IV/7.1.5).

2.3.6 In addition, Administrations may also provide maritime safety information by other means.

2.3.7 In the event of failure of normal transmission facilities, an alternative means of transmission should be utilized. A NAVAREA warning and a coastal warning, if possible, should be issued detailing the failure, its duration and, if known, the alternative route for the dissemination of MSI.

## 2.4 Scheduling

### 2.4.1 Automated methods (NAVTEX/SafetyNET)

2.4.1.1 Navigational warnings should 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 minutes of receipt of original information, or at the next scheduled broadcast.

2.4.1.2 Navigational warnings should be repeated in scheduled broadcasts in accordance with the guidelines promulgated in the NAVTEX Manual and International SafetyNET Manual as appropriate.

2.4.1.3 At least two scheduled daily broadcast times are necessary to provide adequate promulgation of NAVAREA warnings. When NAVAREAs extend across more than six time zones, more than two broadcasts should be considered to ensure that warnings can be received. When using SafetyNET in lieu of NAVTEX for coastal warnings, Administrations may need to consider an increase in the number of scheduled daily broadcasts compared with the requirement for NAVAREA warnings.

2.4.1.4 It is important that where the degree of hazard is known, this information is included in the relevant warning e.g. naval exercises, missile firings, space missions, nuclear tests, ordnance dumping zones, etc. Whenever possible such warnings should be originated not less than five days in advance of the scheduled event and reference may be made to relevant national publications in the warning.

## **2.4.2 Schedule changes**

2.4.2.1 Broadcast times for NAVTEX are defined by the B1 transmitter identification character of the station, allocated by the IMO NAVTEX Coordinating Panel.

2.4.2.2 Times of scheduled broadcasts under the International SafetyNET service are coordinated through the International SafetyNET Coordinating Panel.

## **2.5 Shipboard equipment**

2.5.1 Ships are required to be capable of receiving maritime safety information broadcasts for the area in which they operate in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended.

2.5.2 The NAVTEX receiver should operate in accordance with the technical specifications set out in Recommendation ITU-R M.540, as amended. Resolution MSC.148(77) recommends Governments to ensure that NAVTEX receiver equipment, if installed on or after 1 July 2005, conforms to performance standards not inferior to those specified in resolution MSC.148(77), and if installed before 1 July 2005, conforms to performance standards not inferior to those specified in the annex to resolution A.525(13).

2.5.3 The SafetyNET receiver should conform to the *Maritime Design and Installation Guidelines (DIGs), annex B, issue 6 of April 2008* published by Inmarsat. Resolution MSC.306(87) recommends Governments to ensure that EGC equipment, if installed on or after 1 July 2012, conforms to performance standards not inferior to those specified in the annex to resolution MSC.306(87), and if installed before 1 July 2012, conforms to performance standards not inferior to those specified in the annex to resolution A.664(16).

2.5.4 In Sea Area A4, outside of the coverage of NAVTEX, where MSI is received using HF NBDP, the HF NBDP receiver should operate in accordance with the technical specifications set out in Recommendation ITU-R M.688, as amended, and should meet the performance standards adopted by IMO resolution A.700(17), as amended.

## **2.6 Provision of information**

2.6.1 Navigational warnings should be provided in accordance with the standards, organization and procedures of the WWNWS under the functional guidelines of the IHO through its World-Wide Navigational Warning Service Sub-Committee. Details of NAVAREA Coordinators are maintained on the IHO website [www.iho.int/committees/](http://www.iho.int/committees/) and are also published by an IMO Sub-Committee on Navigation, Communication and Search and Rescue (NCSR) circular.

2.6.2 Meteorological information should be provided in accordance with the WMO technical regulations, recommendations, and procedures defined for the World-Wide Met-ocean Information and Warning Service (WWMIWS) monitored and reviewed by the Expert Team on Maritime Safety Services of the Joint WMO/IOC<sup>9</sup> Commission for Oceanography and Marine Meteorology (JCOMM).

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<sup>9</sup> IOC is the Intergovernmental Oceanographic Commission of UNESCO.

2.6.3 Other urgent safety-related information should be provided by the relevant national or international authority responsible for managing the system or scheme.

2.6.4 SAR information, which are never MSI, should be provided by the various authorities responsible for coordinating maritime search and rescue operations in accordance with the standards and procedures established by the IMO.

2.6.5 Relevant national or international authorities should take into account the need for contingency planning.

## **2.7 Coordination procedures**

2.7.1 In order to make the best use of automated reception facilities and to ensure that the mariner receives at least the minimum information necessary for safe navigation, careful coordination is required.

2.7.2 In general, this requirement for coordination will be met by the standard operational procedures of IMO, IHO, WMO, the International Telecommunication Union (ITU) and the International Mobile Satellite Organization (IMSO). Cases of difficulty should be referred, in the first instance, to the most appropriate parent body.

2.7.3 Administrations broadcasting maritime safety information should provide details of services to IMO, which will maintain and publish this as part of the GMDSS Master Plan.

2.7.4 The coordination of changes to operational NAVTEX services and of the establishment of new stations is undertaken by the IMO NAVTEX Coordinating Panel on behalf of the Maritime Safety Committee.

2.7.5 The coordination of changes to operational SafetyNET services and of the authorization and registration of information providers is undertaken by the International SafetyNET Coordinating Panel on behalf of the Maritime Safety Committee.

2.7.6 Administrations should design their broadcasts to suit specific service areas.<sup>10</sup> The designation of service areas is an important part of the coordination process since it is intended that a ship should be able to obtain all the information relevant to a given area from a single source. The Maritime Safety Committee approves NAVAREAS/METAREAS and service areas for the International NAVTEX and SafetyNET service as advised by the IHO and the WMO.

## **3 NAVAREA/SUB-AREA/NATIONAL COORDINATORS' RESOURCES AND RESPONSIBILITIES**

### **3.1 NAVAREA Coordinator resources**

3.1.1 The NAVAREA Coordinator must have:

- .1 the expertise and information sources of a well-established national hydrographic service;
- .2 effective communications, e.g. telephone, email, facsimile, internet, telex, etc. with Sub-area and National Coordinators in the NAVAREA, with other NAVAREA Coordinators, and with other data providers; and

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<sup>10</sup> Coordination of HF NBDP broadcasts in the Arctic should be undertaken by relevant MSI service providers.

- .3 access to broadcast systems for transmission to the navigable waters of the NAVAREA. As a minimum, this should include those described in paragraph 2.3.1. Reception should normally be possible at least 300 nautical miles beyond the limit of the NAVAREA.

## 3.2 NAVAREA Coordinator responsibilities

### 3.2.1 The NAVAREA Coordinator must:

- .1 endeavour to be informed of all events that could significantly affect the safety of navigation within the NAVAREA;
- .2 assess all information immediately upon receipt for relevance to navigation in the NAVAREA;
- .3 select information for broadcast in accordance with the guidance given in paragraph 4.2;
- .4 draft NAVAREA warnings in accordance with the *Joint IMO/IHO/WMO Manual on Maritime Safety Information*;
- .5 direct and control the broadcast of NAVAREA warnings, in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended;
- .6 forward NAVAREA warnings and relevant associated information which may require wider promulgation directly to adjacent NAVAREA Coordinators and/or others as appropriate, using the quickest possible means;
- .7 ensure that NAVAREA warnings which may remain in force for more than six weeks are made available immediately to NAVAREA Coordinators, other authorities and mariners in general, as appropriate;
- .8 ensure that information concerning all navigational warning subject areas listed in paragraph 4.2.3 that may not require a NAVAREA warning within their own NAVAREA is forwarded immediately to the appropriate National and NAVAREA Coordinators affected by the event;
- .9 broadcast in-force bulletins not less than once per week at a regular scheduled time;
- .10 promulgate the cancellation of NAVAREA warnings which are no longer valid;
- .11 act as the central point of contact on matters relating to navigational warnings within the NAVAREA;
- .12 promote and oversee the use of established international standards and practices with respect to the promulgation of navigational warnings throughout the NAVAREA;
- .13 when notified by the authority designated to act on reports of piracy and armed robbery against ships, arrange for the broadcast of a suitable NAVAREA warning. Additionally, keep the national or regional piracy control centre informed of long-term broadcast action(s);

- .14 when notified by the appropriate authorities, arrange for the broadcast of suitable NAVAREA warnings to promulgate World Health Organization (WHO) health advisories, tsunami-related warnings and other information which is necessary for safe navigation;
- .15 monitor the broadcasts which they originate, to ensure that the warnings have been correctly broadcast;
- .16 maintain records of source data relating to NAVAREA warnings in accordance with the requirement of the National Administration of the NAVAREA Coordinator;
- .17 coordinate preliminary discussions between neighbouring Member States, seeking to establish or amend NAVTEX services and with other adjacent Administrations, prior to formal application;
- .18 contribute to the development of international standards and practices through attendance and participation in the IHO World-Wide Navigational Warning Service Sub-Committee meetings, and also participate in relevant IMO, IHO and WMO fora as appropriate; and
- .19 take into account the need for contingency planning.

### **3.3 Sub-area Coordinator resources**

#### **3.3.1 The Sub-area Coordinator must have, or have access to:**

- .1 the expertise and information sources of a well-established national hydrographic service;
- .2 effective communications, e.g. telephone, email, facsimile, internet, telex, etc. with National Coordinators in the Sub-area, with the NAVAREA Coordinator, and with other data providers; and
- .3 broadcast systems for transmission to the entire Sub-area.

### **3.4 Sub-area Coordinator responsibilities**

#### **3.4.1 The Sub-area Coordinator must:**

- .1 endeavour to be informed of all events that could significantly affect the safety of navigation within the Sub-area;
- .2 assess all information immediately upon receipt for relevance to navigation in the Sub-area;
- .3 select information for broadcast in accordance with the guidance given in paragraph 4.2;
- .4 draft Sub-area warnings in accordance with the *Joint IMO/IHO/WMO Manual on Maritime Safety Information*;
- .5 direct and control the broadcast of Sub-area warnings, in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended;

- .6 forward Sub-area warnings and relevant associated information which may require wider promulgation directly to their own NAVAREA Coordinator using the quickest possible means;
- .7 broadcast in-force bulletins not less than once per week at a regular scheduled time;
- .8 promulgate the cancellation of Sub-area warnings which are no longer valid;
- .9 act as the central point of contact on matters relating to navigational warnings within the Sub-area;
- .10 promote the use of established international standards and practices in the promulgation of navigational warnings within the Sub-area;
- .11 monitor the broadcasts which they originate, to ensure that the warnings have been correctly broadcast;
- .12 maintain records of source data relating to Sub-area warnings in accordance with the requirement of the National Administration of the Sub-area Coordinator;
- .13 contribute to the development of international standards and practices through attendance and participation in the IHO World-Wide Navigational Warning Service Sub-Committee meetings, and also participate in relevant IMO, IHO and WMO fora as appropriate; and
- .14 take into account the need for contingency planning.

### **3.5 National Coordinator resources**

#### **3.5.1 The National Coordinator must have:**

- .1 established sources of information relevant to the safety of navigation within national waters;
- .2 effective communications, e.g. telephone, email, facsimile, internet, telex, etc. with the NAVAREA/Sub-area Coordinator and adjacent National Coordinators; and
- .3 access to broadcast systems for transmission to their area of national responsibility.

### **3.6 National Coordinator responsibilities**

#### **3.6.1 The National Coordinator must:**

- .1 endeavour to be informed of all events that could significantly affect the safety of navigation within their area of national responsibility;
- .2 assess all information immediately upon receipt for relevance to navigation in their area of national responsibility;
- .3 select information for broadcast in accordance with the guidance given in paragraph 4.2;

- .4 draft coastal warnings in accordance with the *Joint IMO/IHO/WMO Manual on Maritime Safety Information*;
- .5 direct and control the broadcast of coastal warnings, in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended;
- .6 forward coastal warnings and relevant associated information which may require wider promulgation directly to their NAVAREA/Sub-area Coordinator and/or adjacent National Coordinators as appropriate, using the quickest possible means;
- .7 broadcast in-force bulletins not less than once per week at a regular scheduled time;
- .8 promulgate the cancellation of coastal warnings which are no longer valid;
- .9 act as the central point of contact on matters relating to navigational warnings within their area of national responsibility;
- .10 promote the use of established international standards and practices in the promulgation of navigational warnings within their area of national responsibility;
- .11 monitor the broadcasts which they originate, to ensure that the warnings have been correctly broadcast;
- .12 maintain records of source data relating to coastal warnings in accordance with the requirement of the National Administration of the National Coordinator; and
- .13 take into account the need for contingency planning.

## **4 NAVIGATIONAL WARNINGS FOR THE WORLD-WIDE NAVIGATIONAL WARNING SERVICE**

### **4.1 General**

4.1.1 Navigational warnings are issued in response to SOLAS regulation V/4 and carry information which may have a direct bearing on the safety of life at sea. It is the fundamental nature of navigational warnings that they will often be based on incomplete or unconfirmed information and mariners will need to take this into account when deciding what reliance to place on the information contained therein.

4.1.2 In order to achieve the necessary impact on the mariner it is essential to present timely and relevant information in a consistent format that is CLEAR, UNAMBIGUOUS and BRIEF. This is ensured by using structured messages in standard formats, as shown in sections 6 and 7 of this Manual.

4.1.3 The resources employed by Administrations and the mariner are extremely limited. Thus only information which is vital to the safe conduct of ships should be transmitted. Notices to Mariners and other means exist for passing less urgent information to ships after they have reached port. Information of a purely administrative nature should never be broadcasted on the regular international navigational warning schedules.

4.1.4 There are four types of navigational warnings: NAVAREA warnings, Sub-area warnings, coastal warnings and local warnings. The WWNWS guidance and coordination are involved with only three of them:

- .1 NAVAREA warnings;
- .2 Sub-area warnings, and
- .3 Coastal warnings

4.1.5 Navigational warnings should remain in force until cancelled by the originating coordinator. Navigational warnings should be broadcast for as long as the information is valid. However, if they are readily available to mariners by other official means, for example in Notices to Mariners, then after a period of six weeks they may no longer be broadcast.

4.1.6 The minimum information in a navigational warning which a mariner requires is *hazard* and *position*. It is usual, however, to include sufficient extra detail to allow some freedom of action in the vicinity of the hazard. This means that the message should give enough extra data for the mariner to be able to recognize the hazard and assess its effect upon their navigation.

4.1.7 If known, the duration of the event causing a navigational warning should be given in the text.

4.1.8 Some of the subjects for navigational warnings listed in paragraph 4.2.3 (e.g. drifting ice and tsunami warnings) may also be suitable for inclusion in METAREA forecasts or warnings. In this event, appropriate coordination between the relevant NAVAREA and METAREA Coordinators must occur.

## 4.2 NAVAREA warnings

4.2.1 NAVAREA warnings are concerned with the information detailed below which ocean-going mariners require for their safe navigation. This includes, in particular, new navigational hazards and failures of important aids to navigation as well as information which may require changes to planned navigational routes.

4.2.2 Coastal warnings are broadcast by the International NAVTEX service, or by the International SafetyNET service when implemented in lieu of NAVTEX. They are not normally re-broadcast as NAVAREA warnings unless deemed of such significance that the mariner should be aware of them before entering a NAVTEX service area. The National Coordinator will evaluate the significance of the information for consideration as a NAVAREA warning while the NAVAREA Coordinator will make the final determination.

4.2.3 The following subjects are considered suitable for broadcast as NAVAREA warnings. This list is not exhaustive and should be regarded only as a guideline. Furthermore, it presupposes that sufficiently precise information about the item has not previously been disseminated in a Notice to Mariners. Whenever possible, warnings concerning scheduled events, in particular those covered in 4.2.3.13, should be originated not less than five days in advance, and reference may be made to relevant national publications:

- .1 casualties to lights, fog signals, buoys and other aids to navigation affecting main shipping lanes;
- .2 the presence of dangerous wrecks in or near main shipping lanes and, if relevant, their marking;

- .3 establishment of major new aids to navigation or significant changes to existing ones, when such establishment or change might be misleading to shipping;
- .4 the presence of large unwieldy tows in congested waters;
- .5 drifting hazards (including derelict ships, ice, mines, containers, other large items over 6 metres in length, etc.);
- .6 areas where search and rescue (SAR) and anti-pollution operations are being carried out (for avoidance of such areas);
- .7 the presence of newly discovered rocks, shoals, reefs and wrecks likely to constitute a danger to shipping, and, if relevant, their marking;
- .8 unexpected alteration or suspension of established routes;
- .9 cable or pipe-laying activities, seismic surveys, the towing of large submerged objects for research or exploration purposes, the employment of manned or unmanned submersibles, or other underwater operations constituting potential dangers in or near shipping lanes;
- .10 the establishment of research or scientific instruments in or near shipping lanes;
- .11 the establishment of offshore structures in or near shipping lanes;
- .12 significant malfunctioning of radio-navigation services and shore-based maritime safety information radio or satellite services;
- .13 information concerning events which might affect the safety of shipping, sometimes over wide areas, e.g. naval exercises, missile firings, space missions, nuclear tests, ordnance dumping zones, etc;
- .14 operating anomalies identified within ECDIS including ENC issues;
- .15 acts of piracy and armed robbery against ships;
- .16 tsunamis and other natural phenomena, such as abnormal changes to sea level;
- .17 World Health Organization (WHO) health advisory information; and
- .18 security-related requirements.<sup>11</sup>

### 4.3 Sub-area warnings

4.3.1 Sub-area warnings broadcast information which is necessary for safe navigation within a Sub-area. They will normally include all subjects listed in 4.2.3 above, but will usually affect only the Sub-area.

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<sup>11</sup> In accordance with the requirements of the *International Ship and Port Facility Security (ISPS) Code* only.

#### **4.4 Coastal warnings**

4.4.1 Coastal warnings broadcast information which is necessary for safe navigation within areas seaward of the fairway buoy or pilot station, and should not be restricted to main shipping lanes. Where the area is served by NAVTEX, it should provide navigational warnings for the entire NAVTEX service area. Where the area is not served by NAVTEX, it is necessary to include all warnings relevant to the coastal waters up to 250 miles from the coast in the International SafetyNET service broadcast.

4.4.2 Coastal warnings should include at least the subjects in 4.2.3.

#### **4.5 Local warnings**

4.5.1 Local warnings broadcast information which covers inshore waters, often within the limits of jurisdiction of a harbour or port authority. They are broadcast by means other than NAVTEX or SafetyNET, and supplement coastal warnings by giving detailed information within inshore waters.

### **5 THE STRUCTURE OF NAVIGATIONAL WARNINGS**

#### **5.1 Numbering**

5.1.1 Navigational warnings in each series should be consecutively numbered throughout the calendar year, commencing with 1/YY at 0000 UTC on 1 January.

5.1.2 Navigational warnings should be transmitted in reverse numerical order on scheduled broadcasts.

#### **5.2 Language**

5.2.1 All NAVAREA, Sub-area and coastal warnings should be broadcast only in English in the International NAVTEX and SafetyNET services in accordance with IMO resolution A.706(17), as amended.

5.2.2 In addition to the required broadcasts in English, NAVAREA, Sub-area and coastal warnings may be broadcast in a national language using national NAVTEX and SafetyNET services and/or other means.

5.2.3 Local warnings may be issued in the national language and/or in English.

#### **5.3 "No warnings" message**

5.3.1 When there are no navigational warnings to be disseminated at a scheduled broadcast time, a brief unnumbered message should be transmitted to identify the broadcast and advise the mariner that there is no navigational warning message traffic on hand.

#### **5.4 Standard elements of messages**

5.4.1 The minimum information which a mariner requires to avoid danger is:

##### **HAZARD + POSITION**

It is usual, however, to include amplifying remarks in order to provide sufficient extra details to clearly identify the significance of the hazard and to assist mariners in recognizing and assessing its effect upon their navigation. The time, date and duration of the event should be included if known.

5.4.2 A message can have up to three parts: Preamble, Warning, and Postscript. Sections 6 and 7 of the Manual give guidance on the correct way of phrasing each part of the warning to achieve maximum impact with minimum broadcast time.

5.4.3 The text of a navigational warning should contain specific message elements, identified and ordered by the reference numbers shown in figure 4 and expanded in section 6. The format and structure of a message should ensure that each message element begins on a new line.

5.4.4 The first words of the text of every warning message should always be the message series identifier, followed by the consecutive number; this may be preceded on a separate line by the time of origin of the message.

## 5.5 Message elements table

| .1 MESSAGE ELEMENTS TABLE |                             |                           |
|---------------------------|-----------------------------|---------------------------|
| Part                      | Reference no. <sup>12</sup> | Message elements          |
| Preamble                  | 1                           | Message series identifier |
|                           | .2 2                        | .3 General area           |
|                           | .4 3                        | .5 Locality               |
|                           | .6 4                        | .7 Chart number           |
| Warning                   | 5                           | Key subject               |
|                           | .9 6                        | .10 Geographical position |
|                           | .11 7                       | .12 Amplifying remarks    |
| Postscript                | 8                           | Cancellation details      |

**Figure 4** – Message elements table showing standard elements for each part of a message

<sup>12</sup> Reference number is NOT to be included as part of the message text.

## 6 MESSAGE FORMAT OF NAVIGATIONAL WARNINGS

### Part 1 – PREAMBLE

#### Standard Message Element Reference 1 – MESSAGE SERIES IDENTIFIER

The first words of the text of every warning message should always be message series identifier followed by the consecutive number (N/YY)

##### **NAVAREA WARNING:**

NAVAREA III 496/14;  
NAVAREA VII 42/14

##### **SUB-AREA WARNING:**

BALTIC SEA NAV WARN 009/14

##### **COASTAL WARNING:**

AVURNAV TOULON 1015/14;  
WZ 345/14

*Notes:*

- i) The consecutive number re-starts each calendar year at 1/YY (Leading zeros are not mandatory).
- ii) For coastal warnings the consecutive number is not the same as the NAVTEX Number B<sub>3</sub>B<sub>4</sub>.

#### Standard Message Element Reference 2 – GENERAL AREA

The general area should be sufficient to identify which broad geographic region the message affects. The geographical name which is selected for the general area should be one that can be found on charts and in nautical publications.

##### **NAVAREA WARNING:**

"NORTH SEA" or "MALACCA STRAIT" would be correct; "NORTH AMERICA, EAST COAST" is too general.

##### **SUB-AREA WARNING:**

GULF OF FINLAND

##### **COASTAL WARNING:**

BAY OF BISCAY;  
CANTABRICO

*Notes:*

- i) If appropriate, the established meteorological forecast areas as defined in WMO publication No.9 Volume D and also published in various nautical publications may be used.
- ii) For a NAVAREA-wide event, e.g. failure of satellite or terrestrial positioning systems, a navaid identification acronym "GPS", "LORAN", etc. should be used instead of a general area.

**Standard Message Element Reference 3 – LOCALITY**

The locality should be stated in terms which allow the mariner to identify warnings which affect their passage without having to plot them. Locality will only need to be stated when it is considered necessary to refine the general area. The geographical name which is selected as locality should be one that can be found on charts and in nautical publications.

**NAVAREA WARNING:**

NORTHERN GRAND BANKS

PINANG APPROACH

**SUB-AREA WARNING:**

STORA MIDDELGRUND

**COASTAL WARNING:**

BARRA DE PARANAGUA – CANAL DA GALHETA

*Note:*

- i) If appropriate the established meteorological forecast areas as defined in WMO publication No.9, Volume D and also published in various nautical publications may be used.

**Standard Message Element Reference 4 – CHART NUMBER**

For charted features, reference should be made to a national chart (not necessarily the largest scale) identified by the State abbreviation and chart number. Reference should also be made to an international chart number if one exists.

For maritime operations, mobile hazards or events which affect a wider sea area a chart number may not be required. If a chart number is not used particular care should be taken in defining the general area and locality.

**NAVAREA WARNING:**

Chart INDIA 32 (INT 754)

*Notes:*

- i) Warnings may refer to an Electronic Navigational Chart (ENC). In such cases, ENC cell numbers may be quoted, e.g. ENC: US3AK7RM
- ii) Chart or ENC cell numbers are not mandatory for coastal warnings which are only broadcast in the vicinity of the hazard.

## Part 2 – WARNING

### Standard Message Element Reference 5 – KEY SUBJECT

Key subjects referenced in paragraph 4.2.3 are considered suitable for broadcast as NAVAREA, SUB-AREA, or COASTAL Warnings. See examples in section 7.

### Standard Message Element Reference 6 – GEOGRAPHICAL POSITION

Geographical positions should always be given in degrees and minutes or in degrees, minutes and decimal minutes in the form:

|            |                    |
|------------|--------------------|
| Latitude:  | DD-MMN or DD-MMS   |
| Longitude: | DDD-MME or DDD-MMW |

or

|            |                          |
|------------|--------------------------|
| Latitude:  | DD-MM.mmN or DD-MM.mmS   |
| Longitude: | DDD-MM.mmE or DDD-MM.mmW |

|      |                      |
|------|----------------------|
| e.g. | 07-08N 039-17W       |
|      | 32-18.65S 165-02.81E |

Note that leading zeros should always be included. Three digits are used for reporting degrees of longitude.

Geographical positions should normally be given in WGS84 otherwise the datum should be quoted in the warning (e.g. if the chart quoted in the warning is based on another datum).

For warnings concerning the presence of dangerous wrecks or newly discovered rocks, shoals and reefs (ref: 4.2.3.2 and 4.2.3.7), the word LOCATED should only be used when the position of the hazard has been confirmed by a hydrographic survey. In all other cases the word REPORTED should be used.

Positions should only be quoted to the accuracy required. In many cases this will be less than the known accuracy. For example, it will often be sufficient to quote the position to the nearest whole minute of latitude and longitude when indicating the location of a charted feature. The best accuracy available (to a maximum of 0.01 minutes) should be used when broadcasting the position of new hazards. The same level of accuracy should always be quoted for both latitude and longitude.

When defining the limits of a polygon, positions should be listed in a clockwise direction starting from the North West corner.

Circular areas should be defined by a radius in nautical miles from a single point.

The use of the word "POSITION" or "POS" is not necessary.

### Standard Message Element Reference 7 – AMPLIFYING REMARKS

Amplifying remarks may be used to provide sufficient extra details to clearly identify the significance of the hazard and to assist mariners in RECOGNIZING and ASSESSING its effect upon their navigation.

Distances should be quoted in nautical miles and decimals.

The time, date and duration of the event should be included if known. The time standard for Navigational Warnings should always be UTC (ref: 2.2.1.40)

The accepted format for a Date Time Group (DTG) in the text of a message is as follows:  
DDHHMM UTC MoMoMo YY; e.g. 231642 UTC JUN 14