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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 regarding 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, as amended, in particular regulation V/5 (Safety of navigation – Meteorological services and warnings),

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

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),

FURTHER RECOGNIZING that the WMO GMDSS Marine Broadcast System needs to be fully in harmony with the IMO/IHO World-Wide Navigational Warning Services and able 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 1974 SOLAS Convention concerning radio communications for the Global Maritime Distress and Safety System (GMDSS),

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 IMO/WMO Worldwide Met-Ocean Information and Warning Service;

3. AUTHORIZES the Maritime Safety Committee to keep the annexed guidance document under review and update it as necessary in light of experience gained in its application, in accordance with the procedure set out in section 7 of the annex to the present resolution.

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 (1974 SOLAS Convention), chapter V (Safety of Navigation), as amended, regulation 5 (Meteorological services and warnings), states:

> "2 In particular, Contracting Governments undertake to carry out, in cooperation, the following meteorological arrangements:
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> .10 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 1974 SOLAS Convention. 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 coordinated 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 1974 SOLAS Convention 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 section 7. Proposed amendments should 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 coordinated broadcast and automatic reception on 518 kHz of maritime safety information by means of narrow-band direct-printing telegraphy using the English language[1];

.5 *International SafetyNET service* means the coordinated 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 1974 SOLAS Convention;

.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[2];

.7 *Maritime safety information (MSI)*[3] means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships;

.8 *METAREA* means a geographical sea area[4] 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 should not prejudice the delimitation of any boundaries between States;

.9 *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;

1 As set out in the IMO NAVTEX Manual.

2 As defined in WMO-No 558.

3 As defined in regulation IV/2 of the 1974 SOLAS Convention, as amended.

4 Which may include inland seas, lakes and waterways navigable by seagoing 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[5] 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 should 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 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;

.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 1974 SOLAS Convention;

.17 *Sub-Area* means a sub-division of a METAREA in which a number of countries have established a coordinated system for the promulgation of marine meteorological information. The delimitation of such areas is not related to and should not prejudice the delimitation of any boundaries between States; and

.18 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 resolution A.705(17) on Promulgation of Maritime Safety Information, as amended.

[5] Which may include inland seas, lakes and waterways navigable by seagoing 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 1974 SOLAS Convention, 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) on Provision of radio services for the GMDSS, Annex 3, paragraph 4, as amended.

3.1.2 Information has to 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 have to be made in accordance with the standards and procedures set out in the NAVTEX Manual.

3.1.4 SafetyNET broadcasts have to 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 have to be broadcasted 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 have to 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 Coordinating Panel.

3.2.2.2 Times of scheduled broadcasts under the international SafetyNET service are coordinated through the IMO SafetyNET Coordinating 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

Guidance for handling and formatting meteorological information is given in the revised 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 has to be broadcasted in English only 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 coordination are involved with only two of them:

.1 services for the High Seas, which will comprise:

.1 warnings of gales and storms;

.2 weather and sea bulletins, which have to 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 **s**ervices 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 sections 4.2 and 4.3.

4.2 Services for the High Seas

Services for the High Seas should consist of:

4.2.1 Warnings

4.2.1.1 Warnings have to 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 should include:

.1 type of warning;

.2 date and time of reference in UTC;

.3 location of disturbance in terms of latitude and longitude or with reference to well-known landmarks;

.4 extent of affected area; and

.5 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., have also to be issued, as necessary.

4.2.1.3 When no warnings for gales, storms or tropical cyclones are to be issued, that fact has to 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 should have the following content and order of items:

.1 date and time of reference in UTC;

.2 synopsis of major features of the surface weather chart; and

.3 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 should have the following content and order of items:

.1 the valid period of forecast;

.2 name or designation of forecast area(s) within the main MSI area; and

.3 a description of:

.1 wind speed or force and direction;

.2 sea state;

.3 visibility when forecast is less than five nautical miles; and

.4 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 should consist of:

4.3.1 Warnings

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

4.3.1.2 Warnings have to be given for:

.1 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);

.2 gales (Beaufort force 8 or 9) and storms (Beaufort force 10 or over); and

.3 ice accretion.

4.3.2 Synopses and forecasts

4.3.2.1 Synopses and forecasts should have the following content:

.1 a synopsis of major features of the surface weather chart;

.2 the valid period of forecast;

.3 name or designation of forecast area(s); and

.4 a description of:

.1 wind speed or force and direction;

.2 visibility when forecast is less than five nautical miles;

.3 ice accretion, where applicable; and

.4 sea and swell.

5 ISSUING AND PREPARATION SERVICES

5.1 Issuing service

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

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 COORDINATOR RESOURCES AND RESPONSIBILITIES

6.1 METAREA Coordinator resources

The METAREA coordinator should 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 coordinators, and with other data providers.

6.2 METAREA Coordinator responsibilities

6.2.1 The METAREA coordinator has to:

.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 coordinate 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 coordinator has to 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 coordinator has to further 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 coordinators 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 coordinators 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.

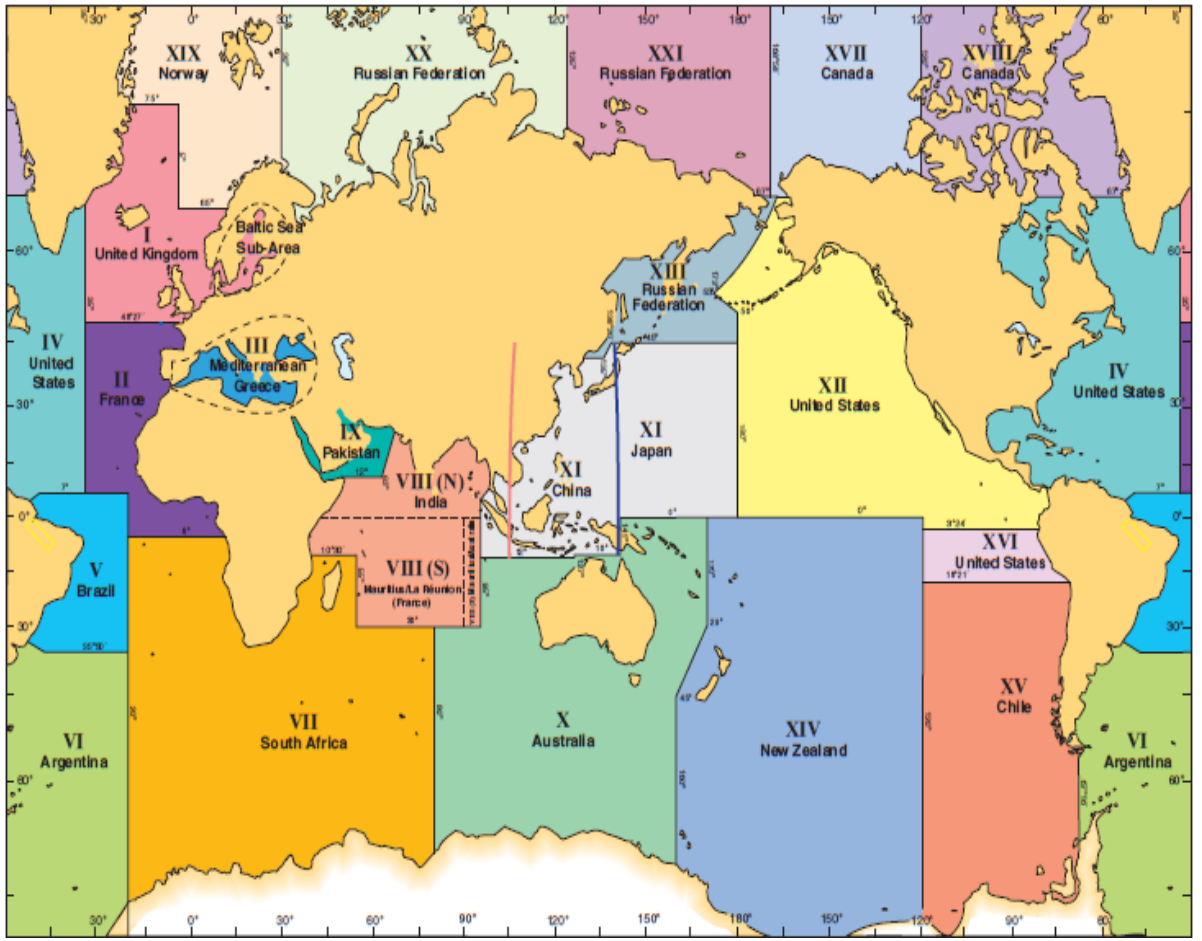
7.3 The agreement of the World Meteorological Organization and the active participation of other bodies should be sought according to the nature of the proposed amendments.

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 coordinating and promulgating meteorological warnings and forecasts



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