

Proposed amendments to the Draft MSI Manual Version dated 28 April 2008

Submitted by WMO

**SUMMARY**

Executive Summary: The text below contains proposed amendments for section 8 submitted by WMO

Action to be taken: Paragraph 2

Related documents: CPRNW10/4/2 and CPRNW10/4/2/1

1. The following paragraphs describe proposed amendments to the draft Joint MSI Manual, submitted by WMO. Some of those proposed amendments (8.2.9, 8.2.13, 8.5 and partly the new 8.3.12), prepared by or derived from recommendations from the JCOMM Expert Team on Maritime Safety Services (ETMSS), have not been submitted yet to WMO Executive Council for formal approval, thus not included into the Manual on Marine Meteorological Services (WMO-No. 558) in force (updated 2002). The final draft of this Joint MSI Manual must therefore be submitted to the WMO Secretary-General, who will formally present it to the forthcoming sixty-first session of the WMO Executive Council, which will be held at Headquarters of the WMO, in Geneva, Switzerland, from Wednesday 3, to Friday 12 June 2009, for endorsement and subsequent update of relevant WMO documentation, primarily and foremost the Manual on Marine Meteorological Services (WMO-No. 558) and the Guide to Marine Meteorological Services (WMO-No. 471), before any official approval by IMO. In order to submit the relevant documentation to the WMO Executive Council, the official request for endorsement by WMO of the final draft of the Joint MSI Manual should be received before 31 January 2009.

a) Several “should” have been replaced by “shall”, to be consistent with WMO-No. 558 (§ 8.1.2.3, 8.2.7, 8.2.9, 8.2.10, 8.3.1, last sentence of 8.3.3, 8.3.5, 8.3.6, 8.3.7, 8.3.8, 8.3.9, 8.3.10, 8.4.1, 8.4.5, 8.5.1, 8.5.3).

b) Modification of § 8.1.2.4 as follows : “The preparation and issue of warnings and weather and sea bulletins for areas of responsibility are co-ordinated in accordance with the procedures mentioned in the Manual on Marine Meteorological Services (WMO-No. 558), and summarized in the following section.”

c) Modification (simplification) of § 8.2.5 as follows:  
“For area(s) for which an Issuing Service has assumed responsibility, the Service should select the appropriate CES to service that area. In particular, the following procedures should be adopted:

(i) *For scheduled broadcasts:* These should be issued for broadcast over at least a single nominated satellite, in accordance with a pre-arranged schedule, co-ordinated by WMO.

(ii) *For unscheduled broadcasts:* These should be issued for broadcast under the SafetyNET Service through all Inmarsat ocean region satellites covering the Issuing Service's area of responsibility."

d) Modification of § 8.2.9 as follows: "Warnings shall be given in plain language. Synopses and forecasts should be given in plain language, however some abbreviations may be used, especially when the dimension of the bulletin need to be reduced for dissemination by low bandwidth systems, such as the NAVTEX Service (see § 8.2.13)."

e) Modification of § 8.2.10 as follows: "Warnings, synopses and forecasts intended for the International SafetyNET and the International NAVTEX Services shall be broadcast in English.

*Note:* Additionally, if a national Meteorological Service wishes to issue warnings and forecasts to meet national obligations under SOLAS, broadcasts may be made in other languages. These broadcasts will be part of a national SafetyNET or NAVTEX Services."

f) Modification of § 8.2.13 as follows: "The terminology in weather and sea bulletins should be in accordance with the "Multilingual list of terms used in weather and sea bulletins", which is available in Appendix 1.2 to the Manual on Marine Meteorological Services (WMO-No. 558) and in Annex 2.B to the Guide to Marine Meteorological Services (WMO-No. 471). Specific guidelines for the NAVTEX Service, including a list of common abbreviations for weather and sea messages, are also available in Appendix II.2 to the Manual on Marine Meteorological Services (WMO-No. 558). The list of common abbreviations is also given in **Section/Appendix XXX** hereto."

g) Add new paragraph 8.3.12: "Warnings for other severe conditions such as poor visibility, severe sea states (such as high swell, risk of abnormal waves, etc.), ice accretion, etc., shall also be issued, as necessary."

h) Modification of § 8.5.1 as follows: "The forecasts given in part III of weather and sea bulletins shall 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:
  - (i) wind speed or force and direction;
  - (ii) sea state (significant wave height/total sea)
  - (iii) visibility when forecast is less than five nautical miles; and

(iv) ice accretion, where applicable.”

i) Modification of § 8.5.2 as follows: “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 waves should also be included where possible.”

j) Modification of § 8.5.4 as follows: “Visibility should be given in descriptive terms. The following descriptive terms should be used:

- (i) very poor (less than 0.5 nautical miles)
- (ii) poor (0.5 to 2 nautical miles)
- (iii) moderate (2 to 5 nautical miles)
- (iv) good (greater than 5 nautical miles)”

k) Deletion of § 8.5.5

2. CPRNW is requested to consider the above-mentioned proposals during the discussion of the draft text of the Joint MSI Manual.

## 8 – METEOROLOGICAL WARNINGS AND FORECASTS

### 8.1 Provision of warnings and weather and sea bulletins (GMDSS application)

**8.1.1** The global maritime distress and safety system (GMDSS) application which is compatible with and required by the radiocommunication provisions of the 1988 SOLAS amendments via the NAVTEX, International SafetyNET and HF MSI services.

#### Principles

**8.1.2** The principles for the preparation and issue of warnings and weather and sea bulletins are as follows:

- .1 For the purpose of the preparation and issue of meteorological warnings and the regular preparation and issue of weather and sea bulletins, the oceans and seas are divided into areas for which national Meteorological Services assume responsibility.
- .2 The areas of responsibility together provide complete coverage of oceans and seas by meteorological information contained in warnings and weather and sea bulletins for the high seas.
- .3 The issue of meteorological warnings and routine weather and sea bulletins for areas not covered by NAVTEX ~~should~~ shall be by the International SafetyNET Service for the reception of maritime safety information (MSI) in compliance with SOLAS chapter IV “Radiocommunications”, as amended.

*Note:* In addition, national Meteorological Services may have to prepare and/or issue warnings and routine forecasts for transmission by an HF-direct printing telegraphy maritime safety information service for areas where such a service is provided for ships engaged exclusively on voyages in such areas.

- .4 The preparation and issue of warnings and weather and sea bulletins for areas of responsibility are co-ordinated in accordance with the procedures mentioned in the [Manual on Marine Meteorological Services \(WMO-No. 558\)](#) and the [Guide to Marine Meteorological Services \(WMO-No. 471\)](#), and summarized in the following section.
- .5 The efficiency and effectiveness of the provision of warnings and of weather and sea bulletins are monitored by obtaining opinions and reports from marine users.
- .6 Maritime Safety Information broadcasts are monitored by the originating Issuing Service to ensure the accuracy and integrity of the broadcast.

### 8.2 Procedures

#### Definitions

**8.2.1** 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 Maritime Safety Information (MSI) area 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.

**8.2.2** 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 and SafetyNET service to the designated area for which the Service has accepted responsibility under the broadcast requirements of the GMDSS. The Issuing Service is responsible for composing a complete broadcast bulletin on the basis of information input from the relevant Preparation Services, and for inserting the appropriate EGC header, as specified in annex 4(b) of the *International SafetyNET Manual*. The Issuing Service is also responsible for monitoring the broadcasts of information to its designated area of responsibility.

*Preparation and issue of weather and sea bulletins for the high seas*

**8.2.3** Weather and sea bulletins for the high seas shall include, in the order given hereafter:

- .1 Part I: Storm warnings;
- .2 Part II: Synopsis of major features of the surface weather chart and, to the possible extent, significant characteristics of corresponding sea-surface conditions; and
- .3 Part III: Forecasts.

**8.2.4** Weather and sea bulletins for the high seas may, in addition, include the following parts:

- .1 Part IV: Analysis and/or prognosis in IAC FLEET code form;
- .2 Part V: Selection of reports from sea stations; and
- .3 Part VI: Selection of reports from land stations.

*Notes:* (1) The reports included in part VI should be for a fixed selection of stations in a fixed order.

(2) Parts IV, V and VI may be issued at a separate scheduled time.

**8.2.5** For area(s) for which an Issuing Service has assumed responsibility, the Service should select the appropriate CES to service that area. In particular, the following procedures should be adopted:

~~*Notes:* (1) As there are several CESs which can serve an Ocean Region and hence an area of broadcast responsibility, Issuing Services may negotiate directly with the various CES operators to obtain the most favourable tariff (and service) consideration.~~

~~(2) In order to ensure reception of unscheduled broadcasts by shipping in an area which is served by more than one satellite and recognizing that the national Meteorological Services will not know to which of these satellites the ship's equipment is tuned, the following procedures should be adopted by Issuing Services:~~

(i) *For scheduled broadcasts*: These should be issued for broadcast over at least a single nominated satellite, in accordance with a pre-arranged schedule, co-ordinated by WMO.

(ii) *For unscheduled broadcasts*: These should be issued for broadcast under the SafetyNET Service through all Inmarsat ocean region satellites covering the Issuing Service's area of responsibility.

**8.2.6** Weather and sea bulletins shall be prepared and issued at least twice daily.

**8.2.7** The issue of the weather and sea bulletins ~~should~~ shall be at a scheduled time and be in the following sequence: part I to be followed immediately by part II and then part III. A schedule of transmission start times for these bulletins has been compiled for all MSI areas and the CESs which serve the areas and takes into consideration, *inter alia*, the existing WMO synoptic times for observations, data analysis and forecast production. Additionally, as these broadcast schedules for the International SafetyNET Service have to be co-ordinated, under the aegis of WMO, with other organizations such as IHO, Issuing Services should not independently change or request WMO to arrange frequent alterations to these co-ordinated and published schedules.

**8.2.8** Issuing Services must ensure that the correct EGC message addressing formats are adhered to for all warning and forecast messages intended for broadcast by a CES.

**8.2.9** Warnings ~~shall be given in plain language.~~ ~~–s~~ Synopses and forecasts should be given in plain language, ~~but~~ however some abbreviations may be used, especially when the ~~volume~~ dimension of the bulletin need to be reduced for dissemination by a low bandwidth systems, ~~like~~ such as the NAVTEX Service for example (see § 8.2.13).

**8.2.10** Warnings, synopses and forecasts intended for the International SafetyNET ~~and the International NAVTEX~~ Services ~~should~~ shall be broadcast in English.

*Note:* Additionally, if a national Meteorological Service wishes to issue warnings and forecasts to meet national obligations under SOLAS, broadcasts may be made in other languages. These broadcasts will be ~~a~~ part of a national SafetyNET ~~or~~ NAVTEX Services.

**8.2.11** In order to ensure the integrity of the warnings and forecasts being received by mariners, it is essential that Issuing Services monitor the broadcasts which they originate. Monitoring is especially important in a highly automated system which is dependent on careful adherence to

procedure and format. This may be accomplished by the installation of an EGC receive-capability at the Issuing Service's facility.

*Note:* Each Issuing Service may use the EGC receiver to check the following:

- (1) That the message has been broadcast;
- (2) That the message is received correctly;
- (3) That cancellation messages are properly executed; and
- (4) Any unexplained delay in the message being broadcast.

**8.2.12** The language of the synopsis should be as free as possible from technical phraseology.

**8.2.13** The terminology in weather and sea bulletins should be in accordance with the “Multilingual list of terms used in weather and sea bulletins”, [which is available in Appendix 1-2 of the Manual on Marine Meteorological Services \(WMO-No. #558\) and in Annex 2-B of the Guide to Marine Meteorological Services \(WMO-No. #471\). Specific guidelines for the NAVTEX Service, including ~~and a list of common abbreviations to use for NAVTEX products~~ for weather and sea messages, are also available in Appendix II.2 to the Manual on Marine Meteorological Services \(WMO-No. #558\). The list of common abbreviations is also given in \[Section/Appendix XXX\]\(#\) hereto.](#)

*Note:* ~~The multilingual list of terms used in weather and sea bulletins is given in Annex 1-2.A of the Guide to Marine Meteorological Services (WMO No. 471) and in Appendix II-6 hereto.~~

### **8.3 Warnings**

**8.3.1** Warnings ~~should~~ 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).

**8.3.2** The issue of warnings for near gales (Beaufort force 7) is optional.

**8.3.3** Warnings for gales, storms and tropical cyclones should have the following content and order of items:

- .1 type of warning,
- .2 date and time of reference in UTC,
- .3 type of disturbance (e.g. low, hurricane, etc.) with a statement of central pressure in hectopascals,
- .4 location of disturbance in terms of latitude and longitude or with reference to well-known landmarks.
- .5 direction and speed of movement of disturbance,
- .6 extent of affected area,
- .7 wind speed or force and direction in the affected areas,
- .8 sea and swell conditions in the affected area, and
- .9 other appropriate information such as future positions of disturbance.

Sub-items .1, .2, .4, .6, and .7 listed above ~~should~~ shall always be included in the warnings.

**8.3.4** When warnings are included for more than one pressure disturbance or system, the systems should be described in a descending order of threat.

**8.3.5** Warnings ~~should~~ shall be as brief as possible and, at the same time, clear and complete.

**8.3.6** The time of the last location of each tropical cyclone or extra-tropical storm ~~should~~ shall be indicated in the warning.

**8.3.7** A warning ~~should~~ shall be issued immediately ~~after~~ the need becomes apparent and broadcasted immediately on receipt, followed by a repeat after six minutes, when issued as an unscheduled broadcast.

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

**8.3.9** Warnings ~~should~~ shall be updated whenever necessary and then issued immediately.

**8.3.10** Warnings ~~should~~ shall remain in force until amended or cancelled.

**8.3.11** Warnings issued as part I of a scheduled bulletin do not need to be repeated after 6 minutes.

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

## **8.4 Synopses**

**8.4.1** The synopses given in part II of weather and sea bulletins ~~should~~ shall 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.

**8.4.2** Significant characteristics of corresponding wave conditions (sea and swell) should be included in the synopsis whenever this information is available, as well as characteristics of other sea-surface conditions (drifting ice, currents, etc.) if feasible and significant.

**8.4.3** Significant low-pressure systems and tropical disturbances which affect or are expected to affect the area within or near to the valid period of the forecast should be described; the central pressure and/or intensity, location movement and changes of intensity should be given for each system; significant fronts, high-pressure centres, troughs and ridges should be included whenever this helps to clarify the weather situation.

**8.4.4** Direction and speed of movement of significant pressure systems and tropical disturbances should be indicated in compass points and metres per second or knots respectively.

**8.4.5** Units used for speed of movement of systems ~~should~~ shall be indicated.

## **8.5 Forecasts**

**8.5.1** The forecasts given in part III of weather and sea bulletins ~~should~~ shall have the following content and order of items:



~~1.4~~ the valid period of forecast,

~~2.5~~ name or designation of forecast area(s) within the main MSI area, and

~~3.6~~ a description of:

(i) wind speed or force and direction;

(ii) ~~S~~ sea state (significant wave height/total sea)

(iii) visibility when forecast is less than ~~five~~ ~~six~~ nautical miles (~~ten kilometres~~);  
and

(iv) ice accretion, where applicable.

**8.5.2** 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 that normally covered by the forecast~~. In addition, phenomena such as breaking seas, cross seas, and abnormal/rogue waves should also be included, if feasible where possible.

**8.5.3** The valid period should be indicated either in terms of number of hours from the time of issue of the forecast or in terms of dates and time in UTC of the beginning and the end of the period.

**8.5.4** Visibility should be ~~indicated in nautical miles or kilometres or~~ given in descriptive terms. The following descriptive terms should be used:-

(i) ~~V~~very poor (less than 0.5 nautical miles)

(ii) ~~P~~poor (0.5 to 2 nautical miles)

(iii) ~~M~~moderate (2 to 5 nautical miles)

(iv) ~~G~~good (greater than 5 nautical miles)

~~8.5.5~~ ~~Units used for visibility should be indicated.~~

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