JCOMM EXPERT TEAM ON MARITIME SAFETY SERVICES (ETMSS) FIRST SESSION

Lisbon, Portugal, 11-14 September 2002

FINAL REPORT

JCOMM Meeting Report No. 15

WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (OF UNESCO)

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N O T E

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C O N T E N T S

GENERAL SUMMARY OF THE WORK OF THE SESSION

1. OPENING OF THE SESSION

1.1 Opening

1.1.1 The first session of the JCOMM Expert Team on Maritime Safety Services (ETMSS) was opened by its chairman, Mr Henri Savina (France), at 0930 hrs on Wednesday, 11 September 2002, in Meliá Confort Oriente Hotel, Lisbon, Portugal.

1.1.2 Mr Savina welcomed participants to the session and expressed his considerable appreciation to the Instituto de Meteorologia, the local organizer, Ms Alice Soares dos Santos and all the staff for the excellent and efficient organization of and support for the meeting. He noted that this meeting was the first meeting on maritime safety services since the GMDSS broadcast officially started in February 1999. While noting the successful start of the GMDSS, he pointed out that there was room for improvement. He listed the issues to be discussed during the meeting, including coordination of formats and practices for the International NAVTEX service, information in graphical form in the GMDSS and feedback from users. He stressed the importance of contributions by each and every participant for the success of the meeting. Mr Savina then introduced Mr Olavo Rasquinho, Chief of International Affairs in the Instituto de Meteorologia, to address the session.

1.1.3 Mr Rasquinho, on behalf of the Instituto de Meteorologia and its President Mr Fernando Quintas Ribeiro, welcomed participants to Lisbon. He stressed that the history of Portugal was profoundly connected with the oceans, noting the tremendous adventures by Portuguese mariners and scientists, begun in the XIV Century and continued in the XV and XVI centuries, which had established links with a variety of countries around the world. He mentioned that in the Portuguese literature the seas and oceans were always present. He further noted that EXPO 98, dedicated to the oceans, had been held in the area of this meeting venue, the Park of the Nations. He also mentioned that, in 1998, a poster competition for children had been launched by WMO in cooperation with the Instituto de Meteorologia and the United Nations, taking an opportunity of the World Meteorological Day for "Weather, oceans and human activity". He noted that the organization of this meeting was the result of a joint cooperation between the Instituto de Meteorologia and WMO. In conclusion, he stressed that the President of the Instituto de Meteorologia believed that this meeting would contribute to facilitating the dissemination of information, under the sphere of the GMDSS, specially in graphical form, to standardize the meteorological bulletins, to a better coordination of NAVTEX broadcasts, and eventually to the safeguard of lives and property in the maritime community.

1.1.4 On behalf of the Secretary-General of WMO, Professor G.O.P. Obasi, and the Executive Secretary IOC, Dr P. Bernal, the Secretariat representative also welcomed participants to the first session of the ETMSS. In doing so, she expressed the very sincere appreciation of both Organizations to the Government of Portugal, to the Instituto de Meteorologia and its President Mr Fernando Quintas Ribeiro, and especially to the local organizer, Ms Alice Soares and her staff, for the excellent facilities provided as well as for the tremendous organizational effort already put into preparations for the meeting. The Secretariat representative then gave a special welcome and thanks to the representatives of the International Maritime Organization (IMO), the International Hydrographic Organization (IHO), and the International Mobile Satellite Organization (IMSO), for the support and cooperation which they had shown to WMO in the past many years of development and implementation of the WMO Marine Broadcast System, and particularly to Captain Gordon Mackie, formerly of the UK Meteorological Office and now WMO consultant, who could truly be considered the chief architect of and driving force behind the system. She stressed that maritime safety services were one of the most important activities within JCOMM. She supported the remarks of the chairman concerning the objectives and importance of the meeting. She assured participants of the full support of the Secretariat, both during the meeting and throughout the implementation of the work programme of the Team, and she concluded by wishing all participants a very successful meeting and an enjoyable stay in Lisbon.

1.1.5 The list of participants in the session is given in Annex I.

1.2 Adoption of the agenda

1.2.1 The Team adopted its agenda for the session on the basis of the provisional agenda. This agenda is given in Annex II.

1.3 Working arrangements

1.3.1 The Team agreed its hours of work and other practical arrangements for the session. The documentation was introduced by the Secretariat, and participants made short introductions of themselves, to facilitate future interactions.

1.3.2 The Team was informed that the European Project Maxwave meetings, the 5th consortium meeting (11-12 September) and the 2nd Senior Advisory Panel (12-13 September), were being held in parallel to this session. The Team was pleased to note that a presentation of this project for ETMSS-I participants was planned to be given on the afternoon of Friday, 13th September. Although this is not an official part of the meeting, the participants were encouraged to attend this presentation. The presentations will be available at the web site (http://w3g.gkss.de/projects/maxwave/).

2. REPORT OF THE CHAIRMAN AND THE SECRETARIAT

2.1 Report of the chairman

2.1.1 The Team noted with appreciation the report by the chairman on his own activities within JCOMM (former CMM) of relevance to Maritime Safety Services and to the implementation of the work of the Team. The Team was also informed that the chairman of the Team was recently appointed as the Rapporteur on Regional Marine Meteorological and Oceanographic Services for WMO Regional Association VI (RA VI) (Europe).

Harmonization of Metarea Sub-areas

2.1.2 The Team was pleased to note that a coordinated common system for the designation of marine forecast areas in Metarea II had been agreed by the relevant Members (France, Morocco, Portugal, and Spain). The system was also coordinated with Metarea I and the new areas have been used in operational forecasts by these Members since 4 February 2002. France also adopted the sub-areas for Metarea I for its national use as defined by the United Kingdom. RA VI (Europe), at its thirteenth session (Geneva, May 2002) adopted Resolutions 17 and 18 (XIII-RA VI) to include this common system, as well as a similar system in Metarea III (W), in WMO publication No. 9, Volume D and in the Manual on Marine Meteorological Services (WMO-No.558).

2.1.3 The Team recalled that JCOMM-I recognized that a similar harmonization might also be required in other Metareas and that it recommended to the Issuing Services concerned to review the situation and to endeavour to coordinate the work necessary to effect such harmonization, as appropriate.

Work Plan

2.1.4 The Team was presented with the work plan, which was reviewed by the first session of the Services Coordination Group (SCG-I) (Geneva, April 2002).

2.1.5 The work plan was thoroughly reviewed under relevant agenda items during the session. The revised work plan is in Annex III.

2.2 Report of the Secretariat

2.2.1 The Team recalled that JCOMM was formally established in 1999 and that its first session took place in Akureyri, Iceland, in June 2001. Bearing in mind that the best way to activate and motivate the main JCOMM subsidiary bodies is to have them meet early in the intersessional period, to prepare work strategies, address priority issues identified by JCOMM-I and allocate specific tasks, a work programme was prepared which allowed for the Management Committee and all PA Coordination Groups to meet in the first half of 2002. In addition to these meetings, the programme includes other subsidiary bodies and related meetings, in particular those of a regular nature (e.g. the present session of the Expert Team on Maritime Safety Services) or planned prior to JCOMM-I, as well as some training events directly under JCOMM.

2.2.2 The Team noted that, specifically with regard to the work of the Expert Team on Maritime Safety Services, since JCOMM-I the Secretariat had:

(i) Hosted sessions of the IMO International NAVTEX Co-ordinating Panel and International SafetyNET Co-ordinating Panel at the WMO headquarters in Geneva in July 2001;

(ii) Continued to interact closely with the IMO, in particular though a WMO consultant Captain Gordon Mackie;

(iii) Interacted with Baltic countries regarding finalizing adoption of the Baltic NAVTEX guidelines;

(iv) Supported the chairman of the Expert Team on Maritime Meteorological Services, in particular through distribution of relevant questionnaires.

2.3 Report of SafetyNET and NAVTEX

2.3.1 Mr Steve Godsiff, Chairman of the IMO International NAVTEX Co-ordinating Panel presented a report on behalf of the Panel. He first thanked the meeting for allowing the Panel to participated in this meeting. He opened his briefing by outlining some of the history of NAVTEX, pointing out that NAVTEX is, by today's standards, old technology and were it to be set up today, it would not resemble the actual system that we have today. Therefore, since it takes many years to change, we must make the most of what we have. The briefing outlined the system and how it operates, pointing out how some NAVTEX stations can interfere with one another. He concluded by pointing out that he wished merely to raise questions which would lead to further discussion during the meeting.

2.3.2 The Team noted that the NAVTEX Panel would welcome comments on any of the issues mentioned, either in plenary or in the margins of the meeting. Of particular interest would be comments on:

- the provision of different data for national and international services;
- consistent formatting of meteorological information on the international NAVTEX frequency and the use of common abbreviations;
- responsibilities of Issuing Services, as METAREA Coordinators, with respect to standards and content of meteorological data on NAVTEX within their areas of responsibility, and the potential role of METAREA Coordinators in assisting to resolve interference issues within their area;
- any aspect of the new draft NAVTEX manual.

2.3.3 Although NAVTEX remains an effective means of promulgating MSI, this effectiveness is threatened by pressure on the broadcast time slots caused by continually increasing volumes of data. This is further exacerbated by a variety of formats and no common method for abbreviating some of the data. In turn, this is leading to more frequent cases of interference between NAVTEX stations and difficulty by some users of readily identifying those items within a broadcast that are of importance to

them. Action by data providers and system administrators is essential in order to control the volumes of data and thereby reduce the risk of significant interference between broadcasting stations. Consistency of data formatting world-wide, particularly on the frequency of the international NAVTEX service, is also highly desirable.

2.3.4 The issues raised here were discussed under relevant agenda items. In particular, the issue of the volume of meteorological messages was discussed under agenda item 6.3.

3. STATUS OF IMPLEMENTATION OF THE WMO GMDSS MARINE BROADCAST SYSTEM

3.1 Reports by Issuing Services

3.1.1 The Team noted with interest the reports from Issuing Services (Argentina, Australia, Brazil, China, France, Greece, India, Japan, New Zealand, Pakistan, Russian Federation, South Africa, United Kingdom and United States) on their experiences, progress and success in implementing the system within their respective Metareas. These reports also covered, wherever possible, feedback from users as well as experiences with regard to the coverage and implementation of meteorological broadcasts through the International NAVTEX Service. These two latter aspects are dealt with under other agenda items. Those reports will be published separately in electronic form as a JCOMM Technical Report.

3.1.2 From these reports as well as the verbal information presented by the representatives of the Issuing Services, the group noted the following specific points:

- Brazil expressed its concern regarding the cost of communication of their SafetyNET broadcast. Pakistan informed that it also had difficulties in communication expenditures and with delay of transmissions.

- France informed that an automatic monitoring system had been developed. Its software will be made available to other Issuing Services upon request. USA also operates an automatic monitoring system.

- South Africa informed that, because of the lack of capacity and the infrastructure of the South African Weather Service (SAWS), it is impossible to routinely provide services south of 40°S in Metarea VII and that vessels sailing in this region have to request forecasts.

- UK informed that there have been some problems with interference between the Ostend and UK international service NAVTEX broadcast.

- USA informed that to solicit feedback from mariners will be very beneficial to their provision of marine meteorological services.

- USA noted that the rapid growth of low cost communications may make it possible for the collection of marine observations from mariners who are not a part of the formal Voluntary Observing Ship (VOS). For this activity, it would be a benefit to develop a new code form which would include greater resolution of sea state and allow differentiation from VOS observations.

- Lack of real time data to be used for forecasts and the necessity of the promotion of the VOS were mentioned by some countries.

3.1.3 The Team urged all the Issuing Services to inform the Secretariat of any changes to their transmission schedules for the WMO marine broadcast system for the GMDSS SafetyNET services, to the maps of subdivisions of the Metareas as well as to the list of national contact points for the system, if possible well in advance of the implementation of the changes, so that these can be reflected in Volume D of WMO-No. 9, and also conveyed to users in various other ways (ALRS, web site, etc.)

(**Action**: Issuing Services) The updated schedule and list of national contact points for the WMO GMDSS marine broadcast system are given in Annexes IV and V.

3.1.4 The Team was informed that the RA I Tropical Cyclone Committee for the South-West Indian Ocean, at its fifteenth session (Moroni, Comoros, September 2001), concluded that the eastern boundary of the South West Indian Ocean cyclone basin should continue to be 90°E, although the eastern boundary of Metarea VIII was 95°E. The Team noted that this inconsistency had caused a possible lack of cyclone warnings in Metarea VIII(S). Based on the discussion and proposal by Australia and France, the Team agreed that Australia should be the Issuing Service for cyclone warnings for the area between 90°E and 95°E in Metarea VIII(S). The Team further agreed that this should be commenced on a trial basis as soon as possible, and that the relevant amendment should be included in the Manual on Marine Meteorological Services (WMO-No. 558) to designate Australia as an Issuing Service in Metarea VIII(S). (see agenda item 7.2)

3.1.5 The Team noted that RSMC La Réunion would also extend its area of responsibility from 30°S to 40°S. This should be made official at the next session of the RA I Tropical Cyclone Committee for the South-West Indian Ocean to be held in 2003. During this session, France and Australia should decide if there should be any modification requested within GMDSS Metarea X.

3.2 Review of the proposal by the Kenya Meteorological Department

3.2.1 The Team recalled that at JCOMM-I, Kenya had proposed that the Kenya Meteorological Department (KMD) should be designated as a Preparation Service within Metarea VIII. JCOMM-I requested the Team to review the question regarding such designation as a Preparation Service.

3.2.2 Mr Ali Mafimbo (Kenya) presented a report on the proposal. Some comments on the KMD proposal are given below:

- The area that Kenya was proposing (area between 10°S and 12°N, west of 60°E) covers three Metareas. If the proposal was accepted as it is, considerable revision of subareas would be needed.
- Any changes to the International SafetyNET services should ensure an improvement to the existing services.
- The transmission cost should be considered.
- There is no direct GTS link between India and Kenya.
- Weather bulletins and warnings could be transmitted through the national SafetyNET and/or NAVTEX services.

3.2.3 Unfortunately, Mauritius was not represented at this session, thus it was not possible to make any decision during this session. The Team urged the Members concerned (France, India, Kenya and Mauritius) to continue detailed discussion on various aspects, including technical issues. It was informed that the Second WIOMAP Implementation Planning Meeting and the First Conference of the Indian Ocean GOOS (IOGOOS-I) (November 2002, Mauritius) would give an opportunity for all these countries to meet and to discuss this matter. Kenya was requested to report to the ETMSS chair on the results of the discussion. (**Action**: France, India, Kenya, Mauritius and the Secretariat)

3.3 Designation of additional Metareas

3.3.1 The Team recalled that JCOMM-I had agreed on the proposal, provisionally already agreed by IMO, IHO and IMSO, for the creation of two new Nav/Metareas, numbered 17 and 18, to facilitate the provision of maritime safety services to shipping in Russian Arctic waters. The Team was informed that, subsequently, the question of the establishment of new Nav/Metareas northward of the Arctic coast of the Russian Federation had been reviewed at the sixth session of the IMO Sub-Committee on Radio Communications and Search and Rescue (COMSAR) (London, February 2002) and that COMSAR-6 finally had accepted the formal proposal from the Russian Federation that these two Nav/Metareas 17 and 18 are no longer required. However, the Team was also informed that there was ongoing discussion between the Russian Federation and IMO regarding the organizational framework

within which MSI is to be promulgated for the area currently outside the World Wide Navigational Warning Service (WWNWS), along the northern coast of the Russian Federation.

3.3.2 Based on the agreement in IMO COMSAR-6 as noted above, the Team agreed that it may be necessary to amend relevant parts of the Manual on Marine Meteorological Services (WMO-No. 558), to remove references to Metareas 17 and 18, depending on the decision made at IMO COMSAR-6 being maintained or a new organizational structure proposed. The Team agreed that, in this case, the ETMSS chair should submit a recommendation to the JCOMM Co-presidents regarding this modification to the WMO marine broadcast system for the GMDSS (**Action**: ETMSS Chair).

4. User feedback

4.1 Review of the results of the monitoring of Marine Meteorological Services (MMS)

4.1.1 Considering that direct interaction with and feedback from users is an essential part of the provision of high quality and valuable marine services, a marine meteorological services monitoring programme was initiated by the former Commission for Marine Meteorology (CMM) in 1981. The International Chamber of Shipping (ICS) undertook to distribute a questionnaire to as many vessels as possible to obtain user feedback on the meteorological input to the GMDSS SafetyNET and NAVTEX services.

4.1.2 The most recent survey was implemented in 2000. This survey was coordinated by the WMO Consultant, Captain Gordon Mackie and the questionnaires were distributed by the international network of Port Meteorological Officers (PMOs). The results of the survey were presented by Captain Mackie.

4.1.3 The Team recognized that:

- In general, the results of the 2000 survey indicated that the GMDSS Marine Meteorological Services were of high quality, reliable, accurate and readily available, and continued to be of great importance to mariners. There had been almost total agreement among responding mariners confirming the usefulness of these services.

- Although user response to current MMS was generally favorable, nevertheless, there was room for improvement in certain geographical areas including in particular the Indian Ocean, as well as in various aspects of service delivery.

- The user response indicated strongly that the monitoring of MMS was a very useful diagnostic tool for improving the quality and value of these services, which was also appreciated by the users, and should be continued on a systematic basis.

- The great majority of respondents emphasized the usefulness of radio facsimile products. However there was also significant dissatisfaction with the quality of these services and unannounced terminations.

4.1.4 Mr Chris Pink (IMO NAVTEX Co-ordinating Panel) informed the Team that, from their survey on NAVTEX in general, a large number of mariners showed a concern on lack of commonality and ease of understanding with regard to weather information.

4.1.5 In the context of the user feedback, the Team noted with interest that the National Weather Service (NWS) (USA) had conducted a series of eight workshops around the US attended by mariners. High seas users generally expressed a great deal of interest in radiofacsimile charts. The most common comments with respect to the GMDSS related to a desire to obtain more forecast data via NAVTEX and complaints about multiple copies of US High Seas forecasts being received via SafetyNET.

4.2 Future gathering of user responses

4.2.1 JCOMM-I agreed on the continuation of the monitoring of MMS and requested the Team to review the survey format and to consider the possibilities for disseminating the survey in the future to ships' masters via SafetyNET. The SCG-I reviewed this matter and suggested that the Team consider including in the survey questions relating to service delivery/receipt via Internet.

4.2.2 The survey is directed primarily to users (shipping) subject to SOLAS regulations. SCG-I recognized the need to access, and seek input from a much wider user community than those subject to SOLAS and requested the Team to additionally develop a broader survey questionnaire, appropriate to all marine users.

4.2.3 Mr Savina presented a proposal on the revision of a survey questionnaire and on the possibilities for disseminating/receiving the survey questionnaire via SafetyNET and/or Internet. The proposal implied that two slightly different questionnaires be developed, one for vessels under SOLAS regulations, the second for all other ships.

4.2.4 The Team reviewed the proposal by its chairman and considered various possibilities regarding the form and means of dissemination, and methods of analyzing the answers to the questionnaire. It came to the conclusion that the ideal solution would be to develop a single web-based questionnaire, divided into several parts that users would have to fill in or not, depending upon their relationships to SOLAS regulations. The questionnaire should be complemented with adequate software for use by relevant Issuing Services to ease the analysis of the answers (e.g. the identification of the Metarea concerned would direct the answer to the contact point in the relevant Metarea, etc.). It would be advertized in the meteorological bulletins themselves or through separate service messages, as appropriate.

4.2.5 The Team recognized that access to the web at sea, although technically possible, was difficult and costly because it needed a relatively large bandwidth. It nevertheless considered that the questionnaire was not necessarily to be filled in at sea, but rather regarded as a "door" permanently open for dialogue between users and service providers. It further emphasized that the web-based questionnaire was not to replace, but to supplement, the traditional paper-based surveys. In particular, the next regular survey on the four-yearly basis should be conducted as before.

4.2.6 The Team also noted with interest that the NWS (USA) offered a "Feedback Button" on its marine web page (http://www.nws.noaa.gov/om/marine/home.htm) which had proved a highly effective means to solicit feedback from a variety of different marine customers and to respond quickly to their needs.

4.2.7 The Team agreed that many practical details regarding the web-based questionnaire had to be worked out, including the development of accompanying software, the definition of "ideal" periodicity for the answers, etc. It entrusted that task to its chairman, with the assistance of Phil Parker (Australia), Philippe Dandin (France), Ian Hunter (South Africa), Nick Ashton (U.K.) and Tim Rulon (USA). The deadline for submission of a project to the ETMSS is July 2003. (**Action**: ETMSS chair, Phil Parker, Philippe Dandin, Ian Hunter, Nick Ashton, and Tim Rulon)

5. INFORMATION DELIVERY

5.1 Weather information in graphical form for GMDSS

5.1.1 As stated in the 2001 amendments to SOLAS, Chapter V, weather information in graphical form should be made available for shipping. However, HF radio-facsimile broadcasts are gradually being curtailed or eliminated completely in a number of countries, for reasons often beyond the control of NMSs. A study is being undertaken by IMSO, and Inmarsat Ltd., in conjunction with Australian Bureau of Meteorology to investigate the feasibility of transmitting SafetyNET graphical products via Inmarsat C.

5.1.2 The Team noted the current activities of the United States and France to make available graphic charts and gridded data via the Internet, e-mail and means other than SafetyNET for receipt on board ships.

5.1.3 Mr Phil Parker (Australia) reported on progress with the project. The report by Mr Parker is in Annex VI. He stressed the necessity to find a cost-effective way to provide graphical information services.

5.1.4 The Team was pleased to note that the technical evaluation of the feasibility of operating a proposed service had progressed. At the same time, it noted that there were still a number of issues to be solved, including the high possibility of time constraint in using Inmarsat-C for this purpose.

5.1.5 In this regard, the Team recalled that SCG-I had noted that there exists a variety of other ways of making available meteorological information for shipping in graphical form, including ECDIS. Mr Henri Savina presented a proposal for the appointment of a Rapporteur on Weather information in graphical form for GMDSS, as suggested by SCG-I.

5.1.6 The Team fully agreed on the necessity and importance for such a rapporteur and reviewed and revised the proposed terms of reference (Annex VII). The Team accepted with appreciation the agreement by Mr Ian Hunter (South Africa) to undertake the role of the rapporteur. He was requested to submit a report, after consultation with the ETMSS chairman, to the second session of the Services Coordination Group (SCG-II), which is tentatively planned to be held in June 2004. (**Action**: Mr Ian Hunter)

5.1.7 At the same time, the Team agreed that the project by Australia, IMSO and Inmarsat could provide an effective means for weather information delivery in graphic form. It expressed its appreciation to Australia and Inmarsat for their efforts to implement the project and encouraged them to bring it to as rapid as possible a conclusion. (**Action**:IMSO, Inmarsat, Australia)

5.2 Web site

5.2.1 The Team noted with appreciation a proposal for implementing a unique web site for GMDSS services presented by Mr Savina. The Team noted that SCG-I had recognized the desirability of having such a web site, including at least, in a first version, the real time bulletins on warnings from Issuing Services, to support ships (both SOLAS and non-SOLAS) with the capability for Internet connection.

5.2.2 The Team agreed with the basic structure of the web site proposed by Mr Savina. It emphasized that the site should offer the possibility of consulting pages containing only textual information because of the bandwidth problem and be constructed in a way fully consistent with that developed for WMO Publication No. 9, Vol. D. It also recommended to review the possibility to offer e-mail access to the bulletins. It expressed its appreciation to France for its kind offer to develop and host a first version of the site. (**Action**: France)

5.2.3 The Team agreed that "**marineweather.gmdss.org**" would be appropriate as the name for the web domain. It requested the Secretariat to register a suitable name. (**Action**: Secretariat)

5.2.4 Issuing Services were requested to make sure that their bulletins (warnings and scheduled) are available via the GTS and to provide France with their GTS Headers so that all the bulletins could be posted on the web site. The Team agreed that participants in the meeting would act as tentative focal points. The Issuing Services will be requested to formally designate their focal point on this matter. (**Action**: Issuing Services, Secretariat).

6. INTERNATIONAL COORDINATION OF NAVTEX BROADCASTS

6.1 Baltic Sea

6.1.1 The Team recalled that the second session of the CMM Ad Hoc Group on the GMDSS (AHGMDSS-2) (Toulouse, France, September 1998) had been presented with draft guidelines on coordination of meteorological safety information provided for shipping in the Baltic Sea area through the International NAVTEX Service, by Mr Ziemianski (Poland), Rapporteur on the Coordination of NAVTEX Services in the Baltic Sea basin. The guidelines for the system have been implemented and operated on a trial basis since April 1998. The guidelines were submitted to the Permanent Representatives of the countries concerned for their formal approval in 1999. JCOMM-I agreed that, once the guidelines had been approved in that way, they should be included in Volume II of the Manual on Marine Meteorological Services (WMO-No. 558), in the section covering marine services within WMO RA VI (Europe).

6.1.2 The Team noted with appreciation the report jointly submitted by Finland and Sweden presented by Ms Marja-Leena Komulainen (Finland). The Team was pleased that Finland and Sweden had resolved the remaining issues, and that the guidelines were now fully accepted by the countries concerned. The agreed guidelines are in Annex VIII.

6.1.3 The Team agreed that the guidelines should be submitted for approval to the fourteenth session of RA VI planned to be held about the last quarter of 2005. It requested Finland and Sweden jointly to make this submission with the assistance of the Secretariat. (**Action**: Finland and Sweden)

6.1.4 The Team once again congratulated and expressed its considerable appreciation to all concerned in the development of the guidelines, especially Mr Ziemianski, for the difficult and detailed work which they had successfully accomplished, which will be of great benefit to all maritime users in the Baltic region.

6.1.5 The Team noted that the Finnish Meteorological Institute (FMI) and the Swedish Meteorological and Hydrological Institute (SMHI) had been discussing certain aspects of the guidelines, in particular, criteria for the issue of warnings, and that FMI and SMHI suggested the Team develop more complete criteria for warnings and set up a task team to assist with this problem. However, the Team recognized that the problem was best resolved by a cross-border discussion between the FMI and the SMHI. Therefore it agreed that, at this stage, it was not necessary to develop more complete criteria for warnings. It agreed that such an issue should be discussed mainly by countries concerned, receiving support by the Team as appropriate.

6.2 Elsewhere

6.2.1 The Team agreed that there were probably requirements in some regions for international coordination of forecasts and warnings broadcast via NAVTEX. The Team would provide support to facilitate the discussions amongst the countries concerned, on request.

6.3 Guidelines for bulletins broadcast by NAVTEX

6.3.1 The Team recalled that JCOMM-I had recognized that, because the International NAVTEX broadcast system is not well adapted to relatively long weather forecasts, some NMSs responsible for compiling meteorological data for this broadcast system encounter difficulties. These are mainly associated with the length of these reports, and consequently the risk of vessels not receiving these meteorological reports may be significant due to the broadcasts overrunning the allocated ten minutes time slots. The ETMSS chair had conducted a questionnaire survey on this matter and presented the results.

6.3.2 In this regard, Mr Savina also proposed specific guidelines for preparation of bulletins for NAVTEX broadcasting in the WMO Manual on Marine Meteorological Services (WMO-No. 58). The Team agreed that such text should be included in the Manual, following careful review. It agreed to establish a Task Team on Bulletins for NAVTEX broadcasts to prepare a comprehensive text for this purpose.

6.3.3 Captain Gordon Mackie presented a brief list of suggested abbreviations, by which it is estimated a general saving of about 20% in transmission time could be achieved. The Team agreed that such a list, extended if possible, would be valuable. It noted that some countries have already been using abbreviations, but that those abbreviations were not coordinated. It noted that the abbreviations should be easily understandable and internationally acceptable. The abbreviations used for aviation services could also be consulted. It agreed that the Task Team on Bulletins for NAVTEX broadcasts should also review the list of abbreviations, with a view to eventually submitting a full list to JCOMM-II, for adoption and inclusion in the Manual. Terms of reference and membership of this team is given in Annex IX. (**Action**: Task Team on Bulletins for NAVTEX broadcasts)

7. REVIEW OF WMO REGULATIONS AND OPERATIONAL INFORMATION

7.1 Guidelines for sea state description, rogue/freak waves

7.1.1 Based on the recognition by the first session of the CMM Subgroup on the Voluntary Observing Ships (VOS-I) (Athens, Greece, March 1999) and JCOMM-I of the necessity for standard terminology to describe the state of the sea and visibility in maritime safety broadcasts, questionnaire surveys on them have been undertaken by Mr Ian Hunter (South Africa) and Mr Savina.

Marine visibility

7.1.2 Mr Hunter presented the results of his survey on marine visibility definitions. A total of 56 NMSs responded to the survey. 28 out of 56 NMSs indicated that they were using descriptive terms in the table with minor differences. The majority of services indicated that they adhere to the supplied table (with minor differences such as the actual units employed). The Team agreed the limited accuracy of both the measurement and prediction of visibility at sea probably justified the continued use of descriptive terms.

7.1.3 The Team agreed with the proposal by Mr Hunter and that the descriptive terms described below should be included in the Manual on Marine Meteorological Services (WMO-No. 558). (see agenda item 7.2)

Very poor	Less than 0.5 nautical miles (nm)
Poor	0.5 nm to 2 nm
Moderate	2 nm to 5 nm
(Good)*	(greater than 5 nm)

* not mandatory

7.1.4 The Team also agreed that the NMSs should start using these descriptive terms on a provisional basis, pending the formal approval by JCOMM-II. (**Action**: NMSs, Secretariat)

Sea State and rogue/freak wave forecasts

7.1.5 Mr Hunter and Mr Savina also presented the results of the surveys on the terminology of sea state, and on sea state description and rogue/freak wave forecasts.

7.1.6 The Team agreed that information on sea state was very important to mariners, and that thanks to the recent development of wave models, etc, NMSs could provide more useful forecasts of sea state to mariners. Thus, the Team agreed that sea state (significant wave height /total sea) should be included in the weather and sea bulletins as a mandatory parameter and that swell information should also be provided if possible. It also agreed to include abnormal waves in the list of potential parameters for warnings. The Team agreed to propose relevant amendments to the Manual on Marine Meteorological Services (WMO-No. 558). (see agenda item 7.2)

7.1.7 The Team further noted that sea state forecasting was complicated, including a variety of factors and that graphical information would be most appropriate for the provision of sea state information to the mariners. The Team agreed that it was not appropriate, at this stage, to define a way of describing sea state. Further development of wave models could also affect this issue. In this regard, the Team requested the ETMSS chair to keep communicating with the JCOMM Expert Team on Wind Waves and Storm Surges. (**Action**: ETMSS chair)

7.2 Update of Manual on Marine Meteorological Services (WMO-No. 558) and Guide to Marine Meteorological Services (WMO-No. 471)

Authorization for the use of PAN PAN

7.2.1 JCOMM-I adopted Recommendation 7 (JCOMM-I) to introduce a number of amendments to the WMO GMDSS marine broadcast system, which is included in Volume I, Part I of the Manual on Marine Meteorological Services, WMO-No. 558 and Annex VI to the WMO Technical Regulations. The Team recalled that with regard to the revised amendment to paragraph 2.2.3.7.2, to authorize the use of PAN PAN for all urgent warnings of Beaufort 12 and above, JCOMM-I had approved this amendment provisionally, subject to agreement by the Expert Team on Maritime Safety Services. The Team reviewed the paragraph and formally agreed with this amendment. The Team requested the Secretariat to include this amendment in the revision of the Manual on Marine Meteorological Services (WMO-No. 558). (Action: Secretariat)

Requirements for HF radio broadcasts

7.2.2 The Team recalled that JCOMM-I had agreed that broadcasts via HF radio and similar facilities remained essential for non-SOLAS vessels and shipping in coastal waters not covered by NAVTEX in many parts of the world, while recognizing that a formal international requirement to provide meteorological forecasts and warnings to shipping via terrestrial (HF) radio broadcasts no longer exists. JCOMM-I therefore agreed to maintain the existing terrestrial broadcast section of the Manual of Marine Meteorological Services (WMO-No. 558) on a temporary basis. The Commission requested the Team to develop a new text relating to non-GMDSS marine broadcast services, for inclusion in the Manual to replace this existing terrestrial broadcast section.

7.2.3 In this regard, SCG-I recognized that a survey on such requirements for HF radio broadcasts would be necessary for an eventual revision of the Manual on MSS regarding non-SOLAS vessels.

7.2.4 The Team agreed to establish a task team on non-GMDSS marine broadcast systems. Terms of reference and membership of the team is given in Annex X. A questionnaire for the survey on such requirements should be prepared by the task team.

Other amendments to Manual and Guide

7.2.5 Based on the information presented, discussions and decisions taken under preceding agenda items, the group reviewed in detail the text of the WMO marine broadcast system for the GMDSS as given in the Manual on Marine Meteorological Services (WMO-No. 558). In addition to several typographical errors, it proposed the following substantive amendments for the consideration of JCOMM-II:

(a) Change (delete and add)

GENERAL

<u>1.1</u> Marine meteorological services for the high seas shall include:

(a) Provision of warnings and weather and sea bulletins;
(b) Marine meteorological support for maritime search and rescue;
~~(c) Provision of information by radio facsimile;~~
(~~d~~ <u>c</u>) Marine climatological summaries scheme;

(~~e~~ d)Provision of special marine climatological information;
(~~f~~ e) Provision of marine meteorological information and expert advice.

1.2 Marine meteorological services for the high seas should include provision of information by radio-facsimile or other means for the receipt on board ship of graphical data

(b) Change in para 2.2.4.7

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

(c) Change in para 2.2.6.1

(c) A description of:
(i) Wind speed or force and direction;
(ii) Sea State (significant wave height/total sea)
(~~ii~~iii) Visibility when forecast is less than ~~six~~ five nautical miles ~~(10 kilometres)~~ ;
(~~iii~~iv) Ice accretion, where applicable.

(d) Add the sentence below at the end of para 2.2.6.1.1

2.2.6.1.1 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 ~~that normally covered by the forecast~~.24 hours. In addition, phenomena such as breaking seas, cross seas and abnormal/rogue waves should also be included, if feasible.

(e) Change 2.2.9 to include the table for visibility

2.2.9 For visibility, the following descriptive terms should be used.

Very poor	Less than 0.5 nautical miles (nm)
Poor	0.5 nm to 2 nm
Moderate	2 nm to 5 nm
(Good)*	(greater than 5 nm)

* not mandatory

2.2.~~9~~10 Issue of sea-ice information

(f) Delete the lower table in Appendix I-2 BIS and include its additional information on the upper one.

(g) Create a new table merging Table 1 and Table 2. The Column Area LES of issuing service to include only the satellite used, e.g. AOR(E), IOR, etc.

(h) Add Australia as an Issuing Service in Metarea VIII(S).
Change note " Tropical Cyclone warnings prepared and issued by La Reunion (area west of 90E) are also included in the regular bulletins issued by Mauritius".
Add note " Tropical Cyclone warnings prepared and issued by Perth (area east of 90E) are also included in the regular bulletins issued by Mauritius".

7.2.6 The Team requested the ETMSS chair to submit this proposal to SCG-II. After the endorsement by SCG-II, the proposal will be submitted to JCOMM-II for its formal approval. (**Action**: ETMSS chair)

7.2.7 The Team noted that the definitions of high seas and coastal and off shore areas in the context of marine meteorological services should be further reviewed. It requested the Task Team on Bulletins for NAVTEX broadcasts to consider this issue, if appropriate. (**Action**: Task Team on Bulletins for NAVTEX broadcasts)

7.3 Weather Reporting (WMO-No. 9), Volume D Information for Shipping

7.3.1 The Team recalled that WMO publishes Weather Reporting (WMO-No. 9), which is the reference publication on the existing facilities and services available on the operation of the World Weather Watch. Volume D - Information for Shipping in this publication includes Meteorological Broadcast Schedules for Shipping and other Marine Activities, Coastal Radio Stations Accepting Ships' Weather Reports and Oceanographic Reports, Specialized Meteorological Services, etc. It noted that, although the WMO Secretariat had prepared an electronic version of the publication, for distribution to Members and other users, for the moment this electronic version was simply a mirror of the old paper version.

7.3.2 The Services Coordination Group has initiated a project to review and make recommendations regarding the future structure, contents and browsing capabilities of the publication, for incorporation into future revisions. A new mode of logging and assimilating updates, consistent with the electronic publishing environment, will be developed as part of the project. SCG-I established a task team on the review of WMO Vol. D, No. 9 comprising Mr Phil Parker, Mr Hassan Bouksim (Morocco) and Dr Jae-Won Lee (Korea).

7.3.3 Mr Parker informed the Team that so far the project had only reached the conceptual stage. The task team plans to have a firm proposal, in consultation with the Secretariat and the ETMSS chair, by the end of 2002 and the proposal will be submitted to the second session of the Management Committee which will be held early 2003. The Team noted that a more effective updating system would be needed for WMO-No. 9. Participants in the meeting were urged to provide the task team with any further comments. Members will be requested to provide comments on the revision of Volume D. (**Action**: Participants, Secretariat)

8 FUTURE DEVELOPMENTS

8.1 Both GMDSS, and the Inmarsat system, on which it is partially based, are likely to continue evolving over the next decade. The representatives of concerned organizations at the session reported on likely future developments, for consideration by the Team of possible requirements for future modifications to the WMO marine broadcast system.

International Mobile Satellite Organization (IMSO)

8.2 The representative of IMSO informed the Team about a number of possible future developments in the field of satellite communications.

- The current constellation of Inmarsat satellites will continue to provide robust primary and back-up maritime safety services for many years to come. However, Inmarsat Ltd. Is developing a new generation of satellites, designated Inmarsat-4. In operation, these satellites will not be optimized for maritime service and IMSO is discussing follow-up capabilities so as to be assured of continued GMDSS service far into the future.

- Inmarsat Ltd. has given notice to IMO that Inmarsat-A services will be discontinued in 2008.

- The imminent introduction of Inmarsat Mini-C has the potential to extend the fitting of Inmarsat C capabilities into a large number of smaller vessels.

- Regulatory and administrative changes being considered in IMO and IMSO may lead to the adoption of other mobile satellite systems to augment the GMDSS at some point in the future.

International Maritime Organization (IMO)

8.3 The representative of IMO reported on the following topics:

- **Amendments to the International SafetyNET Manual**: COMSAR 6 (February 2002) agreed to a draft MSC circular on Amendments to the international SafetyNET Manual. It is expected that the Maritime Safety Committee at its seventy-sixth session in December 2002 will approve it.

- **New edition of the NAVTEX Manual (2001 edition**): The Sub-committee on Radiocommunications and Search and Rescue (COMSAR), at its fifth session (December 2000), agreed to a number of recommendations aimed at reducing interference and volume of information in the International NAVTEX Service. This was circulated to Member Governments by COMSAR/Circ. 28 of 12 June 2001. In addition, COMSAR 5 agreed that it was important to encourage Administrations to migrate non-English language broadcasts and broadcasts of information provided specifically for non-SOLAS vessels from 518 kHz to 490 kHz or 4209.5 kHz, as appropriate. The Maritime Safety Committee, at its seventy-fourth session (May-June 2001), approved the recommendations made by COMSAR 5 and urged Administrations to complete this migration by 1 January 2005. Member governments are invited to bring this circular to the attention of all Maritime Safety Information (MSI) providers and National Telecommunication Administrations for consideration and action as appropriate.

- **MSC/Circ. 1017 – Participation in the WMO VOS scheme**: The Maritime Safety Committee (MSC) at its sixty fourth session (December 1994), in response to a request for assistance from WMO on enhancing the recruitment of merchant ships into the WMO VOS scheme, had approved and circulated MSC/Circ. 674 on this matter. At its seventy-fourth session (May-June 2001), in response to a proposal from WMO for the re-issue of an MSC Circular relating to the WMO VOS scheme, and recognizing the continuing critical importance of VOS meteorological reports to the provision of meteorological services to the mariners, including those under the GMDSS, it approved the revised MSC/Circ. 1017. Member Governments were invited to bring the Circular to the attention of ship owners, ship managers, masters and crews and to encourage them to support WMO and their national Meteorological Services by offering their ships as VOSs.

- **Intersessional Working Group on Maritime Security**: The MSC Intersessional Working Group on Maritime Security has met twice since the beginning of this year, and has in conjunction with NAV48 (July 2002) identified Inmarsat C polling as the principal means of long range tracking and identification of ships. WMO is requested to take note of this information from the point of view of the available capacity of the satellite communication channels over the future time frame.

- **Cooperation with WMO**: IMO's cooperation with WMO has been very good over the years.

International Hydrographic Organization (IHO)

8.4 The representative of IHO reported on the following topics:

- The Chairman of the IHO Commission on the Promulgation of Radio Navigation Warnings (CPRNW), Mr Roy Soluri of the United States, will retire from government service on 30 September 2002 after almost 41 years of service. The United States had nominated Mr Peter Doherty, who is well versed on the work of the CPRNW and the GMDSS, as a potential successor to Mr. Soluri.

- The main focus of the work programme of the CPRNW over the last several years has addressed the fact that large areas of the world's coastlines are still devoid of any type of coastal navigational warning services via NAVTEX (primary method) or SafetyNET (secondary). To this end, the CPRNW has issued IHO Circular Letter 31/2000, 12 July 2000, Implementation of the GMDSS. In accordance with paragraph 2.1, the Chairman of

the CPRNW or his representative has been attending the meetings of the Regional Hydrographic Commissions.

- During its 5th Meeting (IHB, Monaco, 27-29 June 2000), the CPRNW, at the request of the Data Buoy Cooperation Panel, prepared IHO Circular Letter 30/2000, 11 July 2000, Vandalism on Ocean Data Buoys. The document provides the text for the issuance of information on the data buoys to mariners.

- The CPRNW, WMO and IMO completed their work on the Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI). This manual provides a practical guide for anyone who is concerned with drafting radio navigational warnings or with the issuance of meteorological forecasts and warnings for the high seas under the GMDSS. It is assumed throughout that the navigational warnings are being issued under the auspices of the IHO/IMO World-Wide Navigational Warning Service (WWNWS) and that the meteorological forecasts and warnings are being issued under the patronage of WMO, and in accordance with the requirements of IMO resolution A.706(17), as amended.

- The next meeting of the CPRNW will be held at the International Hydrographic Bureau in Monaco from 13 - 15 May 2003.

8.5 The Team noted the retirement of Mr Soluri, and expressed its gratitude to him, in abstentia, for his long and very helpful cooperation with the WMO and especially in the area of GMDSS SafetyNET liaison activities with the WMO Secretariat and representatives of National Meteorological Services.

9. REVIEW OF ETMSS-I session report and action items

9.1 The Team reviewed, revised and adopted the final report of the session, including action items and recommendations.

10. CLOSURE OF THE SESSION

10.1 In closing the meeting, the chairman, Mr Henri Savina, offered his sincere appreciation once more, on behalf of all participants, to the Instituto de Meteorologia, to Ms Alice Soares dos Santos, local organizer of the meeting, and to all the staff of the Instituto, for hosting the meeting and for providing such excellent support and hospitality. He also thanked all participants for their valuable input to what had been a very productive meeting, and looked forward to working with all the members of the Team on the many ongoing action items.

10.2 On behalf of the Instituto de Meteorologia, Ms Alice Soares dos Santos expressed her pleasure at having had the opportunity to host the meeting in Lisbon. She recognized that this hosting had brought benefits to both meeting participants and the Instituto. She wished all participants an enjoyable stay and a safe return journey.

10.3 The first session of the JCOMM Expert Team on Maritime Safety Services closed at 1035 hours on Saturday, 14 September 2002.

Annex I

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Annex II

AGENDA

1. Opening of the session

1.1. Opening
1.2. Adoption of the agenda
1.3. Working arrangements

2. Report of the chairman and the Secretariat

2.1 Report of the chairman
2.2 Report of the Secretariat
2.3 Report of SafetyNET and NAVTEX panels

3. Status of implementation of the WMO GMDSS Marine Broadcast System

3.1 Reports by Issuing Services
3.2 Review of the proposal by Kenya Meteorological Department
3.3 Designation of additional Metareas

4. User feedback

4.1 Review the results of the monitoring of MMS
4.2 Future gathering of user responses

5. Information delivery

5.1 Weather information in graphical form for GMDSS
5.2 Web site

6. International coordination of NAVTEX broadcasts

6.1 Baltic Sea
6.2 Elsewhere
6.3 Guidelines for bulletins broadcast by NAVTEX

7. Review of WMO regulations and operational information

7.1 Guidelines for sea state description, rogue/freak waves
7.2 Update of Manual on Marine Meteorological Services (WMO-No.558) and Guide to Marine Meteorological Services (WMO-No.471)
7.3 Weather Reporting (WMO-No.9), Volume D *Information for Shipping*

8. Future developments

9. Review of MSS-I session report and action items

10. Closure of the session

Annex III

REVISED WORK PLAN FOR THE EXPERT TEAM ON MARITIME SAFETY SERVICES

According to the Terms of Reference and tasks defined at JCOMM-I, the report presented by the SPA Coordinator during the first session of the JCOMM Management Committee, SCG-I and ETMSS-I, the ETMSS work plan for the intersessional period of JCOMM-I and JCOMM-II entails:

High/High-Medium Priority

i. Develop facility for transmitting SafetyNet graphical products via Inmarsat C

   a. Continue and conclude the project on graphic information (IMSO, Inmarsat, Australia) : **ASAP**, especially for the Rapporteur on weather information in graphical form (Ian Hunter)
   b. Submit a report, after consultation with ETMSS chairman, to SCG-II (Rapporteur on weather information in graphical form: Ian Hunter) : **before SCG-II i.e. mid-2004 (?)**

ii. Review proposed designation of Kenya Meteorological Department as a GMDSS Preparation Service

   a. Report to the ETMSS chairman on the results of the discussion on its proposal, taking the opportunity of the WIOMAP meeting in Mauritius in November 2002 (Kenya): **ASAP**
   b. In case of agreement, Kenya as a Preparation Service, on a pre-operational basis (Mauritius and Kenya) : ***2003***
   c. *In case of feasibility, prepare a technical proposal to be submitted to ETMSS chair and SCG-II (Mauritius and Kenya) :* ***before SCG-II i.e. mid-2004 (?)***

iii. Add complementary guidelines in the Manual on Marine Meteorological Services (MMMS) for NMS issuing marine weather forecasts for NAVTEX broadcast, including a list of common abbreviations

   a. Prepare draft guidelines for inclusion in the MMMS - WMO-No.558 (ad-hoc Task Team on NAVTEX) : **March 2003**
   b. Prepare a list of common abbreviations (ad-hoc Task Team on NAVTEX) : **March 2003**

iv. Consider the issue on the definitions of high seas /off shore / coastal areas in the context of MMS, if appropriate (ad-hoc Task Team on NAVTEX) : **before SCG-II i.e. mid-2004 (?)**

v. Develop the web site

   a. Make sure that SafetyNet warnings and scheduled bulletins are available and provide France with their GTS headers (Issuing Services) : **ASAP**
   b. Request the Issuing Services to formally designate their focal point on this matter (secretariat) : **ASAP**
   c. Register a suitable name (secretariat) : **ASAP**
   d. Develop and host a first version of the web site (France) : **July 2003**

vi. Make comments on the proposal of the SCG group on the future of the publication WMO No. 9, Vol. D Information for Shipping (all participants) : **ASAP**

vii. Start using the descriptive terms of visibility in the weather and sea bulletins, on a provisional basis (NMSs, promotion by Issuing Services) : **ASAP**

viii. Include the sea state and swell information in the weather and sea bulletins, on a provisional basis (NMSs, promotion by Issuing Services) : **ASAP**

ix. Australia as an Issuing Service for Metarea VIII(S), for cyclonic warnings related to observed phenomena centered east of 90E , on a provisional basis : **ASAP**

x. Ascertain ongoing requirements for HF radio broadcasts and liaise with CBS and WMO RA II

   a. Implement a survey on requirements for HF radio broadcast (ad-hoc Task Team on non-GMDSS marine broadcast systems) : **July 2003 ?**
   b. Develop a new text relating to non-GMDSS marine broadcast services for inclusion in the MMMS – WMO-No.558 (ad-hoc Team Task on non-GMDSS marine broadcast systems) : **before SCG-II i.e. mid-2004 (or before ?)**

xi. Submit a proposal for the web-based questionnaire for end users feedbacks, including specifications for accompanying software, the definition of "ideal" periodicity for the answers, etc…(ETMSS chair, Phil Parker, Philippe Dandin, Ian Hunter, Nick Ashton, and Tim Rulon) : **July 2003**

xii. Submit all the amendments to MMMS proposed by the ETMSS and the associated Task Teams to SCG-II. After the endorsement by SCG-II, the proposal will be submitted to JCOMM-II for its formal approval (ETMSS chair) : **before SCG-II i.e. mid-2004 (?)**

Ongoing/Moderate Priority

i. Distribute and Analyse of the next regular survey on the four-yearly basis, conducted as before (secretariat) : **2004**

ii. Prepare a recommendation regarding the modification of additional Metareas for Arctic waters - 17 & 18 (ETMSS chair) : **as soon as a decision on Navareas 17/18 is available**

iii. Submit the Baltic Sea guidelines to XIV-RA VI (Finland and Sweden) : **2005**

iv. Keep communicating with ETWWSS for sea state description, especially complex and dangerous sea, rogue/freak waves (ETMSS chair) : **continuous**

v. Keep under review the designation of a further Issuing Service for SafetyNet services in Metarea VIII

vi. Review, maintain and improve the gathering of user responses to the WMO GMDSS broadcast services.

ANNEX IV

TRANSMISSION SCHEDULES FOR GMDSS SAFETYNET SERVICES

TRANSMISSION SCHEDULE FOR FULL GMDSS SERVICE

(14 September 2002)

METAREA	Meteorological Issuing Service	Satellite Ocean Regions	Broadcast schedule (UTC)					
I	United Kingdom	AOR (E)			0930			2130
II	France	AOR (E) AOR (W)			0900 0900			2100 2100
III	Greece[1]	AOR (E)			1000			2200
IV	USA	AOR (W)		0430	1030		1630	2230
V	Brazil	AOR (E)		0130	0730		1330	1930
VI	Argentina	AOR (W)		0230			1730	
VII west of 20E	South Africa	AOR (E)			0940			1940
VII east of 20E	South Africa[2]	IOR			0940			1940
VIII (N) (north of equator)	India	IOR			0900		1800	
VIII (S) (south of equator)	Mauritius / La Réunion (via France)	IOR		0130 0000[3]	0600[3]	1330 1200[3]	1800[3]	
IX	Pakistan	IOR			0700			
X IOR	Australia	IOR		0115[5] (NT coast) 0320[6] (WA coast)	1030 0445[5] (NT coast) 0730[6] (WA coast)		1945[5] (NT coast) 2020[6] (WA coast)	2330
X POR	Australia	POR		0550[4] (Bass Strait only) 0115[5] (NT coast) 0320[6] (WA coast)	1100 1210[4] (Bass Strait only) 0445[5] (NT coast) 0730[6] (WA coast)		1645[4] (Bass Strait only) 1945[5] (NT coast) 2020[6] (WA coast)	2300 2300[4] (Bass Strait only)
XI IOR	China (for IOR)	IOR		0330	1015		1530	2215
XI POR	Japan (for POR)[7]	POR north of equator south of equator		0230	0830 0815		1430	2030 2015
XII	USA	POR AOR (W)		0545	1145		1745	2345
XIII	Russian Federation	POR			0930			2130

METAREA	Meteorological Issuing Service	Satellite Ocean Regions	Broadcast schedule (UTC)					
XIV	New Zealand	POR	0130[4] (NZ coast only)	0330 (warnings only)	0930	1330[4] (NZ coast only)	1530 (warnings only)	2130
XV	Chile	AOR (W)					1845	
XVI	USA	AOR (W)		0515	1115		1715	2315

[1]Scheduled bulletins and warnings for the western Mediterranean Sea are prepared by France

[2]Forecast for area 30°S-50°E / 50°S-80°E and tropical cyclone warnings are prepared by La Réunion

[3]Tropical Cyclone warnings if any issued by La Réunion as unscheduled broadcasts

[4]Local time. The Bass Strait bulletins are Coastal Warnings and Forecasts transmitted only to SafetyNET Coastal Area D in Navarea X

[5]Northern Territory bulletins are Coastal Warnings and Forecasts transmitted only to SafetyNET Coastal Areas G and H in Navarea X

[6]Western Australia bulletins are Coastal Warnings and Forecasts transmitted only to SafetyNET Coastal Areas F and G in Navarea X

[7]Scheduled bulletins and warnings for south of the equator prepared by Australia

For unscheduled broadcasts, these shall be issued for broadcast under the SafetyNET service through all Inmarsat ocean region satellites covering the issuing service's area of responsibility.

Annex V

NATIONAL CONTACT POINTS FOR THE WMO GMDSS MARINE BROADCAST SYSTEM

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**pending the formal approval by JCOMM-II and the following EC*

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Annex VI

REPORT ON PROGRESS OF PROJECT WITH INMARSAT

Mr Phil Parker (Australia)

1. Introduction

On 8 April 2002, I met with Mr Andy Fuller and Mr Vladimir Maksimov (Inmarsat) and Mr Gordon Mackie (MetWorks consultants) at Inmarsat Headquarters in London. Progress towards devising a project to develop a basic Inmarsat SafetyNet graphics service was discussed. The mooted project has been on WMO's agenda for some time, preceding the establishment of JCOMM. The difficulties of determining the most appropriate technological parameters for the design phase has up till now proved to be a major stumbling block. The slow data rate for the SafetyNet transmissions has been a major ongoing physical constraint for the design. Australia has continued to offer support for the project, in the form of programming resources, but these have so far not been called upon.

The most likely way forward appeared to be for communications to be conducted as a standard EGC message, with the relevant decoding software provided through the EGC service provider or perhaps Standard-C terminal supplier. WMO would make the software available freely on disk or CD-ROM. A method of distribution to MES operators would need to be agreed. However constraints on file size and transmit times need to be carefully considered.

2. Progress to date

Mr Maksimov has undertaken extensive testing of several aspects or components of what could eventually become a graphics service transmitted to Standard-C terminals. A summary of this work is summarized below:

- ***Performance evaluation of transmission of data (binary) files***

Extensive testing by sending data files as EGC messages via Inmarsat-C was done to check the system's performance. The main purpose of the test was to check if files are received by a mobile terminal error free since the EGC service is a broadcast service and there is no error checking on a return channel.

Six binary files of a different size were sent using a registered PSTN and Internet services via different LESs. File sizes were 6, 8, 12, 15, 25 and 32 Kb and all of them were received with no errors. After being received all files were stored on a floppy disk and then opened using various routine applications such as graphics packages (eg. .jpg files), and Microsoft applications such as Excel and Powerpoint (.xls, and .ppt files). It would be expected that files transmitted using an operational system would be most likely automatically stored on the hard disk of the on-board MES.

- ***Impact of file size***

A critical point during the testing was the time of transmission of a large file. Since the EGC protocol allows only one packet of data (128 bytes) to be sent per unit time (8.64 seconds). It takes about 30 minutes to transmit a 25 Kb file. However, despite file sizes, all files were received error free.

- ***Interoperability of a data terminal and PCs***

Another critical point is the capability of PCs to read the floppy disk used in Inmarsat-C data terminals. It is possible that the disk format allows for mutual interoperability of the disks on the latest MES models and software versions. This checked out successfully with the latest Thrane & Thrane models but the situation with other manufacturers is unclear. It is also rather important to note that while

standard Inmarsat-C MESs are GMDSS compliant and use a standard messaging unit, they do not have any other interconnectivity capabilities relevant to talking to PCs. Until standard MESs have a second communication port to run a different application, eg. to read/decode weather charts, translation of charts transmitted by the service will not be possible. This would definitely be an issue for older MESs.

- ***Proposed communication aspects of the service***

To use the service, an information provider would need to be registered with an Inmarsat-C service provider, for PSTN or/and Internet service interconnectivity, requiring in particular EGC service capability. The service provider would provide an access procedure based on username/PIN or registered e-mail address from which to send EGC messages.

Usually for processing EGC messages a data file is sent via the Internet as an attached message (one message only) and an EGC address is inserted in the "subject" field of the message.

As soon as the EGC message is sent via Inmarsat-C system, a service provider would send an acknowledgement to the information provider. If a message is not accepted for transmission, the information provider would also be notified.

3. Summary

While the technical evaluation of the feasibility of operating a proposed service has progressed, and the ETMSS is likely to be informed of more recent progress by Mr Fuller at ETMSS-I, there are still a number of issues to be resolved. If the concerns about file size and related EGC transmit times can be contained, at least to the extent that software can be designed to compress/code charts to minimize their impact, development work can be accelerated. Agreement by ETMSS, WMO and Inmarsat on the nature of the contract or agreement to provide the decoding software to MES operators (or suppliers for distribution, or via Inmarsat)) would be helpful. Australia maintains its offer provide programming support once the technical parameters and design have been fully established.

Annex VII

RAPPORTEUR ON WEATHER INFORMATION IN GRAPHICAL FORM
(agenda item 5.1)

The Rapporteur shall:

- With ETMSS and SCG, specify the needs for SafetyNET in terms of graphical/digital information;
- Keep under review existing and planned projects/works on formats for coding and displaying meteorological information on graphical format (especially objects) within WMO bodies, including CBS, at both the international and regional levels;
- Keep under review existing and planned project(s)/work(s) on navigational system(s) for marine users, including formats, developed or approved by IMO or IHO (like ECDIS), especially for meteorology and oceanography aspects;
- Liaise with WMO secretariat, IMO, IHO or other agencies/companies to facilitate consistency between the existing or planned WMO standards and such system(s);
- Inform Chairman of ETMSS and the WMO secretariat as appropriate;
- Prepare a detailed report to SCG including proposals on the formats, contents and symbology to be used in future GMDSS graphical information and plans or steps for the implementation of operational broadcasts within GMDSS.

The report by the Rapporteur will be reviewed by members of ETMSS, as appropriate, and be submitted to SCG-II. After the review by SCG, the proposals will be reviewed and approved at JCOMM-II, if appropriate.

Rapporteur on weather information in graphical form
Mr. Ian Hunter (South Africa)

Annex VIII

**THE GUIDELINES
ON COORDINATION OF METEOROLOGICAL SAFETY INFORMATION
PROVIDED FOR SHIPPING IN THE Baltic SEA AREA
BY THE INTERNATIONAL NAVTEX SERVICE**

Version dated 1.3.1999,
accepted by the group of focal persons
nominated by national meteorological services

1. Considering that the meteorological safety information provided to mariners must be non-conflicting and considering the requirement for national Meteorological Services of Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway, Poland, Russian Federation and Sweden to provide meteorological safety information for shipping, a system is adopted for coordination of meteorological safety information provided to mariners in the Baltic Sea by the International NAVTEX Service.

2. The system of coordination of meteorological safety information is based on the *Manual on Marine Meteorological Services*, and especially on Part II, Chapter 4.: Services for coastal areas using the International NAVTEX Service, and paragraph 4.3: General principles for coordination.

3. There shall exist exchange using the GTS of weather warnings, cancellations of warnings and forecasts for mariners between all national Meteorological Services working in the area.

4. There shall be one national Meteorological Service working as a meteorological coordination centre responsible for the provision of weather bulletins for mariners via the NAVTEX Service in the Baltic Sea area. The Swedish national Meteorological Service takes on the role of meteorological coordination centre for the Baltic Sea area.

   4.1 The content and layout of marine weather bulletins for shipping and criteria for warnings are based on the Manual on Marine Meteorological Services, Vol. I, Part I, and are given in Appendix A to the guidelines.

5. The meteorological coordination centre shall submit its forecasts and warnings to the NAVTEX station operator on a 24 hours operational basis. If necessary, the provision of weather bulletins from other countries could be included for waters not already covered by the coordination centre.

6. Every national Meteorological Service serving the area concerned shall have an access to the meteorological coordination centre to deliver by GTS its warnings, cancellations of warnings and forecasts for the areas for which it intends to have responsibility.

   6.1 Every country freely declares areas for which it intends to have responsibility for marine meteorological information, according to its needs. The same areas could be declared by more than one country. The list of areas of responsibility declared by every country involved is given in Appendix B to the guidelines.

   6.2. Two weather bulletins per day are sent from national Meteorological Services to the meteorological coordination centre on a scheduled basis.

6.3. The content and layout of appropriate weather bulletins is given in Appendix A to the guideliness.

6.4. The headers of appropriate weather bulletins and routes of exchange are given in Appendix C to the guidelines.

7. Warnings, cancellations of warnings and forecasts which have been sent by national Meteorological services to the meteorological coordination centre shall be copied immediately, by the meteorological coordination centre via the GTS, to all national Meteorological Centres serving the area.

7.1. Routes for exchange of appropriate bulletins are given in Appendix C.

8. The meteorological coordination centre shall decide on the content of weather bulletins for shipping sent to the NAVTEX operator for dissemination to end users.

8.1. The marine weather bulletins for shipping sent for dissemination to end users shall be prepared by the meteorological coordination centre using its own products as well as marine meteorological information received from other national Meteorological Services in accordance with the following rules:

(a) meteorological forecasts and warnings prepared by the meteorological coordination centre are usually issued;

(b) if there are non-conflicting warnings prepared by other national Meteorological Services, the coordination centre can submit also an additional warning of one other national Meteorological Service, so that during some prolonged amount of time products from every national Meteorological Service appear in the NAVTEX broadcast;

(c) if warnings prepared by national Meteorological Services are conflicting, the coordination centre chooses an appropriate warning for dissemination based generally on highest wind speed criteria;

(d) if a warning prepared by a national Meteorological Service other than the meteorological coordination centre is disseminated, an appropriate forecast prepared by this service is also disseminated, in order to provide non-conflicting advice for mariners;

(e) if the meteorological coordination centre submits for dissemination products prepared by a national Meteorological Service different from the meteorological coordination centre, the name of this preparation service is included in the bulletin;

(f) in case of serious differences and doubts, the meteorological coordination centre can ask every national Meteorological Service for confirmation and explanation of its forecast, using the GTS;

(g) the national Meteorological Service should respond to the query of the meteorological coordination centre as soon as possible, using the GTS;

(h) points (a) to (g) apply also for cancellations of warnings.

8.2. If a national Meteorological Service submits to the meteorological coordination centre a warning, in which weather conditions are expected to be more severe

than expected by the meteorological coordination centre, then this national Meteorological Service also submits to the meteorological coordination centre an appropriate forecast, in order to fulfill point 7.1 (d).

8.3. Headers and procedures for exchange of information mentioned in points (f) and (g) are given in Appendix C to the guideliness.

9. The meteorological bulletins and additional warnings which have been sent to the NAVTEX station operator for dissemination shall be copied, by the meteorological coordination centre via the GTS, to all national Meteorological Services serving the area.

9.1. Headers and routes for exchange of appropriate bulletins are given in Appendix C.

Appendices to the draft guideliness
on coordination of meteorological safety information
provided for shipping in the Baltic Sea area
by the International NAVTEX Service

Appendix A.

Content and layout of NAVTEX weather bulletins

A.1. The content and layout of marine weather bulletins for submission by the meteorological coordination centre to the operator of the International NAVTEX System for final dissemination to mariners in accordance with point 4. of the guideliness.

A.1.1. The marine weather bulletins shall have the following content and order of items:

(a) the name of issuing service,
(b) date and time of reference,
(c) information on the area being addressed,
(d) warnings or cancellations of warnings,
(e) synopsis of major features of the surface weather chart,
(f) forecast.

A.1.2. Warnings for near gales (wind force 7), gales (wind force 8 and 9), storms (wind force 10 and above) shall be issued. Warnings for ice accretion are optional.

A.1.3. Warnings for near gales, gales and storms shall have the following content and order of items:

(a) type of warning,
(b) name of the preparation service if different from the meteorological co-ordination centre,
(c) date and time of reference,
(d) type of disturbance and its location, if necessary,
(e) names of affected areas,
(f) wind speed in m/s and direction; information on both wind force in Beaufort scale and wind speed in m/s is optional.

A.1.4. Warnings for ice accretion should have the following content and order of items:

(a) type of warning,
(b) name of the preparation service if different from the meteorological co-ordination centre,
(c) date and time of reference,
(d) names of affected areas.

A.1.5. Cancellations of warnings shall have the following content and order of items:

(a) type of warning being cancelled,
(b) name of the preparation service if different from the meteorological co-ordination centre,
(c) date and time of reference,
(d) names of areas concerned.

A.1.6. Forecasts should have the following content and order of items:

(a) name of the preparation service if different from the meteorological co-ordination centre,
(b) the valid period of forecast,
(c) names of forecast areas,
(d) a description of :

(i) wind speed in m/s and direction; information on both wind force in Beaufort scale and wind speed in m/s is optional,
(ii) visibility, if expected below six nautical miles (ten kilometers),
(iii) ice accretion, optionally,
(iv) significant weather.

A.2. The content and layout of meteorological bulletins for submission by every national Meteorological Service to the meteorological coordination centre, in accordance with point 6. of the guideliness, and for mutual exchange between all national Meteorological Services in the area, in accordance with points 3. and 8. of the guideliness.

A.2.1. The meteorological bulletin for submission to the meteorological coordination centre on a scheduled basis shall have the following content and order of items:

(a) the name of issuing service,
(b) date and time of reference,
(c) information on the area being addressed,
(d) warnings or cancellations of warnings,
(e) forecast.

A.2.2. The meteorological bulletin for submission to the meteorological coordination centre on an unscheduled basis shall have the following content and order of items:

(a) the name of issuing service,
(b) date and time of reference,
(c) warnings or cancellations of warnings,
(d) forecast, if required according to point 7.(d) of the guidelines.

A.2.3. The criteria for warnings are as in point A.1.2.

A.2.4. Warnings for near gales, gales and storms should have the following content and order of items:

(a) type of warning,
(b) date and time of reference,
(c) names of affected areas,
(d) wind speed in m/s and direction; information on both wind force in Beaufort scale and wind speed in m/s is optional.

A.2.5. Warnings for ice accretion should have the following content and order of items:

(a) type of warning,
(b) date and time of reference,
(c) names of affected areas.

A.2.6. Cancellations of warnings should have the following content and order of items:

(a) type of warning being cancelled,
(b) date and time of reference,
(c) names of areas concerned.

A.2.7. Forecasts should have the following content and order of items:

(a) the valid period of forecast,
(b) names of forecast areas,
(c) a description of :

(i) wind speed in m/s and direction; information on both wind force in Beaufort scale and wind speed in m/s is optional,
(ii) visibility, if expected below six nautical miles (ten kilometers),
(iii) ice accretion, optionally,
(iv) significant weather.

Appendix B.

National sub-areas of responsibility
for provision of marine meteorological information
in the Baltic Sea

- to be decided by the Permanent Representatives of countries concerned

Appendix C.

Routes of exchange and headers of weather bulletins
for coordination of International NAVTEX Service in the Baltic Sea.

C.1. Routes of exchange of weather bulletins for coordination of the International NAVTEX Service shall be as shown on the attached NAVTEX Communication Concept.

C.2. The following headers shall be used for exchange of weather bulletins including forecasts and warnings issued by national Meteorological Services working in the Baltic Sea area:

Denmark:
WODN46 EKMI for warnings
FQDN45 EKMI for forecasts

Estonia:
WOEO30 EEMH for warnings
FQEO30 EEMH for forecasts

Germany:
WODL41 EDZW for warnings
WODL45 EDZW for warnings
WODL61 EDZW for warnings
WWXX60 EDZW for forecasts
FQBQ67 EDZW for forecasts
FXBQ77 EDZW for forecasts

Finland:
Until 31 October 2002
FPFI45 EFKL for warnings and forecasts

As from 1 November 2002
WOFI45 EFKL for warnings
FQFI45 EFKL for forecasts

Latvia:
WOLV30 UMRR for warnings
FQLV30 UMRR for forecasts

Lithuania:
WOLT30 UMWW for warnings
FQLT30 UMWW for forecasts

Norway:
WONO22 ENMI for warnings
FQNO41 ENMI for forecasts

Poland:
WOPL41 SOWR for warnings
FQPL41 SOWR for forecasts

Russian Federation:
WORS41 RUSP for warnings
FQRS41 RUSP for forecasts

Sweden:
WOSN42 ESWI for warnings
FQSN40 ESWI for forecasts

C.3. The following headers shall be used for exchange of queries between the meteorological coordination centre and national Meteorological Services working in the Baltic Sea area:

Denmark:
NQSN43 ESWI for query from the meteorological coordination centre to EKMI
NQDN43 EKMI for response of EKMI to a query of the coordination centre

Estonia:
NQSN47 ESWI for query from the meteorological coordination centre to EEMH
NQEO43 EEMH for response of EEMH to a query of the coordination centre

Germany:
NQSN41 ESWI for query from the meteorological coordination centre to EDZW
NQDL41 EDZW for response of EDZW to a query of the coordination centre

Finland:
NQSN49 ESWI for query from the meteorological coordination centre to EFKL
NQFI49 EFKL for response of EFKL to a query of the coordination centre

Latvia:
NQSN46 ESWI for query from the meteorological coordination centre to UMRR
NQLV46 UMRR for response of UMRR to a query of the coordination centre

Lithuania:
NQSN48 ESWI for query from the meteorological coordination centre to UMWW
NQLT48 UMWW for response of UMWW to a query of the coordination centre

Norway:
NQSN44 ESWI for query from the meteorological coordination centre to ENMI
NQNO44 ENMI for response of ENMI to a query of the coordination centre

Poland:
NQSN42 ESWI for query from the meteorological coordination centre to SOWR
NQPL42 SOWR for response of SOWR to a query of the coordination centre

Russian Federation:
NQSN45 ESWI for query from the meteorological coordination centre to RUMS
NQRS45 RUMS for response of RUMS to a query of the coordination centre

C.4. For copying to all national Meteorological Services weather bulletins sent by the meteorological coordination centre to the NAVTEX operator for final dissemination, headers for bulletins for Swedish national products shall be used:

WOSN42 ESWI for warnings
FQSN40 ESWI for forecasts.

Annex IX

TASK TEAM ON BULLETINS FOR NAVTEX BROADCASTS
(agenda item 6.3)

The Task Team shall

- Prepare draft guidelines for NAVTEX broadcasts, which will eventually be included in the Manual on Marine Meteorological Services (WMO-No.558), taking into account all the suggestions made at ETMSS-I;
- Prepare also a list of abbreviations to be included in the guidelines;
- Review the definition of high seas/coastal and off shore areas in the context of marine meteorological services.

The draft guidelines should be prepared by March 2003. The draft guidelines will be circulated to the national contact points for the WMO GMDSS broadcast system and all participants in ETMSS-I. The final proposal will be submitted to SCG-II, for its endorsement. The proposal will be submitted to JCOMM-II for its approval, as appropriate.

Members:

Henri Savina (France), chair
Nick Ashton (U.K.)
Gordon Mackie (WMO Consultant)
Chris Pink (IMO NAVTEX Coordinating Panel)
Timothy Rulon (USA)
Alice Soares dos Santos (Portugal)

Annex X

TASK TEAM ON NON-GMDSS MARINE BROADCAST SYSTEMS
(agenda item 7.2)

The Team shall:

- Develop a new text relating to non-GMDSS marine broadcast services for inclusion in the Manual on Marine Meteorological Services (WMO-No.558), which will replace the existing Volume I, Part I, sections 1,2 and 3;
- Implement a survey on requirements for HF radio broadcast.

Members:

Phil Parker (Australia), chair
Ali Mafimbo (Kenya)
Henri Savina (France)
Valery Martyschenko (Russian Federation)

Annex XI

ACTION ITEMS

para	Action	By whom	when/target
3.2.3	Continue detailed discussion regarding the proposal by Kenya	France, India, Kenya, Mauritius and the Secretariat	November 2002
3.2.3	Report to the ETMSS chair on the results of the discussion on its proposal.	Kenya	as soon as the discussion is completed
3.3.2	Submit a recommendation to the JCOMM Co-presidents regarding the modification on the new two Metareas (17 and 18)	ETMSS Chair	When a new decision on the Navareas 17/18 is made
4.2.7	Work practical details regarding the web-based questionnaire including the development of accompanying software, the definition of "ideal" periodicity for the answers, etc	ETMSS chair, Phil Parker, Philippe Dandin, Ian Hunter, Nick Ashton, and Tim Rulon	July 2003
5.1.5	Submit a report, after consultation with the ETMSS chairman to SCG-II	Rapporteur on Weather information in graphical form for GMDSS	SCG-II
5.1.6	Continue and conclude the project on graphic information	IMSO,Inmarsat, Australia	ASAP
5.2.2	Develop and host a first version of the web site	France	ASAP
5.2.3	Register a suitable name	Secretariat	ASAP
5.2.4	Make sure that their bulletins (warnings and scheduled) are available via GTS and to provide France with their GTS Headers	Issuing Services	ASAP
5.2.4	Request the Issuing Services to formally designate their focal point on the matter of the web-site	Secretariat	ASAP
6.1.3	Submit the Baltic Sea guidelines approval to XIV-RA VI	Finland and Sweden with support of the Secretariat	XIV-RA VI (2005)
6.3.3	Prepare text on the guidelines to NAVTEX broadcast and abbreviations	Task Team on Bulletins for NAVTEX broadcasts	SCG-II
7.1.4	Start using the descriptive terms of visibility	NMSs	as soon as propitiate
7.1.4	Request the NMSs to start using the descriptive terms of visibility on a provisional basis	Secretariat	ASAP
7.1.6	Request the NMSs to inlcude sea state (significant wave height /total sea) and swell information (if possible) in the weather and sea bulletins on a provisional basis.	Secretariat	ASAP
7.1.7	Keep communicating with the JCOMM Expert Team on Wind Waves and Storm Surges on the development of wave models, etc..	ETMSS chair	continuous
7.2.1	Include the amendment regarding PAN PAN in the revision of the Manual on Marine Meteorological Services (WMO-No.558)	Secretariat	ASAP

para	Action	By whom	when/target
7.2.6	Submit the proposal on further amendment to the Manual to SCG-II	ETMSS chair	SCG-II
7.2.7	Consider the issue on the definitions of high seas/coastal and off shore areas in the context of marine meteorological services, if appropriate	Task Team on Bulletins for NAVTEX broadcasts	SCG-II
7.3.3	Provide the SCG task team with comments on WMo-No9,Vol D	Participants	ASAP
7.3.3	Request Members to provide comments on WMo-No9,Vol D	Secretariat	ASAP

Annex XII

ACRONYMS AND OTHER ABBREVIATIONS

AHGMDSS	Ad Hoc Group on the GMDSS (CMM)
ALRS	Admiralty List of Radio Signals
CMM	Commission for Marine Meteorology (WMO)
COMSAR	Sub-Committee on Radiocommunications and Search and Rescue (IMO)
CPRNW	IHO Commission on the Promulgation of Radio Navigational Warnings
EC	Executive Council
ECDIS	Electronic Chart Display Information System
ETMSS	Expert Team on Maritime Safety Services (JCOMM)
FMI	Finnish Meteorological Institute
GMDSS	Global Maritime Distress and Safety System
GOOS	Global Ocean Observing System
GTS	Global Telecommunication System (WWW)
HF	High Frequency
IALA	International Association of Lighthouse Authorities
ICS	International Chamber of Shipping
IHO	International Hydrographic Organization
IMO	International Maritime Organization
IMSO	International Mobile Satellite Organization
IOC	Intergovernmental Oceanographic Commission (of UNESCO)
IOS	Initial Observing System (GOOS)
ITU	International Telecommunication Union
JCOMM	Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology
KMD	Kenya Meteorological Department
LES	Land Earth Station (Inmarsat)
MSC	Maritime Safety Committee (IMO)
MSI	Maritime Safety Information
NAVTEX	International system for reception of marine safety information
NMS	National Meteorological Service
NOAA	National Oceanic and Atmospheric Administration (USA)
NWS	National Weather Service (NOAA)
PA	Programme Area
RA	Regional Association (WMO)
RSMC	Regional Specialized Meteorological Centre
SAWS	South African Weather Service
SCG	Services Coordination Group (JCOMM)
SMHI	Swedish Meteorological and Hydrological Institute
SOLAS	International Convention for the Safety of Life at Sea
TOR	Terms of Reference
UNESCO	United Nations Educational, Scientific and Cultural Organization
VOS	Voluntary Observing Ship
WIOMAP	Western Indian Ocean Marine Applications Project
WMO	World Meteorological Organization
WWW	World Weather Watch (WMO)
WWNWS	World-Wide Navigational Warning Service (IHO/IMO)