Report of 9th Meeting of IMO/ITU EG

Submitted by IHB

SUMMARY

Executive Summary: This document provides details of the outcomes of the 9th meeting of the IMO/ITU Experts Group on Maritime Radio Communications, which are relevant to WWNWS-SC

Action to be taken: Paragraph 2.

Related documents: NCSR 1/17 dated 4 November 2013

1. See attached document.

2. The Sub-Committee is invited to note the information provided and take action as appropriate.

INTERNATIONAL MARITIME ORGANIZATION

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SUB-COMMITTEE ON NAVIGATION, COMMUNICATIONS AND SEARCH AND RESCUE
1st session
Agenda item 17

NCSR 1/17
4 November 2013
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CONSIDERATION OF ITU WORLD RADIOCOMMUNICATION CONFERENCE MATTERS

Report of the ninth meeting of the Joint IMO/ITU Experts Group on Maritime radiocommunication matters

Including information on Review and modernization of the GMDSS (agenda item 13), and Consideration of radiocommunication ITU-R Study Group matters (agenda item 16)

Note by the Secretariat

SUMMARY

Executive summary:	This document contains in the annex the report of the ninth meeting of the Joint IMO/ITU Experts Group on Maritime radiocommunication matters
Strategic direction:	1.1, 5.2
High-level action:	1.1.2, 5.2.5
Planned output:	1.1.2.12, 1.1.2.19, 5.2.5.7
Action to be taken:	Paragraph 4
Related documents:	MSC 92/26; COMSAR 17/WP.4, COMSAR 17/17; NAV 59/WP.7, NAV 59/20; Circular Letter No.3377 and documents as specified in the attached report (and available on IMODOCS)

Introduction

1 The report of the ninth meeting of the Joint IMO/ITU Experts Group on Maritime radiocommunication matters, held from 14 to 18 October 2013, at IMO Headquarters, is given in the annex.

2 Appendix 3 to the annex, containing the outline of the detailed review, has not been translated since this was work in progress and the Coordinator of the Correspondence Group on the Review of the GMDSS had been invited to submit an updated version of this appendix for consideration by the Sub-Committee.

3 Appendix 4 to the annex, containing the draft IMO Position as further developed by the Experts Group at this meeting, is presented in clean text. Delegates interested in this version in track changes (against the approved draft IMO position by COMSAR 17, as set out in COMSAR 17/WP.4, annex 5) are kindly requested to send an email to hvanderg@imo.org.

Action requested of the Sub-Committee

4 The Sub-Committee is invited to:

.1 note the discussion on the Proposed modification of resolution A.803(19) (paragraphs 7 to 9);

.2 note that there might be a need for a mechanism which would allow for the administrative update of:

.1 IMO instruments when the ITU Radio Regulations had been revised, to bring IMO regulations in line with ITU regulations; and

.2 other IMO instruments dealing with related issues, when a new or revised IMO instrument was adopted (paragraph 8).

.3 note the discussion on the Out-of-Band roll-off for radars (paragraphs 10 and 11);

.4 note the discussion concerning the liaison statement from Cospas-Sarsat to WP 5B on proposed amendments to the draft revision of Recommendation ITU-R M.1371-4 (paragraphs 12 to 15);

.5 with regard to the draft outcome of the High-level review (paragraphs 18 to 53 and appendix 2):

.1 endorse the new proposed definition of "Security related communications", to be added to SOLAS regulation IV/2 (paragraph 6 of appendix 2);

.2 endorse the proposed revision to the definition of "General communications" in SOLAS regulation IV/2 (paragraph 11 of appendix 2);

.3 note that there is no need to revise the current definition of Maritime safety information in SOLAS regulation IV/2 (paragraphs 6 and 14 of appendix 2);

.4 endorse to include the abbreviation "MSI" in SOLAS regulation IV/2, by means of an editorial amendment (paragraph 14 of appendix 2);

.5 endorse the proposal to add a new functional requirement for ships to be capable for transmitting and receiving safety related information, whilst retaining the functional requirement for ships to receive Maritime Safety Information (MSI) (paragraphs 16 and 17 of appendix 2);

.6 endorse the proposed functional requirements for the Modernized GMDSS (paragraph 17 of appendix 2);

.7 note that the four levels of priority should be retained (paragraph 20 of appendix 2);

.8 note that sea areas A1 and A2 should be retained as separate sea areas (paragraphs 22 and 23 of appendix 2);

.9 note that there are 3 options proposed for the definition of sea areas A3 and A4 and that this, together with port State control procedures, will be further considered under the detailed review (paragraphs 24 to 32 of appendix 2);

.10 note that at the present time, there is no compelling case for the development of a GMDSS Code (paragraph 36 of appendix 2);

.11 note that issues to allow for differences for certain categories of ships will be further considered under the detailed review (paragraph 37 of appendix 2);

.12 note that it is too early to decide which systems and equipment would or would not be included in the Modernized GMDSS (paragraph 40 of appendix 2);

.13 note the need for interoperability of radiocommunications between ships and between ships and shore stations, as well as the need for consistent user interfaces, alignment with other SOLAS chapters and the use of goal-based methodologies is not appropriate (paragraph 52 and paragraph 43 of appendix 2); and

.14 approve the outcome of the High-level review (appendix 2).

.6 note the discussion with regard to the development of the Outline of the detailed review and that the correspondence group was invited to further consider this matter and report directly to the Sub-Committee (paragraphs 54 to 58 and appendix 3);

.7 finalize the draft IMO position on WRC-15 agenda items concerning matters relating to maritime services for approval by MSC 94 and submission to CPM-2 (paragraphs 59 to 94 and appendix 4);

.8 encourage maritime administrations to liaise with the telecom administrations in their country to bring IMO's position on WRC-15 agenda items to their attention (paragraph 61);

.9 note that the tenth meeting of the Group has been scheduled to take place at IMO Headquarters in London from 6 to 10 October 2014 (paragraphs 98 and 99); and

.10 note the report in general.

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ANNEX

REPORT OF THE NINTH MEETING OF THE JOINT IMO/ITU EXPERTS GROUP ON MARITIME RADIOCOMMUNICATION MATTERS

BACKGROUND

1 The COMSAR Sub-Committee, at its seventeenth session (21 to 25 January 2013), endorsed the holding of the ninth meeting of the Joint IMO/ITU Experts Group on maritime radiocommunication matters, along with the terms of reference. The Maritime Safety Committee, at its ninety-second session (12 to 21 June 2013), authorized the convening of this meeting, to be held at the Organization's London Headquarters, from 14 to 18 October 2013.

GENERAL

2 The ninth meeting of the Joint IMO/ITU Experts Group on maritime radiocommunication matters (the Group) was held from 14 to 18 October 2013, at IMO Headquarters, under the chairmanship of Mr. K. Fisher (United Kingdom). The agenda for the meeting is set out in appendix 1.

3 The Experts Group was attended by delegations from the following Member Governments:

ARGENTINA
BULGARIA
CANADA
CHILE
DENMARK
FINLAND
FRANCE
GERMANY
JAPAN
NORWAY
ROMANIA
SPAIN
SOUTH AFRICA
UNITED ARAB EMIRATES
UNITED KINGDOM

4 The meeting was also attended by representatives from the following United Nations specialized agency:

INTERNATIONAL TELECOMMUNICATION UNION (ITU)

and by observers from the following intergovernmental organizations:

INTERNATIONAL MOBILE SATELLITE ORGANIZATION (IMSO)
EUROPEAN CONFERENCE OF POSTAL AND TELECOMMUNICATIONS ADMINISTRATIONS (CEPT)

and by observers from the following non-governmental organizations in consultative status:

COMITÉ INTERNATIONAL RADIO-MARITIME (CIRM)
THE NAUTICAL INSTITUTE

CONSIDERATION OF THE OUTCOME OF COMSAR 17, MSC 91, MSC 92, NAV 59 AND OTHER IMO BODIES, AS APPROPRIATE (AGENDA ITEM 2)

5 The Group noted the information provided by the Secretariat (IMO/ITU EG 9/2) on the outcome of COMSAR 17, MSC 91, MSC 92 and NAV 59 with regard to issues of relevance to the Group.

CONSIDERATION OF THE OUTCOME OF ITU-R WP 4A, WP 4C, WP 5A, WP 5B, WP 5D, WP 7C, JTG 4-5-6-7 AND MEETINGS OF OTHER RELEVANT STUDY GROUPS AND/OR WORKING PARTIES OF ITU (AGENDA ITEM 3)

6 The Group noted information provided by the Secretariat (IMO/ITU EG 9/3) on the outcome of recent meetings of ITU-R Working Parties 4A, 4C, 5A, 5B, 5D, 7C and Joint Task Group 4-5-6-7 with regard to issues of relevance to the Group.

Proposed modification of resolution A.803(19)

7 The Group considered the proposal presented by Japan (IMO/ITU EG 9/3/1), to modify resolution A.803(19), section 3.2, which defines the frequency bands and channels for shipborne VHF radio installations capable of voice communication and digital selective calling. World Radiocommunication Conference 2012 (WRC-12) had amended appendix 18 of the Radio Regulations (RR), containing the change of frequencies and channelling arrangement for the maritime VHF frequency band. Following the decisions of WRC-12, Japan was of the view that the texts in resolution A.803(19), section 3.2 should be amended.

8 In considering the matter, the Group:

.1 supported the proposed change to resolution A.803(19), section 3.2, in principal;

.2 noted that proposing a change to a part of the performance standards would open debate on the whole document and, therefore, was of the understanding that there would be a need for a new unplanned output to undertake a review of the Performance Standards for Shipborne VHF Radio Installations Capable of Voice Communication and Digital Selective Calling, as laid down in resolution A.803(19), as amended by resolution MSC.68(68);

.3 noted that WRC-12 had also adopted changes to appendix 17 to the Radio Regulations with regard to the HF bands and that consequential changes to IMO instruments might also be needed with regard to those changes;

.4 noted that, for the time being, manufacturers had no direct problem with the requirements not being up to date, and were producing equipment that could perform multiple functions;

.5 noted the fact that IMO performance standards and other technical requirements were not mandatory and that it was no guarantee that when requirements were updated, equipment would be updated or replaced;

.6 noted that the question which was prominent in this regard was for how long existing equipment was allowed to continue operating without complying with updated requirements (grandfather clause);

.7 noted, more in general, that there was a need for a mechanism which would allow for the administrative update of IMO instruments when the ITU Radio Regulations had been revised, to bring IMO regulations, circulars and performance standards in line with ITU regulations;

.8 noted that there was also a need for an administrative update of other IMO instruments dealing with related issues, when a new or revised IMO instrument was adopted;

.9 noted the need for ideas on how to set up such a mechanism, for consideration by the Maritime Safety Committee;

.10 noted that a comprehensive exercise in reviewing IMO instruments was expected to take place in the near future, to support the implementation of e-navigation and the modernized GMDSS and that at that time a more flexible mechanism of updating these instruments could be considered; and

.11 noted that Japan would consider submitting a proposal for a new unplanned output to the Committee and was looking for co-sponsors.

9 The delegation of Germany stated that implementation procedures should be developed to ensure compatibility of existing equipment with changes developed and implemented by IMO and ITU.

Studies towards improved Out-of-Band roll-off for radars to enhance spectrum efficiency

10 The Group considered the information provided by the Secretariat (IMO/ITU EG 9/3/2), concerning the liaison statement from WP 1A to WP 5B on Continuing studies towards improved Out-of-Band roll-off for radars to enhance spectrum efficiency and, in particular, that a roll-off mask of 40 dB/decade for unmodulated pulse radar waveforms and 30 dB/decade for all other waveforms was proposed.

11 In considering the matter, the Group noted:

.1 that after WRC-03, ITU-R had debated for a long time the Out-of-Band roll-off for radars and the outcome was that a 30 dB/decade was considered to be practicable and this was included in annex 8 to Recommendation ITU-R SM.1541-5, which was published in August 2013;

.2 that, recently, Japan had submitted several inputs into WP 1A, responsible for spectrum management issues, proposing a 40 dB/decade Out-of-Band roll-off for maritime radars;

.3 concerns that it was already confusing that certain radars had to comply with a 20 dB/decade and other radars with a 30 dB/decade. It was unclear for how long old radars would be kept in service and the need for introducing now even a third category, having to comply with a 40 dB/decade was not recommendable;

.4 concerns about cost implications;

.5 that the delegation of Japan, having noted the discussion, would look at the issue again before attending the WP 5B meeting in November 2013, where the liaison statement from WP 1A would be discussed; and

.6 that participants to the upcoming meeting of WP 5B were requested to express the above mentioned concerns at that meeting, in order to provide WP 1A with useful feed-back.

Draft revision of Recommendation ITU-R M.1371-4

12 The Group considered the information provided by the Secretariat (IMO/ITU EG 9/3/3) concerning the liaison statement from Cospas-Sarsat to WP 5B on proposed amendments to the draft revision of Recommendation ITU-R M.1371-4. Cospas-Sarsat was proposing, for the benefit of identifying EPIRB-AIS devices, to include the EPIRB 15-Hex ID within the AIS transmitter's Message 14 text, as such proposing to replace the current proposed content of Message 14 (EPIRB ACTIVE or EPIRB TEST).

13 In this regard, the Group noted that NAV 59 had considered the draft revision of Recommendation ITU-R M.1371-4 and had expressed the view that there was a need for stability of this recommendation to provide manufacturers and users with a clear guidance for the foreseeable future. NAV 59 had further stated that the current version of the draft revision of this recommendation was fit for purpose for the foreseeable future and that no changes would be required until WRC-18 had considered maritime matters related to e-navigation and the Modernization of the GMDSS.

14 The Group also noted that NAV 59 had concluded that it was content with the proposed amendments as reflected in annex 11 to ITU-R Document 5B/304 and approved a liaison statement back to WP 5B, as set out in NAV 59/WP.7, annex 2.

15 During the ensuing discussions, the following views were expressed:

.1 Cospas-Sarsat had different coding systems, and that countries using the MMSI or radio call sign as part of the identification would have no problem;

.2 the mariner would not understand the EPIRB 15-Hex ID when that would show up as Message 14, and instead the currently proposed text EPIRB ACTIVE or EPIRB TEST was much more acceptable from the ship users point of view;

.3 no new changes should be introduced to the draft revision of Recommendation ITU-R M.1371-4;

.4 Cospas-Sarsat could be advised to create a new field in their database, in order to link information on the different identification codes for EPIRB-AIS devices;

.5 Cospas-Sarsat could be advised to find a practical solution to support SAR authorities in identifying the EPIRP-AIS devices; and

.6 participants to the upcoming meeting of WP 5B were requested to express the above mentioned views at that meeting again, in order to provide Cospas-Sarsat with useful feedback.

CONSIDERATION OF THE REPORT OF THE CORRESPONDENCE GROUP ON THE REVIEW OF THE GMDSS (Agenda item 4)

16 The Group noted that COMSAR 17 had re-established the Correspondence Group on the Review of the GMDSS (CG) under the coordination of the United States, and had approved its terms of reference. It was further noted that the CG should:

.1 prepare a preliminary draft of the High-level review of the GMDSS;

.2 initiate discussions on the issues listed for the detailed review and prepare a preliminary outline of the detailed review;

.3 submit an interim report to the Joint IMO/ITU Experts Group for its consideration; and

.4 taking into account the outcome of discussions in the Joint IMO/ITU Experts Group, submit a final report in 2014 to the responsible Sub-Committee.

The Group further noted that the interim report of the CG had been split in two parts; one concerning the High-level review (IMO/ITU EG 9/4) and the other concerning the detailed review (IMO/ITU EG 9/4/1).

17 The Group recalled its terms of reference, which were to consider the report of the Correspondence Group on the Review of the GMDSS and provide 1) a revised draft outcome of the High-level review and 2) an Outline of the detailed review, specifying matters which need further consideration by the correspondence group.

Preliminary draft outcome of the High-level review of the GMDSS

18 The Group considered the report of the CG (IMO/ITU EG 9/4) presenting the preliminary draft outcome of the High-level review.

Shore-to-shore distress relay

19 The Group considered the proposal from France (IMO/ITU EG 9/4/6) on an amendment to the SOLAS Convention in order to secure shore-to-shore distress relay (or, in other words, the routeing of distress information in the GMDSS).

20 In considering the matter, the Group noted:

.1 that the background for the proposal was to ensure a 24-hours point of contact to receive information on a distress alert;

.2 that the routeing of distress information was laid down in the 1979, SAR Convention and guidelines were provided in, among others, the IAMSAR Manual. These instruments were not, however, included in the IMO audit scheme;

.3 that there was a need to make sure that the GMDSS and the SAR system were fully coherent;

.4 some support for inclusion of the proposed regulation in SOLAS chapter IV;

.5 that more study was needed to see what might be the best way forward to ensure the routeing of distress information in the GMDSS; and

.6 that the issues should be further considered during the detailed review.

21 In this regard, the Group further noted the idea of the twentieth session of the ICAO/IMO Joint Working Group on SAR (JWG 20) (IMO/ITU EG 9/4/8) that it might be of importance to also develop a set of functional requirements for the shore side, including SAR communications and the routeing of distress information in the GMDSS. The Group agreed that this idea could be looked at in parallel with the shore-to-shore distress relay issue discussed above.

Relation with the Radio Regulations

22 The Group agreed with the view of JWG 20 (IMO/ITU EG 9/4/8) that IMO should not restrict itself by what was currently regulated in the Radio Regulations, but that it should develop the modernized GMDSS and, accordingly, request ITU to amend the Radio Regulations. In this regard it was noted that there was already a preliminary agenda item for WRC-18 to consider regulatory actions, including spectrum allocations, to support GMDSS modernization. It was further noted that WRC-15 needed to decide whether this item would finally be included in the agenda for WRC-18 and that further justification needed to be provided to WRC-15.

General Communications

23 The Group noted that under the current definition, urgency and safety messages did not form part of "General communications". The Group recalled that, at its last meeting, it had developed a proposal for a new definition, including urgency and safety messages inside the definition of "General communications". The Group noted that the correspondence group had now proposed a more detailed definition of "General communications", proposing to bring the definition in SOLAS in-line with the definition in the Radio Regulations.

24 The Group considered the proposal from France (IMO/ITU EG 9/4/4) to turn back to the definition of "General communications" as agreed by the last meeting of the Experts Group (COMSAR 17/4, paragraph 34). France considered that the definition proposed at the Group's last meeting was more flexible, while still in line with the Radio Regulations.

25 The Group noted the concerns of JWG 20 (IMO/ITU EG 9/4/8) on the proposed change to the definition of general communications, in particular, in relation to Maritime Safety Information (MSI).

26 After lengthy debate, the Group agreed to turn back to the definition developed at the last meeting, and with a small amendment now reading: "*General communications* means operational communications, other than distress conducted by radio".

Maritime Safety Information (MSI)

27 The Group recalled that, at its last meeting, it had agreed to propose deletion of the capability from the functional requirements for ships to transmit Maritime Safety Information (MSI).

28 The Group noted the concerns of JWG 20 (IMO/ITU EG 9/4/8) on the proposed change to the interpretation of the transmission of MSI from ships.

29 The Group considered the proposal from France (IMO/ITU EG 9/4/5) to maintain the reading of the functional requirement n°7 as it was currently in SOLAS chapter IV (maintaining the functional requirements for ships to be capable of transmitting maritime safety information). France referred to the requirements under SOLAS chapter V, for masters to broadcast to ships in the vicinity meteorological warnings, meteorological forecasts and other urgent safety-related messages.

30 The Group noted that the IHO WWNWS Sub-Committee had recently reconsidered the definition of MSI and concluded that MSI was distinct from other maritime information. MSI was broadcasted on NAVTEX and SafetyNET, something ships at sea could not do. Ships at sea had to report to an area coordinator to create the MSI broadcast ashore.

31 The Group further noted that under the new proposed definition agreed for "General communications" (paragraph 26 above refers), urgency and-safety related communications from and to ships were now covered under General communications and the functional requirement for MSI was now related to MSI as defined by the IHO WWNWS Sub-Committee as set out above.

32 Following a lengthy debate, the Group agreed that there was no need to revise the current definition of MSI in SOLAS regulation IV/2, but that the functional requirements needed to clarify the requirement to transmit and receive safety-related information. Therefore, it was agreed to propose adding a new functional requirement for ships to be capable for transmitting and receiving safety-related information, whilst retaining the functional requirement for ships to receive MSI (paragraph 38 below refers).

Security-related communications

33 The Group noted the information presented by the Chairman (IMO/ITU EG 9/4/2) providing information on security communications and agreed with the proposed definition of security-related communications for application in SOLAS chapter IV, as given in paragraph 15 of the annex to document IMO/ITU EG 9/4, reading: "*Security related communications* means communications associated with the update of security levels, security incidents or threat thereof and security-related information prior to the entry of a ship into a port".

Locating

34 The Group noted the view expressed by the delegation of Germany that the intention in SOLAS chapter IV was that locating devices should be compatible with the equipment normally carried on board the ship and not require special purpose equipment for their operation.

Public correspondence

35 The Group discussed whether the term "Public correspondence" was still to be used in the modernized GMDSS. It was noted that the term was defined in the Radio Regulations (**1.116)** as "Any *telecommunication* which the offices and *stations* must, by reason of their being at the disposal of the public, accept for transmission (CS)". It was further noted that the term "Public correspondence" was imbedded in the ITU constitution and would be very difficult to change.

36 After some discussion, the Group agreed to change the term Public correspondence to "Other communications", to get around the problem.

Bridge-to-bridge communications

37 A short debate took place whether to change bridge-to-bridge communications into ship-to-ship communications and it was concluded that bridge-to-bridge communications should be retained.

Proposed functional requirements for Radiocommunications

38 The Group reviewed the text proposed by the CG for the functional requirements and prepared revised text as given in appendix 2, paragraph 17.

Dedicated equipment

39 The Group noted that the issue of dedicated equipment should be considered under the detailed review and removed it from the document on the outcome of the High-level review.

Order of priorities in use for radiocommunications

40 The Group considered the concerns of JWG 20 (IMO/ITU EG 9/4/8) that if safety and urgency messages were considered as general communications in future, this would lead to misunderstanding of the higher priorities of such messages.

41 The Group, having noted the concerns related to the order of priorities, agreed that the order of priorities should not be the leading factor in developing the functional requirements and associated definitions.

42 The Group noted that article 53 of the Radio Regulations was not mentioning "distress alerting" as highest priority, while the term distress alert was defined in article 32. The Group further noted that this could be an issue to be corrected at WRC-18 and it was agreed to set up a list of possible changes required to the Radio Regulations as a consequence of the modernization of the GMDSS.

Future need for the four different areas of carriage requirements

43 The Group noted that the CG had proposed two possibilities to define sea area A3 in paragraph 27 of the annex to document IMO/ITU EG 9/4.

44 The Group considered the proposal from France (IMO/ITU EG 9/4/3) supporting the second definition of sea area A3, as provided by the CG. France considered this definition to be similar to the present one in the SOLAS Convention. France further proposed no change to the definition of sea area A4.

45 The Group noted that there was a need for a definition which would allow for coverage areas of regional satellite systems. In this regard the outcome of MSC 88 was recalled in relation to the discussion which had taken place on the application of Thuraya to be recognized as a GMDSS provider in future. At MSC 88, support was expressed for the inclusion of regional satellite systems in the GMDSS and the COMSAR Sub-Committee had been instructed to study the implementation of the concept of regional satellite systems in the GMDSS under its agenda item on the review of the GMDSS.

46 After a lengthy debate, the Group identified three options for the definition of sea areas A3 and A4 as an outcome of the High-level review. It was proposed that the issue was further considered in the detailed review.

Future need to allow for differences for certain categories of ships, including non-SOLAS ships

47 The Group considered the information presented by the Chairman (IMO/ITU EG 9/4/7) providing some background on the roles of the ITU and the IMO and describing the publications of relevance to the GMDSS.

48 With regard to the possible creation of a GMDSS Code, it was noted that there was no support for this idea at this moment in time.

49 The Group noted the view of JWG 20 (IMO/ITU EG 9/4/8):

.1 that the review seemed to concentrate on SOLAS vessels, but that the modernized GMDSS should have an open view and enable communications with all craft; and

.2 that it might be difficult, or even impossible for IMO to develop mandatory requirements for all craft, but that the requirement for distress alerts from any craft to be able to be received by SAR services should be kept in mind during the review.

50 The Group agreed with the JWG's view that there was a need to bring consistency to the GMDSS across all types of ships.

51 After some discussion, the Group identified the following items for possible consideration in the detailed review:

.1 relating distress signals in COLREGs to SOLAS chapter IV and requiring SOLAS Convention vessels to relay a distress alert from non-Convention vessels to shore;

.2 the need for all equipment working in the GMDSS to be type approved, to ensure that it met compatible standards;

.3 reduction in the applicable tonnage limits for SOLAS chapter IV, applicable functional requirements to non-Convention ships as currently defined, maintenance of equipment and qualification of personnel; and

.4 use of personal devices, such as Man Overboard Devices (MOBs), etc. and protection of the integrity of the GMDSS.

Possible alignment between chapters III, IV, V and XI-2 of SOLAS and the use of goal-based methodologies

52 The Group agreed with the view of the CG that because of the need for interoperability of radiocommunications between ships and between ships and shore stations, as well as the need for consistent user interfaces, alignment with other SOLAS chapters and the use of goal-based methodologies was not appropriate. However, Norway disagreed with the implication that there was a conflict between the need for interoperability of radiocommunication between ships and between ship and shore stations and goal-based methodologies.

Revised draft of the High-level review

53 The Group agreed on the revised draft of the High-level review, as set out in appendix 2 and invited the NCSR Sub-Committee to approve it.

Preparation of a preliminary outline of the detailed review

54 The Group considered the report of the CG (IMO/ITU EG 9/4/1) providing a basis for discussion of issues and a preliminary outline of the detailed review of the GMDSS.

55 The Group agreed with the approach of using the functional requirements as a starting point. The offer made by the delegation of Japan to provide the CG with an input on the possible development of a system-architecture was noted.

56 The Group discussed the draft document on the outline of the detailed review of the GMDSS as presented by the CG, and noted as follows:

.1 HF NBDP is a current solution for distress alerting, search and rescue coordination communications and general communications;

.2 with regard to VHF, MF and HF, SOLAS requires the initiation of distress communications by sending a distress alert by DSC, and that there was also the mechanism under the GMDSS in the Radio Regulations to initiate distress communications by sending a distress call by voice. For ships not subject to the SOLAS Convention, the majority of distress communications are initiated by distress calls;

.3 false alerts are currently not a major issue, and are a consequence of any automated alerting system;

.4 AIS was not considered to be suitable for distress alerting as it is not designed for this function;

.5 the VHF DSC EPIRB has never been used for distress alerting and should be removed from SOLAS at the earliest opportunity;

.6 consideration should be given to the integration of navigation and communication systems and the rationalization of alerts;

.7 at-sea electronic maintenance was an acceptable option for maintaining availability;

.8 Automatic Transmitter Identification System (ATIS) was considered not to be a technique to be added into the Modernized GMDSS;

.9 the outcome of the gap analysis for e-navigation should be considered; and

.10 after completion of the review and approval of the modernization plan, standards for equipment could be considered to review issues such as complexity of operation, upgrading of software, integration of GNSS and installation practices.

57 Additional items for the detailed review that were identified during this meeting were:

.1 the addition of requirements for shore-to-shore communications (paragraphs 19 to 21 refers);

.2 a need for machine-readable MSI, that can readily be displayed on navigational systems;

.3 to the extent possible, to allow the integration of distress and safety functions into the radio equipment routinely used on the ship;

.4 to allow for differences for certain categories of ships (paragraph 51 refers);

.5 the definition of the different areas of carriage requirements (sea areas) and port State control procedures (appendix 2 refers); and

.6 align terminology throughout documentation.

Outline of the detailed review

58 The Group agreed on the outline of the detailed review, as set out in appendix 3 and invited the correspondence group to further consider this and submit a report to NCSR 1.

FURTHER DEVELOPMENT OF THE DRAFT IMO POSITION ON WRC-15 AGENDA ITEMS CONCERNING MATTERS RELATING TO MARITIME SERVICES (AGENDA ITEM 5)

59 The Group noted that COMSAR 17 had approved the draft IMO position, as set out in COMSAR 17/WP.4, annex 5, with a view to further developing it at the next meeting of the Joint IMO/ITU Experts Group.

60 Using document IMO/ITU EG 9/5 as the basis, the Group further developed the draft IMO position on WRC-15 agenda items concerning matters relating to maritime services, as set out in appendix 4. Information regarding the discussions which took place at this meeting is set out below.

61 The Group noted, in particular, that it was important to encourage maritime administrations participating in IMO meetings to liaise with the telecom administrations in their country to bring IMO's position on WRC-15 agenda items to their attention.

WRC-15 agenda item 1.1

62 The Group noted the Summary of input contributions on studies relating to certain frequency bands (IMO/ITU EG 9/5/12).

63 The Group further noted the liaison statement sent by NAV 59 (IMO/ITU EG 9/2, annex) and the information provided by the Secretariat in document IMO/ITU EG 9/3.

64 The Group also noted input documents to the upcoming meeting of JTG 4-5-6-7 (17 to 25 October 2013), indicating excessive levels of out-of-band emissions from user equipment. It was, therefore, decided to include the necessary protection against out-of-band emissions in the draft IMO position.

65 The Group further noted the importance for the maritime community to emphasize that shipping is to be considered a great contributor to economic development.

66 The Group updated the text of the background section and draft IMO position in line with the liaison statement sent by NAV 59 and the discussions which took place at this meeting.

WRC-15, agenda item 1.3

67 The Group noted the Work plan for WRC-15, agenda item 1.3 (IMO/ITU EG 9/5/10) and the draft CPM text (IMO/ITU EG 9/5/11), as well the information provided by the Secretariat in document IMO/ITU EG 9/3. The Group noted, in particular, the list of frequency bands given in the draft CPM text and that only the frequency band 380-470 MHz was of interest for the maritime community in relation to the operation of the Cospas-Sarsat system in the frequency band 406-406.1 MHz.

68 The Group recalled that, at its last meeting, it had recommended that the JWG be instructed to consider the matter of broadband public protection and disaster relief (PPDR) in relation to the development of the draft IMO position on WRC-15, agenda item 1.3. It was noted that COMSAR 17 had endorsed this recommendation and instructed the JWG to consider this matter.

69 The Group further noted the view of JWG 20 (IMO/ITU EG 9/5/17) that aeronautical and maritime SAR in general and the communication needs of RCCs in particular were included in the broad concept of PPDR. It was also noted that the JWG, after some discussion, had concluded that the agenda item was not an issue on which it could advise on an IMO position.

70 The Group concluded that the concerns with regard to the frequency band 406-406.1 MHz could be addressed under WRC-15, agenda item 9.1.1 and that there was no need to keep agenda item 1.3 in the draft IMO position and agreed to delete the item as an item of interest.

WRC-15, agenda item 1.8

71 The Group noted the Work plan for WRC-15, agenda item 1.8 (IMO/ITU EG 9/5/1) and the draft CPM text (IMO/ITU EG 9/5/2), as well the information provided by the Secretariat in documents IMO/ITU EG 9/2 and IMO/ITU EG 9/3. The Group further noted the information provided by the Secretariat on the outcome of the last meeting of WP 4A and, in particular, the updated text for the draft CPM report. It was noted that currently three methods to satisfy the agenda item were included in the draft CPM text and that studies seemed not to lead to reducing the allowed distance from the coast to operate earth stations located on board vessels (ESVs).

72 The Group noted, in particular, that COMSAR 17 had considered document COMSAR 17/4/1 (United States) related to ESVs and noted that the needs of shipping should be taken into account when reconsidering the regulatory limits of the use of Ku- and C-band ESVs, in preparation of and at WRC-15. Accordingly, COMSAR 17 had sent a liaison statement on this matter to WP 4A and CIRM (COMSAR 17/17, annex 6).

73 The Group updated the text of the background section and draft IMO position, in particular, using the text from the liaison statement sent by COMSAR 17 to WP 4A and CIRM.

WRC-15, agenda item 1.9.2

74 The Group noted the Work plan for WRC-15, agenda item 1.9.2 (IMO/ITU EG 9/5/3/Rev.1) and the draft CPM text (IMO/ITU EG 9/5/4/Rev.1), as well the information provided by the Secretariat in document IMO/ITU EG 9/3.

75 The Group noted that no interest had been expressed by the maritime community to use the frequency bands under consideration and concluded that at this moment in time there was no need to keep agenda item 1.9.2 in the draft IMO position and agreed to delete the item as an item of interest.

WRC-15, agenda item 1.12

76 The Group noted the draft CPM text for WRC-15, agenda item 1.12 (IMO/ITU EG 9/5/14), as well as the information provided by the Secretariat in document IMO/ITU EG 9/3.

77 The Group updated the text of the background section and draft IMO position, in particular, improving the text of the position now stating that the band 9200-9500 MHz be excluded from consideration under agenda item 1.12, for Earth exploration satellite (active) service.

WRC-15, agenda item 1.14

78 The Group noted the draft CPM text for WRC-15, agenda item 1.14 (IMO/ITU EG 9/5/13).

79 The Group further noted the information provided by the Secretariat in relation to the ITU-BIPM Workshop "Future of International Time Scale" and that information was accessible on the ITU website:
http://www.itu.int/ITU-R/index.asp?category=conferences&rlink=itu-bipm-workshop-13&lang=en

80 The Group discussed the pros and cons of adding "leap seconds" and updated the text of the background section and draft IMO position in line with these discussions.

WRC-15, agenda item 1.15

81 The Group noted the Work plan for WRC-15, agenda item 1.15 (IMO/ITU EG 9/5/5) and the draft CPM text (IMO/ITU EG 9/5/6), as well as the information provided by the Secretariat in document IMO/ITU EG 9/3.

82 The Group further noted the differences of using analogue technologies, compared to digital technologies, on board ships.

83 After some discussion, the Group updated the text of the background section and draft IMO position.

WRC-15, agenda item 1.16

84 The Group noted the Work plan for WRC-15, agenda item 1.16 (IMO/ITU EG 9/5/7) and the draft CPM text (IMO/ITU EG 9/5/8), as well as the information provided by the Secretariat in documents IMO/ITU EG 9/2 and IMO/ITU EG 9/3. The Group noted, in particular, the outcome of NAV 59 which:

.1 endorse the view of the Technical Working Group that further development of the VDES concept was to be supported by IMO, without committing the Organization regarding future requirements on the use of the VHF frequency band; and

.2 instructed the Joint IMO/ITU Experts Group to update the draft IMO position accordingly and inform ITU-R.

85 The Group considered the information provided by France (IMO/ITU EG 9/5/15 and IMO/ITU EG 9/5/15/Add.1) on the VHF Data Exchange System (VDES) concept and the status of progress in the studies of its development.

86 After some discussion, the Group updated the text of the draft IMO position in line with the outcome of NAV 59.

WRC-15, agenda items 2 and 4

87 The Group did not make any changes to the current text in agenda items 2 and 4.

WRC-15, agenda item 9.1, issue 9.1.1

88 The Group noted the draft CPM text for WRC-15, agenda item 9.1, issue 9.1.1 (IMO/ITU EG 9/5/9/Rev.1), as well as the information provided by the Secretariat in document IMO/ITU EG 9/3.

89 The Group noted that it was of great concern that the Cospas-Sarsat system, having used the band 406–406.1 MHz for many years now, still had great problems with interference from other services. It was further noted that, to protect the band 406–406.1 MHz, a draft Conference resolution was under development.

90 The Group also noted that plans were developed for Power Line Transmission Systems, operating in a frequency band up to 470 MHz, which could have the potential of producing in-band interference to the Cospas-Sarsat system.

91 The Group further noted that the proposed frequency bands for use for Public Protection and Disaster Relief (PPDR), under agenda item 1.3, included a band 380-470 MHz which also has the potential of producing in-band interference to the Cospas-Sarsat system.

92 After some discussion, the Group updated the text of the background section including the issues mentioned above.

WRC-15, agenda item 10

93 The Group noted that consideration of input under this agenda item could only take place closer to the Conference and that it was intended that the Group would draft text at its next meeting for finalization and endorsement by NCSR 2 in 2015.

Annexes

94 The Group agreed on editorial corrections to the annexes.

ANY OTHER BUSINESS (AGENDA ITEM 6)

95 There was no any other business raised by the participants.

IMO's schedule to prepare for WRC-15

96 The Group noted that CPM-2 was planned to take place from 23 March to 2 April 2015 and WRC-15 from 2 to 27 November 2015. These dates would require the following deliveries at IMO meetings:

.1 NCSR 1, 30 June to 4 July 2014, finalize the draft IMO position for approval by MSC 94, 17 to 21 November 2014, and submission to CPM-2; and

.2 Tenth Experts Group, 6 to 10 October 2014, update the draft IMO position for endorsement by NCSR 2, [March] 2015, approval by MSC 95 [May/June] 2015 and submission to WRC-15.

ITU-R meeting schedule

97 The Group noted the dates for the upcoming meetings of ITU-R WP 5B, as follows:

- 18 to 29 November 2013; and
- 19 to 30 May 2014.

It was further noted that the full meeting schedule was available on the ITU website.

Planning for the tenth meeting of the Group

98 The Group noted that MSC 92 had already authorized the holding of the meeting of the Experts Group in 2014 and instructed the Secretariat to take action, as appropriate (MSC 92/26, paragraph 9.8), and that the Council had endorsed this intersessional meeting for 2014 (C 110/D, paragraph 8.4).

99 The Group agreed to provisionally schedule the tenth meeting of the Group at IMO Headquarters in London from 6 to 10 October 2014.

ACTION REQUESTED OF THE SUB-COMMITTEE

100 The Sub-Committee is invited to:

.1 note the discussion on the Proposed modification of resolution A.803(19) (paragraphs 7 to 9);

.2 note that there might be a need for a mechanism which would allow for the administrative update of:

.1 IMO instruments when the ITU Radio Regulations had been revised, to bring IMO regulations in line with ITU regulations; and

.2 other IMO instruments dealing with related issues, when a new or revised IMO instrument was adopted (paragraph 8);

.3 note the discussion on the Out-of-Band roll-off for radars (paragraphs 10 and 11);

.4 note the discussion concerning the liaison statement from Cospas-Sarsat to WP 5B on proposed amendments to the draft revision of Recommendation ITU-R M.1371-4 (paragraphs 12 to 15);

.5 with regard to the draft outcome of the High-level review (paragraphs 18 to 53 and appendix 2):

.1 endorse the new proposed definition of "Security-related communications", to be added to SOLAS regulation IV/2 (paragraph 6 of appendix 2);

.2 endorse the proposed revision to the definition of "General communications" in SOLAS regulation IV/2 (paragraph 11 of appendix 2);

.3 note that there is no need to revise the current definition of Maritime safety information in SOLAS regulation IV/2 (paragraphs 6 and 14 of appendix 2);

.4 endorse to include the abbreviation "MSI" in SOLAS regulation IV/2, by means of an editorial amendment (paragraph 14 of appendix 2);

.5 endorse the proposal to add a new functional requirement for ships to be capable for transmitting and receiving safety-related information, whilst retaining the functional requirement for ships to receive Maritime Safety Information (MSI) (paragraphs 16 and 17 of appendix 2);

.6 endorse the proposed functional requirements for the Modernized GMDSS (paragraph 17 of appendix 2);

.7 note that the four levels of priority should be retained (paragraph 20 of appendix 2);

.8 note that sea areas A1 and A2 should be retained as separate sea areas (paragraphs 22 and 23 of appendix 2);

.9 note that there are 3 options proposed for the definition of sea areas A3 and A4 and that this, together with port State control procedures, will be further considered under the detailed review (paragraphs 24 to 32 of appendix 2);

.10 note that at the present time, there is no compelling case for the development of a GMDSS Code (paragraph 36 of appendix 2);

.11 note that issues to allow for differences for certain categories of ships will be further considered under the detailed review (paragraph 37 of appendix 2);

.12 note that it is too early to decide which systems and equipment would or would not be included in the Modernized GMDSS (paragraph 40 of appendix 2);

.13 note the need for interoperability of radiocommunications between ships and between ships and shore stations, as well as the need for consistent user interfaces, alignment with other SOLAS chapters and that the use of goal-based methodologies is not appropriate (paragraph 52 and paragraph 43 of appendix 2); and

.14 approve the outcome of the High-level review (appendix 2).

.6 note the discussion with regard to the development of the outline of the detailed review and that the correspondence group was invited to further consider this matter and report directly to the Sub-Committee (paragraphs 54 to 58 and appendix 3);

.7 finalize the draft IMO position on WRC-15, agenda items concerning matters relating to maritime services for approval by MSC 94 and submission to CPM-2 (paragraphs 59 to 94 and appendix 4);

.8 encourage maritime administrations to liaise with the telecom administrations in their country to bring IMO's position on WRC-15 agenda items to their attention (paragraph 61);

.9 note that tenth meeting of the Group has been scheduled to take place at IMO Headquarters in London from 6 to 10 October 2014 (paragraphs 98 and 99); and

.10 note the report in general.

ACTION REQUESTED OF ITU-R

101 WP 5B is invited to:

.1 note the discussion on the Out-of-Band roll-off for radars (paragraphs 10 and 11);

.2 note the discussion concerning the liaison statement from Cospas-Sarsat to WP 5B on proposed amendments to the draft revision of Recommendation ITU-R M.1371-4 (paragraphs 12 to 15);

.3 note matters related to WRC-15, agenda items 1.15 and 1.16 (paragraphs 81 to 86 and appendix 4); and

.4 note the report in general.

102 WP 4A is invited to note matters related to WRC-15, agenda item 1.8 (paragraphs 71 to 73 and appendix 4).

103 WP 4C is invited to note matters related to WRC-15, agenda item 9.1, issue 9.1.1 (paragraphs 88 to 92 and appendix 4).

104 WP 5A is invited to note matters related to WRC-15, agenda item and 9.1, issue 9.1.1 (appendix 4).

105 WP 7A is invited to note matters related to WRC-15, agenda item 1.14 (paragraphs 78 to 80 and appendix 4).

106 WP 7C is invited to note matters related to WRC-15, agenda item 1.12 (paragraphs 76 and 77 and appendix 4).

107 JTG 4-5-6-7 is invited to note matters related to WRC-15, agenda item 1.1 (paragraphs 62 to 66 and appendix 4).

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Appendix 1

PROVISIONAL AGENDA

for the Joint IMO/ITU Experts Group on Maritime radiocommunication matters to be held at IMO Headquarters, 4 Albert Embankment, London, SE1 7SR, from Monday, 14 to Friday, 18 October 2013

The meeting will commence at 9.30 a.m. on Monday, 14 October 2013

1 Adoption of the agenda

2 Consideration of the outcome of COMSAR 17, MSC 91, MSC 92, NAV 59 and other IMO bodies, as appropriate

3 Consideration of the outcome of ITU-R WP 4A, WP 4C, WP 5A, WP 5B, WP 5D, WP 7C, JTG 4-5-6-7 and meetings of other relevant Study Groups and/or Working Parties of ITU

4 Consideration of the report of the Correspondence Group on the Review of the GMDSS

5 Further development of the draft IMO position on WRC-15 agenda items concerning matters relating to maritime services

6 Any other business

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Appendix 2

REVIEW AND MODERNIZATION OF THE GMDSS

Draft outcome of the High-level review

Introduction

1 The Maritime Safety Committee at its ninetieth session approved an unplanned output on "Review and modernization of the Global Maritime Distress and Safety System (GMDSS)", with a target completion year of 2017. In accordance with the Work Plan, this report is the final report on the outcome of the High-level review.

2 The Work Plan provides for this High-level review to be followed by a Detailed Review. The Sub-Committee on Navigation, Communication and Search and Rescue (NCSR) and its Correspondence Group performed the High-level review, with the participation of the Joint IMO/ITU Experts Group on Maritime Radiocommunication Matters (Experts Group).

3 The High-level review was limited to the following over-arching issues concerning the GMDSS:

.1 review of the existing nine functional requirements, including:

.1 the possible need for inclusion of security related communications in the GMDSS; and

.2 the consideration of the possible need to develop a clearer definition of "General Communications", which is continuing to cause confusion and consider if this category should be included within the requirements of the GMDSS;

.2 the need for the current order of priorities in use for radiocommunications;

.3 the future need for the four different areas of carriage requirements (sea areas A1 to A4), and port State control procedures if sea areas are changed;

.4 the future need to allow for differences for certain categories of ships, including non-SOLAS ships;

.5 whether distress communications should be separated from other types of communications and in consequence whether the arrangements in chapters in SOLAS could be revised (Note: chapter II, (part D – Electrical installations), chapter III, (part B in several instances), chapter V in various instances including e-navigation applications).

.6 possible alignment between chapters III, IV, V and XI-2 of SOLAS, in particular, with regard to type approval, secondary equipment and maintenance arrangements and their regulatory status (i.e. mandatory or discretionary); and

.7 assess whether to increase the use of goal-based methodologies when reviewing the regulations and regulatory framework for GMDSS in SOLAS chapters IV and V and the STCW Convention, to provide flexibility to allow the GMDSS to adapt to new and evolving technologies without major revision of the SOLAS and STCW Conventions in future.

Review of the existing nine functional requirements

4 The current regulation IV/4 of SOLAS requires that every ship[1], while at sea, shall be capable:

.1 except as provided in regulations 8.1.1 and 10.1.4.3, of transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service;

.2 of receiving shore-to-ship distress alerts;

.3 of transmitting and receiving ship-to-ship distress alerts;

.4 of transmitting and receiving search and rescue coordinating communications;

.5 of transmitting and receiving on-scene communications;

.6 of transmitting and, as required by regulation V/19.2.3.2, receiving signals for locating;

.7 of transmitting and receiving maritime safety information;

.8 of transmitting and receiving general radio communications to and from shore-based radio systems or networks subject to regulation 15.8; and

.9 of transmitting and receiving bridge-to-bridge communications.

Security related communications

5 Requirements for maritime security are given in SOLAS chapter XI-2. The Ship Security Alert System (SSAS) does not involve communication with other ships or with coast radio stations. Therefore, those communications are neither ship-to-ship nor ship-to-shore communications. Communications are addressed to a designated competent authority. Therefore, security related communications should not be a functional requirement of the GMDSS but chapter IV should include a requirement for ships to be capable of security-related communications, and a definition of "security related communications" is also required.

6 Therefore, a definition of "security related communications" is proposed to be added to Regulation IV/2, as follows:

"*Security related communications* means communications associated with the update of security levels, security incidents or threat thereof and security-related information prior to the entry of a ship into a port"

7 Security Information is occasionally transmitted as Maritime Safety Information (MSI). Security-related requirements are already included in paragraph 4.2.2.17 of the Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI Manual). A revision to the definition of MSI, therefore, is not required.

[1] Under the general applicability requirements of the SOLAS Convention as well as regulation IV/1.1, "every ship" means cargo ships over 300 gross tonnage and passenger ships, on international voyages.

General communications

8 The existing definition in SOLAS regulation IV/2.1.5, defines general radio communications as "operational and public correspondence traffic, other than distress, urgency and safety messages conducted by radio."

9 Coast radio stations (Government owned) which provided public correspondence facilities when the GMDSS was first designed have now all largely closed down. However, facilities for public correspondence are still required. These communications are now being achieved using commercial services which are not normally associated with coast radio stations and the term public correspondence is no longer widely used. For the Modernized GMDSS it is therefore proposed to change the term Public correspondence to "Other communications" and include a new capability for Other communications but not as part of the GMDSS functional requirements.

10 The definition of urgency and safety communications is given in article 33 of the Radio Regulations and now includes the following communications:

.1 navigational and meteorological warnings and urgent information;

.2 ship-to-ship safety of navigation communications;

.3 ship reporting communications;

.4 support communications for search and rescue operations;

.5 other urgency and safety-related messages; and

.6 communications relating to the navigation, movements and needs of ships and weather observation messages destined for an official meteorological service.

Operational communications is now, therefore, covered under the definition of urgency and safety communications.

11 It is proposed to redefine the term "General communications" by aligning it with the Radio Regulations. The new definition proposed is:

"*General communications* means operational communications, other than distress conducted by radio".

12 MSC/Circ.1038 on Guidelines for General Communications will need to be revised or withdrawn to reflect this change.

Maritime Safety Information (MSI)

13 A further issue that was identified during the review involved Maritime Safety Information (MSI).

14 Under the existing definition in SOLAS regulation IV/2.1.9, "*Maritime safety information"* means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships. This definition is also consistent with the Radio Regulations and performed by a shore base service and there is no need to revise the current definition of MSI in SOLAS regulation IV/2. However, in order to align the

SOLAS definition with the common use of the term "MSI", and as a consequence the use of this term in other documents, the need was identified to include the abbreviation "MSI" in SOLAS regulation IV/2, by the following editorial amendment: *"Maritime Safety Information (MSI)* means navigational and …..".

15 The existing functional requirement No.7 however requires that ships have a capability to transmit and receive maritime safety information. This capability results from requirements in SOLAS chapter V for ships to transmit danger messages.

16 It is, therefore, proposed to add a new functional requirement for ships to be capable for transmitting and receiving safety-related information, whilst retaining the functional requirement for ships to receive MSI.

Proposed functional requirements for the Modernized GMDSS

17 The new text of Regulation IV/4 is proposed as follows:

1 Every ship, while at sea, shall be capable of:

.1 performing the Global Maritime Distress and Safety System (GMDSS) functions as follows:

.1 transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service;

.2 receiving shore-to-ship distress alert relays;

.3 transmitting and receiving ship-to-ship distress alerts;

.4 transmitting and receiving search and rescue coordinating communications;

.5 transmitting and receiving on-scene communications;

.6 transmitting and receiving signals for locating;

.7 transmitting and receiving safety related information;

.8 receiving Maritime Safety Information (MSI);

.9 transmitting and receiving general communications; and

.10 transmitting and receiving bridge-to-bridge communications,

.2 transmitting and receiving security-related communications, in accordance with the requirements of the International Ship and Port Facility Security Code; and

.3 transmitting and receiving other communications to and from shore-based systems or networks.

Order of priorities in use for radiocommunications

18 The Radio Regulations provide the existing order of four levels of priority, as follows:

.1 Distress calls, distress messages, and distress traffic.

.2 Urgency communications.

.3 Safety communications.

.4 Other communications.

19 The four priorities are needed for communications and operational use in general, including voice, maritime safety information, as well as other text and data messages. Priorities for text and data messages can be used to sort message displays in order of importance or the way in which they are displayed. However, two priorities are sufficient for controlling the radiocommunication link, for example by using pre-emption.

20 It is concluded, therefore, that the four levels of priority should be retained, and apply to voice, text, and data messages and that there is no need to revise article 53 of the Radio Regulations. Automated systems should give priority to category 1 as required in article 53.2. Automated systems should also give priority to categories 2 and 3 (ahead of category 4), but this would not be in conflict with article 53.

Future need for the four different areas of carriage requirements

Existing definitions

21 SOLAS regulation IV/2 defines the existing sea areas:

"Sea area A1" means an area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.

"Sea area A2" means an area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.

"Sea area A3" means an area, excluding sea areas A1 and A2, within the coverage of an INMARSAT geostationary satellite in which continuous alerting is available.

"Sea area A4" means an area outside sea areas A1, A2 and A3.

Sea area A1

22 During the High-level review it was noted that extensive use was made of VHF communications and, therefore, sea area A1 should be retained.

Sea area A2

23 Equipment available for terrestrial communication on board ships is invariably combined MF/HF transceivers which are suitable for use in sea areas A2 and A3. The combination of those two areas was considered, however, it was noted that considerable use is made of MF voice communications. Furthermore, there are also different maintenance requirements for sea areas A2 and A3, and it was finally concluded that sea area A2 should be retained as a separate sea area.

Sea areas A3 and A4

24 The definition of the boundary between sea area A3 and A4 is currently defined by Inmarsat coverage, but Inmarsat might not always be the only GMDSS satellite provider. In future, the Organization might recognize regional or global satellite systems to provide GMDSS services in an A3 sea area, each of them providing coverage different to the current A3 sea area.

25 It is noted that Sea areas A3 and A4 are defined by the Organization, whereas A1, which is related to VHF coverage, and A2, which is related to MF coverage, is defined by Contracting Governments.

26 It was considered that HF should remain a requirement for sea area A4 and an option for sea area A3, excluding any special requirements which might be developed under the Polar Code.

27 It was noted that there may be difficulties to relay distress alerts when a large number of providers would offer services through different systems, as SAR authorities would not know what particular equipment is on any particular ship.

28 One way for differentiating between sea areas A3 and A4 which was considered, is that sea area A3 is related to satellite coverage and sea area A4 is related to HF.

29 References to "Inmarsat" throughout SOLAS chapter IV will need to be changed to refer to "recognized mobile satellite communication service", to be consistent with terminology in resolution A.1001(25).

Options for the definition of sea areas A3 and A4

30 Three different options for the definition of sea areas A3 and A4 (SOLAS regulation IV/2.14) were identified as follows:

OPTION 1

> *"Sea area A3"* means an area, excluding sea areas A1 and A2, within the coverage of a recognized mobile satellite communication service using geostationary satellites in which continuous alerting is available.
>
> *"Sea area A4"* means an area outside sea areas A1, A2 and A3.
>
> Comments on Option 1:
>
> .1 Option 1 is the most similar to the current SOLAS definition, except that the reference to Inmarsat has been deleted.
>
> .2 Option 1 does not facilitate the introduction of non-geostationary satellite systems.
>
> .3 The boundary between sea areas A3 and A4 would depend upon the satellite system used and could be different for different ships.

OPTION 2

"Sea area A3" means an area, excluding sea areas A1 and A2, within the coverage of a recognized mobile satellite communication service in which continuous alerting is available between [70][76] degrees North and South.

"Sea area A3-[R][Regio][Regional][Sub]" means a sub-area within sea area A3, within the regional coverage of a recognized mobile satellite communication service in which continuous alerting is available.

"Sea area A4" means an area outside sea areas A1, A2 and A3.

"Sea area A4-R" means a sub-area within sea area A4, within the regional coverage of a recognized mobile satellite communication service in which continuous alerting is available.

Comments on Option 2:

.1 Option 2 defines a clear boundary for the A3 sea area and, as such, might be helpful to an Administration in issuing safety radio certificates to ships.

OPTION 3

"Sea area A3" means an area, excluding sea areas A1 and A2, within the coverage of a recognized mobile satellite communication service in which continuous alerting is available as may be defined by the Organization.

"Sea area A4" means an area outside sea areas A1, A2 and A3.

Comments on Option 3:

.1 Option 3 defines the sea area A3 as somewhere where satellite coverage is available.

.2 The boundary between sea areas A3 and A4 would depend upon the satellite system used and could be different for different ships.

.3 The safety radio certificate would require details of the geographical area in which the ship is permitted to sail.

.4 Availability of a global satellite system would result in not having a sea area A4 for ships that are certificated to use a global system.

Port State control procedures if sea areas are changed

31 In future, if other satellite service providers are recognized by the Organization, the safety radio certificates of the ship should be required to define the geographic area in which the ship is permitted to operate. The detail of the geographical areas covered by all the different satellite service providers will be given in the GMDSS Master Plan.

Follow up

32 The definition of the different areas of carriage requirements (sea areas) and port State control procedures will be further considered under the detailed review.

Separation of distress communications from other types of communications

33 As described in paragraph 17 it was concluded that "security related communications" and "other communications" could be separated from distress and safety communications. No further revisions to the arrangements in other chapters of SOLAS were considered to be necessary at this time.

Future need to allow for differences for certain categories of ships, including non-SOLAS ships

34 After WRC-07, articles 30 through 34 of the Radio Regulations contain provisions for operational use of the GMDSS, which apply to all ships of all types. SOLAS chapter IV includes GMDSS radio equipment requirements and applies to cargo ships over 300 gross tonnage and passenger ships, on international voyages. Under Regulation I/3, the following types of ships are excluded:

(i) ships of war and troopships

(ii) cargo ships of less than 300 gross tonnage

(iii) ships not propelled by mechanical means

(iv) wooden ships of primitive build

(v) pleasure yachts not engaged in trade

(vi) fishing vessels

The Organization also has Codes (DSC, SPS, MODU and HSC Codes) and other instruments such as the Torremolinos International Convention for the Safety of Fishing Vessels, 1977 (with the its 1993 Protocol and the 2012 Cape Town Agreement) containing requirements for carriage of radio equipment for certain other types of ships.

35 It was suggested that one way to bring consistency to the GMDSS across all types of ships, would be to create a GMDSS Code, which could be applied as mandatory to ships under SOLAS chapter IV, as well as various codes. It could be advisory for other types of ships and serve as a recommendation to governments for application to their domestic services.

36 However, it was concluded that at the present time, there is no compelling case for the development of a GMDSS Code. Developing such a code would require addressing the complex issues that would arise from the various instruments that require the carriage of radio equipment. Each of these would then need to be revised to reference the code.

37 Further items for possible consideration in the detailed review could include:

.1 relating distress signals in COLREGs to SOLAS chapter IV and requiring SOLAS Convention vessels to relay a distress alert from non-Convention vessels to shore;

.2 the need for all equipment working in the GMDSS system to be type approved, to ensure that it meets compatible standards;

.3 reduction in the applicable tonnage limits for SOLAS chapter IV, applicable functional requirements to non-Convention ships as currently defined, maintenance of equipment and qualification of personnel; and

.4 use of personal devices, such as Man Overboard Devices (MOBs), etc. and protection of the integrity of the GMDSS.

Review of existing systems considered for replacement, and existing and new systems for inclusion in the modernized GMDSS

38 A number of new communication technologies and systems have been developed since the introduction of the GMDSS, which are currently not included in the GMDSS. They offer potential improvements and advantages. The following equipment and systems, among others, might be included in the modernized GMDSS:

.1 AIS;

.2 HF E-mail and data systems;

.3 VHF data systems;

.4 Application Specific Messages over AIS;

.5 NAVDAT (500 kHz and/or HF);

.6 Modern satellite communication technologies;

.7 Additional GMDSS satellite service providers;

.8 Hand-held satellite telephones in survival craft;

.9 Hand-held VHF with DSC and GNSS for survival craft;

.10 Man Overboard Devices;

.11 Cospas-Sarsat MEOSAR system; and

.12 AIS and GNSS-equipped EPIRBs.

39 Other systems including mobile internet services, mobile telephone services, broadband wireless access (BWA), e.g. Wimax/mesh networks wireless Local Area Networks and non-regulated Satellite Emergency Notification Devices (SENDs), are more and more used by the public including non-SOLAS ships. These systems do not seem to have a place in the modernized GMDSS.

40 It was therefore concluded that there are a number of new communication systems and equipment that might be part of a modernized GMDSS, However, until the detailed review of the GMDSS is completed it is too early to decide which systems and equipment would or would not be included. Similarly, it is too soon to decide which systems, relying on older or inefficient technologies, might be considered for replacement by more modern systems.

Possible alignment between chapters III, IV, V and XI-2 of SOLAS and the use of goal-based methodologies

41 There are differences in arrangements with regard to type approval, secondary equipment and maintenance arrangements and the regulatory status in SOLAS chapters III, IV, V and XI-2. Other SOLAS chapters are also trending toward using goal-based methodologies in order to provide the maximum possible flexibility for designers, and to allow for innovation.

42 With respect to the GMDSS and communications in general, interoperability is required between ships and between ships and shore stations. In the course of the High-level review, as well as in the work on the e-navigation strategy, there have been numerous calls for standardized user interfaces.

43 However because of the need for interoperability of radiocommunications between ships and between ships and shore stations, as well as the need for consistent user interfaces, alignment with other SOLAS chapters and the use of goal-based methodologies is not appropriate.

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Appendix 3

REVIEW AND MODERNIZATION OF THE GMDSS

OUTLINE OF THE DETAILED REVIEW

Revised Functional Requirements and Issues

1 <u>Transmit ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service</u>

.1 <u>Solutions now available</u>

.1 VHF-FM DSC (Sea Area A1)

.2 VHF-FM Voice (Sea Area A1)

.3 MF DSC (Sea Areas A1 and A2)

.4 MF Voice (Sea Areas A1 and A2)

.5 HF DSC (Sea Areas A1-A4)

.6 HF Voice (Sea Areas A1-A4)

.7 EPIRB (Sea Areas A1-A4)

.8 Inmarsat ship earth station(Sea Areas A1-A3)

.9 HF NBDP (Sea Areas A1-A4)

.2 <u>Discussions for Modernization</u>

.1 Reduce false alerts

.1 A method to reduce the effect of human error through a structure to control and monitor release of distress alerts (COMSAR 16/3/6)

.2 False alerts are random events which will be difficult to eliminate (COMSAR 16/9)

.3 Install device on bridge to indicate when EPIRB transmits

.4 Note WRC-12 resolution 349 on cancelling false distress alerts

.5 Possible improvements for Cospas-Sarsat second generation beacons

.2 Improve access to and quality of information from ships in distress (COMSAR 16/11(annex 1, 310-Gop01/02))

.3 Role of AIS

.1 Use of AIS as a means for distress communications (COMSAR 16/7/1)
(COMSAR 16/7/3)

.2 Use of AIS for distress and locating
(COMSAR 15/INF.4 (13-15))

.3 Next generation AIS
(COMSAR 16/11 (26-32))

.4 Role of the human element

.1 Standardized distress alarm buttons (COMSAR 16/9/1)

.5 Eliminate VHF DSC EPIRB
(COMSAR 15/3/11)

.3 Related Work Plan Subjects

- the role of MF/HF Digital Selective Calling (DSC) and the complexity of some of the signalling functions;
- problems which might arise due to a lack of HF stations in future;
- the usage of satellite equipment as an alternative in Sea Areas A2 currently based around MF/HF DSC;
- the expected evolution of satellite EPIRB systems, such as the Medium Earth Orbit Search And Rescue system (MEOSAR); and
- review existing systems considered for replacement, and existing and new systems for Inclusion in the modernized GMDSS.

2 Receive shore-to-ship distress alert relays

.1 Solutions now in use

.1 VHF-FM DSC (Sea Area A1)

.2 VHF-FM Voice (Sea Area A1)

.3 MF DSC (Sea Areas A1 and A2)

.4 MF Voice (Sea Areas A1 and A2)

.5 HF DSC (Sea Areas A1-A4)

.6 HF Voice (Sea Areas A1-A4)

.7 Inmarsat ship earth station(Sea Areas A1-A3)

.8 HF NBDP (Sea Areas A1-A4)

.2 Discussions for Modernization

.1 Ability to play back voice messages
(COMSAR 15/INF.3 (table row 7))

.3 Related Work Plan Subjects

- the role of MF/HF Digital Selective Calling (DSC) and the complexity of some of the signalling functions;
- problems which might arise due to a lack of HF stations in future; and
- the usage of satellite equipment as an alternative in Sea Areas A2 currently based around MF/HF DSC.

3 Transmit and receiving ship-to-ship distress alerts

.1 Solutions now in use

.1 VHF-FM DSC (Sea Areas A1-A4)

.2 VHF-FM Voice (Sea Areas A1-A4)

.3 MF DSC (Sea Areas A1-A4)

.4 MF Voice (Sea Areas A1-A4)

.5 HF DSC (Sea Areas A1-A4)

.6 HF Voice (Sea Areas A1-A4)

.7 Survival craft VHF (Sea Areas A1-A4)

.8 HF NBDP (Sea Areas A1-A4)

.2 Discussions for Modernization

.1 Role of AIS /VDES

.1 Use of AIS as a means for distress communications
(COMSAR 16/7/1)
(COMSAR 16/7/3)

.2 Use of AIS for distress and homing
(COMSAR 15/INF.4 (13-15))

.3 Next generation AIS
(COMSAR 16/11 (26-32))

.3 Related Work Plan Subjects

- the possible inclusion of Automatic Identification System (AIS) functions;
- the role of MF/HF Digital Selective Calling (DSC) and the complexity of some of the signalling functions;

- the usage of satellite equipment as an alternative in Sea Areas A2
- currently based around MF/HF DSC; and
- voice communications as an integral part of the GMDSS, benefiting search and rescue operations.

4 Transmit and receive search and rescue coordinating communications

.1 Solutions now in use

.1 VHF-FM Voice (Sea Area A1)

.2 MF Voice (Sea Areas A1 and A2)

.3 HF Voice (Sea Areas A1-A4)

.4 Inmarsat ship earth station(Sea Areas A1-A3)

.5 Passenger ship aeronautical radios (Sea Areas A1-A4)

.6 HF NBDP (Sea Areas A1-A4)

.2 Discussions for Modernization

.1 Aeronautical radios for all ships

.2 Role of AIS / VDES

.1 Use of AIS as a means for distress communications
(COMSAR 16/7/1)
(COMSAR 16/7/3)

.2 Use of AIS for distress and homing
(COMSAR 15/INF.4 (13-15))

.3 Next generation AIS
(COMSAR 16/11 (26-32))

.3 Use text to supplement voice for traffic management and SAR
(COMSAR 15/INF.3 (6 and table row 7))

.4 Ship reporting functions to support SAR
(COMSAR 15/11 (annex, 30.3))

.5 Develop efficient way to communicate digital data between SAR and ship
(COMSAR 16/11(annex 1, 310-Gte01-Ste02))

.6 Voice communications essential – keep channel 16 for safety and emergency
(COMSAR 15/INF.3 (table row 2))

.7 Ability to play back voice messages
(COMSAR 15/INF.3 (table row 7))

.8 Positioning and communication equipment for lifeboats and liferafts
COMSAR 15/INF.3 (table row 10)
COMSAR 15/INF.4 (15)

.9 Distress Chat via Satellite

.3 Related Work Plan Subjects

- the role of MF/HF Digital Selective Calling (DSC) and the complexity of some of the signalling functions;
- problems which might arise due to a lack of HF stations in future;
- the usage of satellite equipment as an alternative in Sea Areas A2 currently based around MF/HF DSC; and
- voice communications as an integral part of the GMDSS, benefiting search and rescue operations.

5 Transmit and receive on-scene communications

.1 Solutions now in use

.1 VHF-FM Voice (Sea Areas A1-A4)

.2 Survival craft VHF (Sea Areas A1-A4)

.3 Passenger ship aeronautical radios (Sea Areas A1-A4)

.2 Discussions for Modernization

.1 Aeronautical radios for all ships

.2 Role of AIS / VDES

.1 Use of AIS as a means for distress communications
(COMSAR 16/7/1)
(COMSAR 16/7/3) Use of AIS for distress and homing
(COMSAR 15/INF.4 (13-15))

.2 Next generation AIS
(COMSAR 16/11 (26-32))

.3 Use text to supplement voice for traffic management and SAR
(COMSAR 15/INF.3 (6 and table row 7))

.4 Develop efficient way to communicate digital data between SAR and ship (COMSAR 16/11(annex 1, 310-Gte01-Ste02))

.5 Voice communications essential – keep channel 16 for safety and emergency
(COMSAR 15/INF.3 (table row 2))

.6 Positioning and communication equipment for lifeboats and liferafts
COMSAR 15/INF.3 (table row 10) COMSAR 15/INF.4 (15)

.3 Related Work Plan Subjects

- the possible inclusion of Automatic Identification System (AIS) functions;
- voice communications as an integral part of the GMDSS, benefiting search and rescue operations; and
- possible new requirements for lifeboats and liferafts, for instance to provide long-range communications.

6 Transmit and receive signals for locating

.1 Solutions now in use

.1 VHF-FM DSC (Sea Areas A1-A4)

.2 VHF-FM Voice (Sea Areas A1-A4)

.3 MF DSC (Sea Areas A1 and A2)

.4 MF Voice (Sea Areas A1 and A2)

.5 HF DSC (Sea Areas A1-A4)

.6 HF Voice (Sea Areas A1-A4)

.7 EPIRB (Tx only) (Sea Areas A1-A4)

.8 SART (Tx only) (Sea Areas A1-A4)

.9 Passenger ship aeronautical radios (Sea Areas A1-A4)

.2 Discussions for Modernization

.1 Aeronautical radios for all ships

.2 Role of AIS / VDES

.1 Use of AIS as a means for distress communications
(COMSAR 16/7/1)
(COMSAR 16/7/3)

.2 Use of AIS for distress and homing
(COMSAR 15/INF.4 (13-15))

.3 Next generation AIS
(COMSAR 16/11 (26-32))

.3 Positioning and communication equipment for lifeboats and liferafts
COMSAR 15/INF.3 (table row 10)
COMSAR 15/INF.4 (15)

.3 Related Work Plan Subjects

- the possible inclusion of Automatic Identification System (AIS) functions;
- possible new requirements for lifeboats and liferafts, for instance to provide long-range communications; and
- the expected evolution of satellite EPIRB systems, such as the Medium Earth Orbit Search And Rescue system (MEOSAR).

7 Receive Maritime Safety Information (MSI)

.1 Solutions now in use

.1 VHF-FM Voice (Sea Area A1)

.2 MF Voice (Sea Areas A1 and A2)

.3 HF Voice (Sea Areas A1-A4)

.4 NAVTEX Recievers (Sea Areas A1-A4)

.5 HF NBDP (Sea Areas A1-A4)

.6 Inmarsat ship earth station(Sea Areas A1-A3)

.2 Discussions for Modernization

.1 Role of AIS / VDES

.1 Next generation AIS
(COMSAR 16/11 (26-33))
(COMSAR 14/7/4)

.2 Digital system for MSI and security-related information at 500 kHz (NAVDAT)
(COMSAR 16/4/3)
(COMSAR 16/11(34))

.3 NBDP not needed
(COMSAR 15/INF.3 (table row 3))

.4 Improve NAVTEX bandwidth. Provide MSI as a ship-"pull" service
(COMSAR 15/INF.4 (17))

.5 Ship "pull" service of MSI for EGC SafetyNET service

.6 Improved presentation of MSI
(COMSAR 16/3/5)
(COMSAR 16/INF.2)
(COMSAR 15/INF.3 (table rows 3 and 7))

.7 Improve storage, sharing and distribution of MSI
(COMSAR 15/11 (annex, 30.2))

.3 Related Work Plan Subjects

- the role of Narrow Band Direct Printing (NBDP);
- problems which might arise due to a lack of HF stations in future;
- the usage of satellite equipment as an alternative in Sea Areas A2 currently based around MF/HF DSC; and
- the further evolution of Maritime Safety Information broadcast systems, taking into account the ongoing work in IHO and WMO.

8 Transmit and receive general communications

.1 Solutions now in use

.1 VHF-FM DSC (Sea Area A1)

.2 VHF-FM Voice (Sea Area A1)

.3 MF DSC (Sea Area A2)

.4 MF Voice (Sea Area A2)

.5 HF DSC (Sea Areas A3-A4)

.6 HF Voice (Sea Areas A3-A4)

.7 Inmarsat ship earth station(Sea Areas A1-A3)

.8 HF NBDP (Sea Areas A1-A4)

.2 Discussions for Modernization

.1 HF DSC, HF mail, HF data and upgrading HF shore infrastructure in polar and remote regions
(16/11 (25))
(16/11/1)

.2 Use text to supplement voice for traffic management and SAR
(COMSAR 15/INF.3 (6 and table row 7))

.3 Voice communications essential – keep channel 16 for safety and emergency
(COMSAR 15/INF.3 (table-row 2))

.4 Consider satellite communication needs for e-navigation
(COMSAR 16/3/9 (25))

.5 FAL Forms and Maritime Service Portfolios
(COMSAR 16/11(36-45))

.6 Automatic ship reporting
(COMSAR 16/11(annex 1, 140-Gte01 to 05,
140-Gop01/02, 140-Gtr01))

.7 Improve pilot-mariner communication
(COMSAR 16/11(annex 1, 135-Gte03))

.8 Automatic on-air test features should be incorporated to the extent possible
(COMSAR 15/3/10 (4.4))
(COMSAR 15/INF.3 (table row 6))

.9 Automatically detect free/open working channels
(COMSAR 15/INF.3 (7, table-row 2))

.10 Easier identification of addressees – link with AIS?
(COMSAR 15/INF.3 (table-row 1))

.11 Problems with simplex use of channels
(COMSAR 14/4 (34))

.3 Related Work Plan Subjects

- equipment carriage requirements for duplication, maintenance, equipment interfacing, back-up support systems and power supplies;
- the role of MF/HF Digital Selective Calling (DSC) and the complexity of some of the signalling functions;
- problems which might arise due to a lack of HF stations in future;
- the usage of satellite equipment as an alternative in Sea Areas A2 currently based around MF/HF DSC; and
- review existing systems considered for replacement, and existing and new systems for Inclusion in the modernized GMDSS.

9 Transmit and receive bridge-to-bridge communications

.1 Solutions now in use

.1 VHF-FM Voice (Sea Areas A1-A4)

.2 Discussions for Modernization

.1 Ability to play back voice messages
(COMSAR 15/INF.3 (table row 7))

.3 Related Work Plan Subjects

- equipment carriage requirements for duplication, maintenance, equipment interfacing, back-up support systems and power supplies.

10 Modernization issues applying across multiple functional requirements

.1 Support e-navigation communications – integrate navigation and communication systems
(COMSAR 15/3/10 (6.6))
(COMSAR 15/INF.3 (5 and table row 5))
(COMSAR 15/INF.4 (18))
(COMSAR 15/11 (annex. 30.1))

.2 Eliminate at-sea electronic maintenance option
(COMSAR 15/3/11)

.3 Existing equipment is complex, outdated, and lacks integration
(COMSAR 15/INF.3 (1 and table row 6))

.4 Consider existing requirements and equipment with a goal/objective to consolidate or reduce
COMSAR 15/3/10 (4.2)

.5 Need for MF/HF

.1 VHF + satellite would reduce equipment and need for coast stations
(COMSAR 15/INF.3 (table row 2))

.2 Improve HF communication option
(COMSAR 15/INF.4 (20))

.3 Lack of shore stations and ability to test
(COMSAR 15/INF.3 (3))

.6 Upgrading of software dependent systems
(COMSAR 16/11(annex 1, 134-Gre02))
(COMSAR 14/9)

.7 Introduction of new systems

.1 Use phased approach to introduce new systems
(COMSAR 16/3/9 (24-26))

.2 Approved changes should be implemented carefully and gradually; however a sense of urgency should be applied for modernization work
(COMSAR 15/3/10 (4.5))

.3 Modernization programme should not constrain approved incremental changes
(COMSAR 15/3/10 (4.3))

.4 Need for flexibility and scalability through evolution of current system
(COMSAR 15/16 (3.16.1.1))

.5 Need to keep system under continuous review
(COMSAR 15/16 (3.16.1.2))

.6 Introduce short-term improvements plus long term strategic plan
(COMSAR 15/3/10 (4.6))

.8 Additional satellite systems

.1 Additional satellite systems add cost and complexity for RCCs (COMSAR 16/3/9 (18-23))

.2 Remove barriers to additional satellite systems (COMSAR 15/INF.4 (10))

.3 Capacity-Building for Recognized Mobile Satellite Communication Systems (COMSAR 15/3/7 Rev.1)

.9 Automatic Transmitter Identification System (ATIS) (COMSAR 16/7)

.10 Reliability of communications (COMSAR 16/11(annex 1, 120-Gte01)) (COMSAR 15/11 (annex, 26-27))

.11 Automatically limit PTT time to 2 minutes to prevent stuck key problem (COMSAR 14/7/5)

.12 Communications bandwidth (COMSAR 16/11(annex 1, 120-Gte02))

.13 Channel management and other data communication issues (COMSAR 16/11(annex 1, 120-Gte03))

.14 Modernization of GMDSS into digital communication – IP technology (COMSAR 16/11(annex 1, 120-Gte04-Ste01)) (COMSAR 16/11(annex 1, 220-Gre01-Ste01))

.15 Digitization should not interfere with global use of VHF channels 16 and 70. Elements operating satisfactorily should remain in place. (COMSAR 15/4(annex, 116))

.16 Transition to a (complete) new numbering scheme, (partly) replacing the current assignment and use of MMSI numbers (COMSAR 15/16 (3.16.1.8))

.17 Integrated mobile maritime service with one user interface (COMSAR 16/11(annex 1, 120-Gte05-Sre01))

.18 Common maritime data structure (COMSAR 16/11(annex 1, 211-Gte01))

.19 MESH Networks (COMSAR 15/4/1 (16))

.20 Spectrum

.1 Keep spectrum protection under continuous review (COMSAR 15/16 (3.16.1.6))

.2 Assess requirements for spectrum when evaluating new technologies
(COMSAR 15/16 (3.16.1.7))

.3 More spectrum available within range of appendix 18 – share with land mobile
(COMSAR 14/4 (33))

.21 Related Work Plan Subjects

- equipment carriage requirements for duplication, maintenance, equipment interfacing, back-up support systems and power supplies;
- the need to indicate the facilities required for capacity-building; and
- review existing systems considered for replacement, and existing and new systems for Inclusion in the modernized GMDSS.

11 Role of the human element relevant across multiple functional requirements

.1 Training

.1 Onboard training for familiarization
(COMSAR 16/11(annex 1, 134-Gtr01))

.2 Improved training
(COMSAR 15/3/10 (6.3))

.2 Human-machine interface

.1 More advanced human-machine interface
(COMSAR 16/11(annex 1, 134-Gte01-Ste01/02)

.2 Ergonomic design and regulations
(COMSAR 16/11(annex 1, 134-Gte01-Sre01/05))
(COMSAR 16/11(annex 1, 134-Gre03))

.3 Simplification / common look / standardized interface for all equipment for the operator
(COMSAR 15/3/10 (4.1, 6.3))
(COMSAR 15/INF.3 (2, 3 and table row 4))
(COMSAR 14/7)

.4 Standardized audio and visual indications and symbology
(COMSAR 16/9/2)
(COMSAR 16/11(annex 1, 134-Gte03))

.5 Standardized operational procedures
(COMSAR 16/11(annex 1, 134-Gop01))

.6 Clear/plain language operational guidance
(COMSAR 15/INF.3 (table row 8))

.7 Standards for usability assessment
(COMSAR 16/11(annex 1, 134-Gte01-Sre02/04))
(COMSAR 16/11(annex 1, 134-Gre04))

.3 Related Work Plan Subjects

- the issue of training and performance of crews on board ships, considering the certification and renewal of qualifications and also noting the possible reduction of technical knowledge and skills by operators;

- equipment carriage requirements for duplication, maintenance, equipment interfacing, back-up support systems and power supplies; and

- review existing systems considered for replacement, and existing and new systems for Inclusion in the modernized GMDSS.

12 Optional systems which may use GMDSS facilities

.1 Man overboard systems
(COMSAR 16/7/2)

13 Matters raised previously which will not be considered further as a result of GMDSS functional requirements decisions

.1 Include Long Range Identification and Tracking (LRIT)
(COMSAR 15/INF.4 (15))

.2 HF data for LRIT
(COMSAR 14/7/6)

.3 Include Ship Security and Alerting System (SSAS)
(COMSAR 15/INF.3 (table rows 2 & 9))
(COMSAR 15/INF.4 (15))

.4 Related Work Plan Subjects

- the possible inclusion of Long-range identification and tracking of ships (LRIT) functions; and

- the possible inclusion of Ship Security and Alerting System (SSAS) functions.

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ANNEX to Appendix 3

Equipment used to meet Existing GMDSS Functional Requirements

	Ship-to-shore distress alerts		Shore-to-ship distress alert relays		Ship-to-ship distress alerts		Search and rescue coordinating comms		On-scene comms		Signals for locating		MSI	General comms		Bridge-to-bridge comms	
	Tx		Rx		Tx		Rx		Tx		Rx			Tx		Rx	
VHF-FM DSC	A1		A1		A1 A2 A3 A4		A1 A2 A3 A4						A1 A2 A3 A4	A1 A2 A3 A4		A1 A2 A3 A4	
VHF-FM Voice	A1		A1		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4	A1 A2 A3 A4		A1 A2 A3 A4	
MF DSC	A1 A2		A1 A2		A1 A2 A3 A4		A1 A2 A3 A4				A1 A2		A1 A2				
MF Voice	A1 A2		A1 A2		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2		A1 A2		A1 A2	A2		A2	
HF DSC	A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4				A1 A2 A3 A4		A1 A2 A3 A4	A3 A4		A3 A4	
HF Voice	A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4		A1 A2 A3 A4	A3 A4		A3 A4	

	Ship-to-shore distress alerts	Shore-to-ship distress alert relays	Ship-to-ship distress alerts		Search and rescue coordinating comms		On-scene comms		Signals for locating		MSI	General comms		Bridge-to-bridge comms	
	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Rx	Tx	Rx	Tx	Rx
Survival Craft VHF			A1 A2 A3 A4	A1 A2 A3 A4	A1	A1	A1 A2 A3 A4	A1 A2 A3 A4							
EPIRB	A1 A2 A3 A4								A1 A2 A3 A4						
SART									A1 A2 A3 A4						
NAVTEX Receiver											A1 A2 A3 A4				
HF NBDP	A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4					A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4		
Inmarsat terminal	A1 A2 A3	A1 A2 A3			A1 A2 A3	A1 A2 A3					A1 A2 A3	A1 A2 A3	A1 A2 A3		

	Ship-to-shore distress alerts		Shore-to-ship distress alert relays		Ship-to-ship distress alerts		Search and rescue coordinating comms		On-scene comms		Signals for locating		MSI	General comms		Bridge-to-bridge comms	
	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Rx	Tx	Rx	Tx	Rx
Aeronautical frequency radios on passenger ships					A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4								

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Appendix 4

DRAFT IMO POSITION ON WRC-15 AGENDA ITEMS CONCERNING MATTERS RELATING TO MARITIME SERVICES

Note: This document contains the draft IMO Position, as further developed by the Joint IMO/ITU Experts Group on maritime radiocommunication matters, at its meeting held from 14 to 18 October 2013.

It should be noted that this document is still a draft, which needs to be considered and endorsed by the NCSR Sub-Committee at its first session, scheduled to take place from 30 June to 4 July 2014, and approved by the Maritime Safety Committee at its nighty-fourth session, scheduled to take place from 17 to 21 November 2014. When approved by MSC 94, the IMO position will be submitted to the ITU Conference Preparatory Meeting (CPM-2), scheduled to take place from 23 March to 2 April 2015.

The Joint IMO/ITU Experts Group (6 to 10 October 2014) is expected to update the draft IMO position and NSCR-2 ([March] 2015) is expected to finalize this update for approval by MSC 95 ([May/June] 2015), for submission of the IMO position to WRC-15, scheduled to take place from 2 to 27 November 2015.

General

Over 90 per cent of world trade is transported by sea. This totals some 7.5 billion tonnes (32,000 billion tonne miles), of which about 33 per cent is oil, 27 per cent is bulk (ore, coal, grain and phosphates), the remaining 40 per cent being general cargo. Operating these merchant ships generates an estimated annual income of $380 billion in freight rates within the global economy, amounting to 5 per cent of total world trade.

The industry employs over 1.2 million seafarers.

Agenda item 1.1

1.1 *To consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with resolution **233 (WRC-12)**;*

Background

On the basis of information available in October 2013, consideration of the following frequency bands is of particular concern to the maritime community:

.1 1518-1559 MHz in use for satellite terminals on board SOLAS ships;

.2 1559-1610 MHz in use for RNSS;

.3 1626.5-1660.5 MHz in use for satellite terminals on board SOLAS ships;

.4 1668-1675 MHz in use as uplink paired with the downlink 1518-1525 MHz;

.5 2900-3100 MHz in use for Maritime radionavigation (S-band radar); and

.6 3400-4200 MHz partly in use for feeder links of Inmarsat.

The S-band radar is of particular importance for safety of navigation (safety of life service) and for use in adverse weather conditions, for instance heavy rain. Previous ITU-R studies on sharing with the band 2900 to 3100 MHz are no longer valid, because new generation equipment had not been taken into account.

Action to be taken

Actively contribute to studies (responsible groups are ITU-R WPs 5A and 5D, and ITU-R JTG 4-5-6-7). It should be noted that WPs 5A and 5D have delivered their final product to JTG 4 5-6-7. All the following sharing studies and development of draft CPM text will take place in JTG 4-5-6-7.

Draft IMO position

To exclude the frequency bands 1518-1559 MHz, 1559-1610 MHz, 1626.5-1660.5 MHz, 1668-1675 MHz, 2900-3100 MHz and 3400-4200 MHz, or any other frequency bands that are used by maritime safety systems, as candidate bands under WRC-15, agenda item 1.1, due to the potential adverse impact to maritime safety and the efficient movement of international commerce.

If the band 2 700-2 900 MHz was decided to be a candidate band under WRC-15, agenda item 1.1., IMO requests ITU to address the impact on the band 2 900- 3 100 MHz, including the coexistence between different types of radars. To ensure that out of band emissions from IMT user equipment operating in adjacent bands to the frequency bands mentioned above do not affect the operation of the existing maritime systems.

Agenda ítem 1.8

1.8 *To review the provisions relating to earth stations located on board vessels (ESVs), based on studies conducted in accordance with resolution **909 (WRC-12)**;*

Background

Currently, around 12,000 vessels use VSATs for broadband communication. This service is limited to distances off shore of 125 kilometres for the frequency band 14-14.5 GHz and 300 kilometres for the frequency band 5925-6425 MHz in accordance with resolution 902 (WRC-03). The agenda item is to review the provisions related to ESVs. Ships have a particular need for broadband communications when entering and leaving ports. For example:

.1 for the synchronization of databases;

.2 to transmit port-entry and -exit documents electronically, as harmonized, among others, in IMO's Convention on Facilitation of International Maritime Traffic (FAL Convention) and in accordance with the maritime single window concept to enhance the efficiency of port operations; and

.3 for communication of the crew with their families.

Action to be taken

Monitor studies (responsible group is ITU-R WP 4A).

Draft IMO position

IMO requests that modifications to resolution 902 (WRC-2003) will permit ESVs to be operated by the mariner in an uncomplicated, straightforward manner and closer to the shore, in accordance with the outcome of studies to maintain compatibility with other services that may be affected.

Agenda item 1.12

1.12 *To consider an extension of the current worldwide allocation to the Earth exploration-satellite (active) service in the frequency band 9 300-9 900 MHz by up to 600 MHz within the frequency bands 8 700-9 300 MHz and/or 9 900-10 500 MHz, in accordance with resolution **651 (WRC-12)**;*

Background

Over one million marine radars operate in the frequency band 9200 – 9500 MHz. The GMDSS Radar Search and Rescue Transponders (Radar SART) operates also in this frequency band which is included in provision No. 31.2 of article 31 of the Radio Regulations and appendix 15 to the Radio Regulations, listing the frequencies for distress and safety communications for the GMDSS and protection against harmful interference. The maritime radionavigation service in the band 9 300--9 800 MHz is protected by RR provision No. 5.476A.

Previous ITU-R studies on sharing with the band 9 200 to 9 500 MHz are no longer valid, because new generation equipment had not been taken into account.

Action to be taken

Actively contribute to studies (responsible group is ITU-R WP 7C).

Draft IMO position

Protection of the maritime radionavigation service, operating in the frequency band 9 200-9 500 MHz, is essential for "safety of navigation" and "safety of life" and in accordance with Nos.1.59 and 4.10 of the Radio Regulations. IMO requests that the band 9 200-9 500 MHz be excluded from consideration under agenda item 1.12, for Earth exploration satellite (active) service, due to the potential harmful impact on global shipping.

Agenda ítem 1.14

1.14 *To consider the feasibility of achieving a continuous reference time-scale, whether by the modification of coordinated universal time (UTC) or some other method, and take appropriate action, in accordance with resolution **653 (WRC-12)**;*

Background

Time as measured by the rotation of the earth is running slightly slower than time measured by atomic clocks (as used in GNSS) and the correction for this is to add "leap seconds" when the difference approaches one second. This has occurred 25 times over the past 40 years, the most recent being in June 2012. The corrected time is known as Coordinated Universal Time (UTC) and the arrangements for inserting the leap second are given in Recommendation ITU-R TF.460-6.

Work in the ITU-R has considered the future elimination of leap seconds resulting in UTC gradually diverging from earth rotation time without limit but no agreement has so far been reached. The advantage of eliminating the leap second is that it would remove the cost and disruption involved in adjusting equipment. The disadvantage would be that the definition of UTC would change which might have regulatory consequences.

IMO makes extensive use of UTC in its requirements and will continue to do so in future.

Some manufacturers have reported difficulties in updating equipment when having to take into account the leap seconds.

Celestial navigation is a requirement of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended and is important to the maritime community, which requires time based on Earth rotation. Inertial navigation, which is currently used by naval ships and may be introduced on merchant ships, requires an accurate time reference.

Action to be taken

IMO encourages Contracting Governments to support studies for the resolution of this issue.

Draft IMO position

IMO considers that a linear timescale would simplify the operation of some automated equipment. On the other hand, a timescale based on Earth rotation is essential for a number of navigational purposes.

Agenda item 1.15

1.15 *To consider spectrum demands for onboard communication stations in the maritime mobile service in accordance with resolution **358 (WRC-12)**;*

Background

IMO Member Governments have identified the need for the consideration of improvement and expansion of onboard communication stations in the maritime mobile service in the UHF bands.

UHF onboard communications is much used on board ships, including on board emergencies, fire fighting, berthing, passenger control, etc. There are six channels based on 25 kHz channel spacing and an additional four channels based on 12.5 kHz channel spacing available, as listed in provision No.5.287 of the Radio Regulations, but these are not always available in all countries and are not sufficient in all cases. The technology is currently defined as analogue FM by Recommendation ITU-R M.1174-2, which is found to be very robust in operations in metal ships. A revision of this Recommendation, to introduce digital technologies could provide more voice channels in one frequency but the performance in the operational environment must be evaluated together with the compatibility with existing equipment based on analogue technology.

IMT is also permitted to use this frequency band under provision No.5.286AA of the Radio Regulations and may be a future source of interference.

Action to be taken

Actively contribute to studies (responsible group is ITU-R WP 5B);

Draft IMO position

IMO support measures which would make more efficient use of the frequency band available for onboard systems and would welcome an international solution for the identification of the channels in provision No.5.287 of the Radio Regulations.

Agenda item 1.16

1.16 *To consider regulatory provisions and spectrum allocations to enable possible new Automatic Identification System (AIS) technology applications and possible new applications to improve maritime radiocommunication in accordance with resolution **360 (WRC-12)**;*

Background

AIS is widely used and accepted for shipping but in some parts of the world the capacity of the channels is reaching its limit, due to the introduction of new applications. The continued introduction of new applications will require new channels which have been made available by WRC-12 for experimentation.

The need for digital information exchange (VDE) in the maritime domain, where the VHF Mobile band plays a key role in ship-to-ship communication and coastal ship-shore communication, continues to increase.

A 2008 study in the area of Tokyo bay (Tokyo wan) showed that 27.4% of AIS slots were used. In 2012 the loads of 38 per cent were reached. This 10 per cent increase within four years shows that in Japan the limiting factor of 50 per cent as noted in IALA Recommendation A-124 appendix 18 "VDL Loading Management" could be reached quite soon.

Action to be taken

Actively contribute to studies (responsible group is ITU-R WP 5B).

Draft IMO position

Modifications should not be required to existing AIS equipment on board existing vessels, but rather allow for new applications using AIS technology to evolve, supported by communication primarily on the new frequencies identifed by WRC-12, while protecting the integrity of the original operational purpose of AIS as the primary function on the existing AIS frequencies.

IMO supports the VDES concept, without committing the Organization regarding future requirements on the use of the VHF frequency band.

Agenda item 2

2 *To examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with resolution **28 (Rev.WRC-03)**, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with the principles contained in annex 1 to resolution **27 (Rev.WRC-12)**;*

Background

TBD

Action to be taken

None identified

Draft IMO position

.1 IMO has studied the Recommendations of relevance and commented on each as given in annex 1.

.2 Incorporation by reference is of importance to IMO because of the close relationship between many of the ITU-R Recommendations related to GMDSS equipment and its operation, to IMO performance standards.

.3 IMO requests early indication of any changes proposed by ITU to the mechanism of incorporation by reference and to the list of incorporated Recommendations.

Agenda item 4

4 *In accordance with resolution **95 (Rev.WRC-07)**, to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation;*

Background

TBD

Action to be taken

None identified

Draft IMO position

IMO has studied the resolutions and Recommendations of relevance and commented on each as given in annex 2.

Agenda item 9

9 *To consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with article 7 of the Convention:*

9.1 *on the activities of the Radiocommunication Sector since WRC-12;*

9.2 *on any difficulties or inconsistencies encountered in the application of the Radio Regulations; and*

9.3 *on action in response to resolution **80 (Rev.WRC-07)**;*

Agenda item 9.1, issue 9.1.1

Background

Under agenda item 9.1, issue 9.1.1 ITU-R is invited to study, in accordance with resolution 205 **(Rev.WRC-12)**, the Protection of the systems operating in the mobile-satellite service in the band 406-406.1 MHz.

The Cospas-Sarsat satellite 406 MHz EPIRB is a mandatory alerting device on board SOLAS ships, is also frequently carried as the second means of alerting and carried by ships which are not subject to the SOLAS Convention.

There is evidence that the required transmitted output power of the Cospas-Sarsat 406 MHz EPIRB is greater than the system design minimum value, apparently, because of other emissions from outside and inside the frequency band.

There are developing plans for Power Line Transmission Systems, operating in a frequency band up to 470 MHz, which can have the potential of producing in-band interference to the Cospas-Sarsat system.

The proposed frequency bands for use for Public Protection and Disaster Relief (PPDR), under agenda item 1.3, include a band 380-470 MHz which also has the potential of producing in-band interference to the Cospas-Sarsat system.

Action to be taken

.1 monitor the regulatory, technical and operational studies (responsible group is ITU-R WP 4C) with a view to ensuring the adequate protection of MSS systems in the frequency band 406-406.1 MHz from any emissions that could cause harmful interference (see No.**5.267**), taking into account the current and future deployment of services in adjacent bands as noted in resolution 205, *considering f)*

.2 monitor progress regarding monitoring programmes, to be organized by the ITU-R, in the frequency band 406-406.1 MHz in order to identify the source of any unauthorized emission in that band.

.3 monitor developments in standards for Power Line Transmission Systems.

.4 monitor developments under agenda item 1.3.

Draft IMO position

It is essential to preserve the MSS frequency band 406-406.1 MHz free from any emissions that would degrade the operation of the 406 MHz satellite transponders and receivers, with the risk that satellite Emergency Position Indicating Radio Beacon (EPIRB) signals would go undetected.

Agenda item 9.1, issue 9.1.6

Background

Under agenda item 9.1, issue 9.1.6 ITU-R is invited to study, in accordance with resolution 957 **(WRC-12)**, toward review of the definitions of fixed service, fixed station and mobile station.

Under this agenda item ITU-R is invited to conduct the necessary studies to review the definitions of fixed service, fixed station and mobile station contained in article 1 of the Radio Regulations for possible modification. Furthermore, ITU-R is invited to study the potential impact on regulatory procedures in the Radio Regulations (coordination, notification and recording) and the impact on current frequency assignments of other services resulting from possible changes to the definitions contained in article 1.

Action to be taken

Monitor the activities conducted by WP 1B.

Draft IMO position

Ensure that measures taken at WRC-15 under this agenda item do not have an adverse impact on the maritime services and maritime applications.

Agenda item 10

10 *To recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with article 7 of the Convention,*

Background

Resolution 808 (WRC-12) containing the Preliminary agenda for WRC-18 lists, as item 2.1 for inclusion in the agenda for WRC-18, to consider regulatory actions, including spectrum allocations, to support GMDSS modernization and implementation of e-navigation in accordance with resolution 359 (WRC-12).

Action to be taken:

TBD

Draft IMO position

Support the inclusion of this agenda item into the agenda for WRC-18.

***

ANNEX 1

RECOMMENDATION ITU-R M.476-5

Direct-printing telegraph equipment in the maritime mobile service*
(Question ITU-R 5/8)

(1970-1974-1978-1982-1986-1995)

No longer needed by IMO. Probably no longer needed by the maritime community.

RECOMMENDATION ITU-R M.489-2

Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz

(1974-1978-1995)

Needed by IMO to support the carriage requirements of SOLAS IV and needed by the maritime community in general. Will likely be needed into the foreseeable future.

RECOMMENDATION ITU-R M.492-6

Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service

(Question ITU-R 5/8)
(1974-1978-1982-1986-1990-1992-1995)

Currently needed by IMO to support the NBDP carriage requirement in SOLAS chapter IV, although the system is little used.

RECOMMENDATION ITU-R M.541-9

Operational procedures for the use of digital selective-calling equipment in the maritime mobile service

(Question ITU-R 9/8)
(1978-1982-1986-1990-1992-1994-1995-1996-1997)

Needed by IMO. Likely to be needed into the foreseeable future.

* This Recommendation is retained in order to provide information concerning existing equipment, but will probably be deleted at a later date. New equipment should conform to Recommendation ITU-R M.625 which provides for the exchange of identification signals, for the use of 9-digit maritime mobile service identification signals and for compatibility with existing equipment built in accordance with this Recommendation.
Note by the Secretariat: The references made to the Radio Regulations (RR) in this Recommendation refer to the RR as revised by the World Radiocommunication Conference 1995. These elements of the RR will come into force on 1 June 1998. Where applicable, the equivalent references in the current RR are also provided in square brackets.

RECOMMENDATION ITU-R M.585-6

Assignment and use of identities in the maritime mobile service

(1982-1986-1990-2003-2007-2009-2012)

Required by the maritime community and useful to IMO.

RECOMMENDATION ITU-R M.625-3

Direct-printing telegraph equipment employing automatic identification in the maritime mobile service[**]

(Question ITU-R 5/8)

(1986-1990-1992-1995)

Currently needed by IMO to support the NBDP carriage requirement in SOLAS chapter IV, although the system is little used.

RECOMMENDATION ITU-R M.633-4

Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) system operating through a satellite system in the 406 MHz band

(1986-1990-2000-2004-2010)

Used by IMO to support the Performance standards for EPIRBs.

RECOMMENDATION ITU-R M.690-1

Technical characteristics of emergency position-indicating radio beacons (EPIRBs) operating on the carrier frequencies of 121.5 MHz and 243 MHz

(Question ITU-R 31/8)

(1990-1995)

Required by IMO to define the homing signal characteristics for the satellite EPIRB required by SOLAS chapter IV. Likely to be used by the maritime community for some time to come for EPIRBs and man overboard devices.

[**] Newly developed equipment should conform to the present Recommendation which provides for compatibility with existing equipment built in accordance with Recommendation ITU-R M.476.

RECOMMENDATION ITU-R M.1084-4

Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service

(Question ITU-R 96/8)

(1994-1995-1997-1998-2001)

Used by IMO for the description of VHF channels.

RECOMMENDATION ITU-R M.1171

Radiotelephony procedures in the maritime mobile service

(1995)

Required by IMO and the maritime community as long as coast stations offer a public correspondence service. The number of such coast stations is however declining.

RECOMMENDATION ITU-R M.1172

Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service

(1995)

No longer required by IMO which uses the Standard Marine Communication Phrases but required by the maritime community.

RECOMMENDATION ITU-R M.1173

Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz

(1995)

Required by IMO and the maritime community and likely to be required into the foreseeable future.

RECOMMENDATION ITU-R M.1174-2

Technical characteristics of equipment used for onboard vessel communications in the bands between 450 and 470 MHz

(1995-1998)

Required by the maritime community and useful to IMO. This recommendation is related to agenda item 1.15 for which IMO has developed a position.

RECOMMENDATION ITU-R M.1638

Characteristics of and protection criteria for sharing studies for radiolocation, aeronautical radionavigation and meteorological radars operating in the frequency bands between 5 250 and 5 850 MHz

(2003)

Not required by IMO but may be required by the maritime community where radars in this band are used.

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ANNEX 2

RESOLUTION 13 (Rev.WRC-97)

Formation of call signs and allocation of new international series

Retain.

RESOLUTION 18 (Rev.WRC-12)

Relating to the procedure for identifying and announcing the position of ships and aircraft of States not parties to an armed conflict

Retain.

RESOLUTION 205 (Rev.WRC-12)

Protection of the band 406-406.1 MHz allocated to the mobile-satellite service

Subject to Agenda item 9.1.1

RESOLUTION 207 (Rev.WRC-03)

Measures to address unauthorized use of and interference to frequencies in the bands allocated to the maritime mobile service and to the aeronautical mobile (R) service

Retain.

RESOLUTION 222 (Rev.WRC-12)

Use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite service, and procedures to ensure long-term spectrum access for the aeronautical mobile-satellite (R) service

Retain.

RESOLUTION 331 (Rev.WRC-12)

Operation of the Global Maritime Distress and Safety System

Retain.

RESOLUTION 339 (Rev.WRC-07)

Coordination of NAVTEX services

Retain.

RESOLUTION 343 (REV. WRC-12)

Maritime certification for personnel of ship stations and ship earth stations for which a radio installation is not compulsory

Retain to ensure common operations between Convention and non-Convention ships.

RESOLUTION 344 (Rev.WRC-12)

Management of the maritime mobile service identity numbering resource

Retain.

RESOLUTION 349 (Rev. WRC-12)

Operational procedures for cancelling false distress alerts in the Global Maritime Distress and Safety System

Retain.

RESOLUTION 352 (WRC-03)

Use of the carrier frequencies 12 290 kHz and 16 420 kHz for safety-related calling to and from rescue coordination centres

Retain.

RESOLUTION 354 (WRC-07)

Distress and safety radiotelephony procedures for 2 182 kHz

Retain.

RESOLUTION 356 (WRC-07)

ITU maritime service information registration

Retain.

RESOLUTION 358 (WRC-12)

Consideration of improvement and expansion of onboard communication stations in the maritime mobile service in the UHF bands

Subject of agenda item 1.15.

RESOLUTION 359 (WRC-12)

Consideration of regulatory provisions for modernization of the Global Maritime Distress and Safety System and studies related to e-navigation

Subject of agenda item 10.

RESOLUTION 360 (WRC-12)

Consideration of regulatory provisions and spectrum allocations for enhanced automatic identification system technology applications and for enhanced maritime radiocommunication

Subject of agenda item 1.16.

RESOLUTION 758 (WRC-12)

Allocation to the fixed-satellite service and the maritime-mobile satellite service in the 7/8 GHz range

Subject of agenda item 1.9.2.

RESOLUTION 909 (WRC-12)

Provisions relating to earth stations located on board vessels which operate in fixed-satellite service networks in the uplink bands 5 925-6 425 MHz and 14-14.5 GHz

Subject of agenda item 1.8.

RESOLUTION 612 (Rev. WRC-12)

Use of the radiolocation service between 3 and 50 MHz to support high-frequency oceanographic radar operations

Retain.

RECOMMENDATION 7 (Rev.WRC-97)

Adoption of standard forms for ship station and ship earth station licences and aircraft station and aircraft earth station licences

Retain.

RECOMMENDATION 37 (WRC-03)

Operational procedures for earth stations on board vessels (ESVs) use

Subject of agenda Item 1.8.

RECOMMENDATION 316 (Rev.MOB-87)

Use of ship earth stations within harbours and other waters under national jurisdiction

Retain.