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REVIEW AND MODERNIZATION OF THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)

Coordination with the work on the implementation of the e-navigation Strategy Implementation Plan

(Presented by France)

SUMMARY

Executive summary:	The present document recalls what has been requested to take into account from e-navigation for the modernization of GMDSS and the latest decision of MSC concerning e-navigation. It seems the modernization of GMDSS prepares a framework to radio communications for e-navigation.
Action to be taken:	Paragraph 9
Related documents:	IMO/ITU EG 11/4/1

INTRODUCTION

1 The Global Maritime Distress and Safety System (GMDSS) and other communication technologies are at the core of the e-navigation strategy, providing ship-to-shore and shore-to-ship exchange of data. The Automatic Identification System (AIS) and electronic charts display and information systems (ECDIS) are the newest technologies included in SOLAS. AIS uses VHF maritime frequencies and ECDIS can indicate the position of the AIS signal on an electronic chart display. GMDSS satellite service providers will provide much of the communication capacity for e-navigation. VDES is another e-navigation technology in development that uses the VHF maritime frequencies. Furthermore, Digital Radio Mondial (DRM) has developed new capacity with digital transmission such as NAVDAT on MHF.

2 In order to achieve the review and modernization of GMDSS the Correspondence Group on the review of the GMDSS (CG) was requested to take into account the various e-navigation aspects :

.1 e-navigation gap analysis;

.2 the need to integrate navigation systems and communication systems;

.3 the need to read MSI in graphical display;

.4 functionalities for shore-to-shore communications;

.5 common shore-based system architecture (CSSA) for communications;

.6 usability of equipment;

.7 software quality assurance of equipment;

.8 man-machine interface; and

.9 the scalability to all types of vessels.

3 In May 2012, the e-navigation general architecture has been adopted by MSC 90. This architecture is covering the ship-to-ship, ship-to-shore, shore-to-ship and shore-to-shore communications issues, without it, e-navigation would have no reason to emerge. The basic requirements for provisions to radio communication services proposed in paragraphs 13 and 14 of the report of the CG (IMO/ITU EG 11/4/1) suggest some basic and general communication requirements in order to take into account the technical level of each Contracting Government but also to consider the good operation of GMDSS as a global system including ships side and shore side. The same requirements are also the foundations for an e-navigation Common Shore-based System Architecture (CSSA) for communications. GMDSS is covering distress, urgency, safety and general communication that meet the basic requirements of e-navigation communication in a central position of the e-navigation architecture. The modernization of GMDSS is then proposing to lay this basic requirement in SOLAS that is of a common interest to both GMDSS and e-navigation.

4 In November 2014, MSC 94 approved the e-navigation Strategy Implementation Plan (SIP), as set out in document NCSR 1/28, annex 7. MSC 94 approved also MSC.1/Circ.1494 on *Guidelines on Harmonization of test beds reporting* that would be relevant to test new communication systems for GMDSS.

5 In June 2015, MSC 95 agreed to amend the existing High-level Action 5.2.6 to read "Development and implementation of e-navigation" for inclusion in the High-level Action Plan for 2016-2017. MSC 95 approved MSC.1/Circ.1512 on *Guidelines on Software Quality Assurance and Human Centred Design for e-navigation* that should be taken into account for the design of new GMDSS equipments. MSC 95 further considered the following documents:

.1 MSC 95/19/8, annex 4, proposing the revision of the General requirements for shipborne radio equipment forming part of the GMDSS and for electronic navigational aids (resolution A.694(17)) relating to Built-In Integrity Testing (BIIT) for navigation equipment, together with document MSC 95/19/14, commenting on the proposal, and agreed to include, in the post-biennial agenda of the Committee, an output on "Revised General requirements for shipborne radio equipment forming part of the GMDSS and for electronic navigational aids (resolution A.694(17)) relating to Built-In Integrity Testing (BIIT) for navigation equipment", with two sessions needed to complete the item, assigning the NCSR Sub-Committee as the coordinating organ (see paragraph 19.41 and annex 23).

.2 MSC 95/19/8, annex 5, proposing the development of *Guidelines for the harmonized display of navigation information received via communications equipment*, and document MSC 95/19/14, commenting on the proposal, and

agreed to include, in the 2016-2017 biennial agenda of the NCSR Sub-Committee and the provisional agenda for NCSR 3, an output on "Guidelines for the harmonized display of navigation information received via communications equipment", with a target completion year of 2017.

.3 MSC 95/19/8, annex 6, proposing to consider reports on development and implementation of Maritime Service Portfolios (MSPs) (and other e-navigation reports) from Member States and other international organizations, including proposals to deal with the remaining non-prioritized potential e-navigation solutions, together with documents MSC 95/19/14 and MSC 95/19/15, commenting on the above proposal. The majority of the Committee was of the view that the proposal did not comply with the Committees' Guidelines (MSC-MEPC.1/Circ.4/Rev.4) but, recognizing the importance of e-navigation and that the Organization should take a leading role, invited Member Governments and other interested parties to prepare a full justification for this output in accordance with the information required in annex 3 to resolution A.1062(28), and submit it to MSC 96 for consideration. The delegation of Norway offered to coordinate the work with interested parties and submit a revised proposal for consideration at MSC 96.

.4 MSC 95/19/10 (United States), proposing to develop a new generic performance standard for ship-borne GMDSS equipment to accommodate additional providers of GMDSS satellite services, and agreed to include in the 2016-2017 biennial agenda of the NCSR Sub-Committee and the provisional agenda for NCSR 3, an output on "Performance standards for ship-borne GMDSS equipment to accommodate additional providers of GMDSS satellite services", with a target year of 2016.

DISCUSSION

6 The GMDSS modernization project needs to continue to support the needs of the e-navigation Strategy Implementation Plan (SIP).

7 The GMDSS modernization project could be a framework to develop e-navigation communication by primarily securing in SOLAS the fundamental principles of communication for safeguarding human life at sea by the Contracting Governments.

8 The GMDSS modernization project offers a possible common shore-based system architecture (CSSA) for communication by sharing for instance a Coastal Radio Station for different users: Rescue Co-ordination Centre (RCC), Maritime Assistance Service (MAS), Vessel Traffic Service (VTS), Maritime Safety Information (MSI) provider, Public Correspondence (PC)...

ACTION REQUESTED OF THE EXPERTS GROUP

9 The Joint IMO/ITU Experts Group is invited to note the information provided and take action, as appropriate.