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MARITIME SAFETY COMMITTEE
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Agenda item 23

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WORK PROGRAMME

Request for scoping exercise to establish the need for a review of the elements and procedures of the GMDSS

Submitted by Chile, France, Norway, the United Kingdom and the United States

SUMMARY

Executive summary:	After more than 25 years since inception, and some 18 years after first being placed in service, there may be a need to carry out a review of the GMDSS, both of its functionality and its embedded communication systems. This document invites the Committee to instruct the COMSAR Sub-Committee to implement a scoping exercise on how any review may be implemented and further advise on the shape, size and structure of this review
Strategic direction:	1.1 and 5.2
High-level action:	1.1.2, 5.2.1 and 5.2.5
Planned output:	1.1.1.2, 5.2.5.1 and SOLAS chapter IV amended as required
Action to be taken:	Paragraph 24
Related documents:	COMSAR 12/7/2, COMSAR 13/4/12, COMSAR 13/7/2; and SOLAS chapters IV and V

Introduction

1 The Assembly, at its eleventh session in 1979, considered the arrangements for maritime distress and safety communications and decided that a new global maritime distress and safety system should be established to improve distress and safety radiocommunications and procedures. In conjunction with a coordinated search and rescue infrastructure, the system would incorporate recent technical developments and significantly improve the ability to respond to incidents at sea.

2 With the assistance of ITU, WMO, IHO and the Cospas-Sarsat partners, IMO developed and proved the various types of equipment and techniques used in the Global Maritime Distress and Safety System (GMDSS). ITU also established the appropriate regulatory framework for the implementation of the GMDSS.

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3 In 1983 and 1987 ITU's World Administrative Radio Conferences (WARC) adopted amendments to the ITU Radio Regulations which prescribed the frequencies, operational procedures and radio personnel for the GMDSS.

4 In 1988 the GMDSS Conference adopted amendments to the 1974 SOLAS Convention concerning radiocommunications for the GMDSS, together with several relevant resolutions. These amendments entered into force on 1st February 1992 and the GMDSS was fully implemented on 1 February 1999.

5 Since that time there have been a few updates, but none of major significance and this document invites the Committee to consider the various aspects where existing technology can be better utilized and modern technology integrated into an established system to bring about improved communications and an increased incident response capability.

6 SOLAS regulation IV/4, states that the following functional requirements are obligatory for every ship while at sea:

- .1 transmitting ship-to-shore distress alerts;
- .2 receiving shore-to-ship distress alerts;
- .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 maritime safety information;
- .8 transmitting and receiving general radiocommunications to and from shore-based radio systems or networks; and
- .9 transmitting and receiving bridge-to-bridge communications.

7 COMSAR 12, in considering the user need for e-navigation, noted that some of the user needs, other than the GMDSS functional requirements as detailed in paragraph 6 above and related equipment, did not fall within its remit. However, with regard to e-navigation COMSAR 12 decided to consider AIS, LRIT and SSAS equipment, as specified in SOLAS regulations V/19, V/19-1 and XI-2/6, respectively. COMSAR 12 further considered that additional user requirements might be included at a later occasion. It needs to be noted that the development of e-navigation is an ongoing process and that the development of an e-navigation strategy implementation plan is included in the work programme of the COMSAR Sub-Committee by MSC 85.

8 It is proposed that a scoping exercise is initiated by the Committee to ascertain which areas require closer attention to help frame the requirement for a review of the GMDSS, taking into account the development of e-navigation.

Scope of the proposal

- 9 The Committee is invited to consider that:
- .1 after the extended period since inception and implementation of the GMDSS, no in-depth review has been completed and it is proposed that a scoping exercise should be undertaken by the COMSAR Sub-Committee to ascertain the extent of the review including the shape and size that this review might take;
 - .2 the initial output from the COMSAR Sub-Committee would be a work plan outlining how any review would be undertaken, its format and timescales working towards completion;
 - .3 there would need to be the facility for capacity building into any update, review or modernization that took place. This would ensure that all Member Governments, especially developing Member Governments, would be able to fully comply without having to embark on expensive, wholesale changes; and
 - .4 it would be prudent to look at a goal-based approach to the review of SOLAS chapters IV and V and the STCW Convention's wording, rather than a prescriptive approach for the regulations and the regulatory framework.

Need or compelling need

10 The GMDSS was designed over 25 years ago. There has not been a full review since its implementation in 1999 and technology has developed significantly in that time. The current system is seen to be relatively sound, but it is known that there are areas where improvement could be brought about, e.g., managing the cessation of international telex. The areas that will be identified may need to be examined and reviewed as a matter of some urgency.

11 Consideration should be given to any compatibility that there may be between the GMDSS, current technologies like AIS, and new or emerging technologies that are over the horizon. The emerging e-navigation facets could also be considered, to ascertain what parts may, or may not, be beneficial to this mature distress alerting and communications system. While this work is being progressed, the process should not prohibit sensible incremental GMDSS improvements. It is also felt that following on from this review, a process of continuous improvement should be put in place to ensure that the GMDSS fulfils its requirements, in all aspects, whilst utilizing emerging technologies where these are appropriate.

Analysis of the issues involved, having regard to both the costs to the maritime industry, as well as the associated legislative and administrative burden, at global level

12 A review and modernization of the facilities and technologies within the GMDSS will have a cost impact, as will any amendments to legislation and administration that may come about. In its scoping exercise the COMSAR Sub-Committee should be requested to carry out this impact analysis and report back to the Committee on its findings.

Benefits which would accrue from the proposal

13 Without pre-empting the outcome, it may be that the scoping exercise will confirm that although operationally the GMDSS functions well, enhanced safety, response to alerts and follow up communications, especially in the Polar Regions, could be attained by the integration of

newer technologies and existing systems. Possibly inclusion of AIS more fully into the system as the technology in AIS SART has already been accepted as an equivalent, could be considered.

14 The e-navigation strategy and the pulling together of some of the salient strands within this visionary introduction of technology and systems, together with the GMDSS and its mature existing technologies, can only lead to overall improvement in safety and efficiency. Enhanced use of allocated spectrum can only be of benefit where the provision in some areas is over congestion and others under-utilization and where, internationally, the assignment becomes more competitive. Current and emerging technologies could also be investigated so that more efficient use of all spectrum would be provided.

Priority and target completion date

15 The COMSAR Sub-Committee, using established IMO working methods, should undertake and complete this scoping exercise over a period of two sessions.

Specific indication of the action required including draft texts of the proposed requirements, if possible

16 The Committee is invited to instruct the COMSAR Sub-Committee to discuss the scope of a review of the GMDSS and to refer it to the established IMO working structures, as appropriate.

Remarks on the criteria for general acceptance, as provided in paragraph 2.10

17 Discussions within this document cover the points 1 to 6 in the above-mentioned paragraph.

Is the subject of the proposal within the scope of IMO's objectives?

18 Under Strategic Plan item 5, there are two areas in which a review of the GMDSS already has items of interest:

5.2.5.2 Further developments of the GMDSS master plan on shore-based facilities (MSC); and

5.2.5.4 Evaluation and recognition of future mobile satellite communications systems for use in the GMDSS (MSC).

How is the proposed item related to the scope of the Strategic Plan for the Organization and fits into the High-level Action Plan?

19 To improve the Safety and Security of shipping and seafarers through possible incorporation of new technologies, deletion of out-of-date methods of operation and other initiatives that may be decided upon by the COMSAR Sub-Committee.

Do adequate industry standards exist?

20 Industry has continued to develop standards throughout the existence of the GMDSS up to and including the latest devices like AIS SARTs. Standards, during review, are improved to reflect technological advancement and improvement. It is unlikely that new standards will need to come out of the Committee for existing technologies, although there will be a need to review

them to ensure that they provide all that is necessary under any new arrangements. Any systems introduced through development of e-navigation will, out of necessity, require new standards to support them.

Do the benefits justify the proposed action?

21 Yes, a system that is over 25 years old can only be improved through a review which may develop from this proposed scoping exercise. The benefits that emerge should include enhancement of safety, security, environmental protection and general communications for the industry, while mariners would benefit from a GMDSS that is fully modern and responsive to user needs.

Identification of which committee/subsidiary body(ies) are essential to complete the work

22 The sponsors of this document believe that the COMSAR Sub-Committee is competent to initially discuss these issues in part under several agenda items for COMSAR 14. These include:

- .1 agenda item 3 – Global Maritime Distress and Safety Systems (GMDSS);
- .2 agenda item 7 – Developments in maritime radiocommunications systems and technology; and
- .3 agenda item 9 – Development of procedures for updating shipborne navigation and communication equipment.

Estimation of the number of sessions needed to complete the work

23 As stated in document COMSAR 13/4/12 submitted by France, the lead times required to bring about changes within the Radio Regulations are long. With that in mind and anticipating changes that may be required from any review, these should be linked in with the work that would be required at ITU. It could therefore be envisaged that this work, following the two sessions of the scoping exercise, will need to be given further sessions of the Sub-Committee for completion, perhaps leading through to the World Radio Conference 2015 or beyond. The COMSAR Sub-Committee, after completing the scoping exercise will be better placed to report on this requirement.

Action requested of the Committee

24 The Committee is requested to:

- .1 endorse the proposal for the COMSAR Sub-Committee to initiate and complete, in two sessions, a scoping exercise on a review of the GMDSS and to develop a work plan on how any review may be implemented;
- .2 approve that this work can be undertaken using established IMO working methods as appropriate; and
- .3 instruct the Secretariat to liaise with ITU with a view to utilizing the resources of the Joint IMO/ITU Experts Group in the cause of this exercise.