

GMDSS TASK FORCE

Newsletter and Summary Record of 31 July 2014 Meeting

1. **The Task Force Meeting.** This Newsletter reports on the recent meeting of the Global Maritime Distress and Safety System (GMDSS) Task Force, a group dedicated to monitoring the success and shortcomings of the GMDSS. The Task Force is also active in current efforts to modernize the GMDSS and monitors related developments in maritime radio and electronic navigation (e-navigation). The Task Force makes recommendations to government authorities to improve safety at sea.

2. **Task Force membership.** Membership is open to individuals associated with commercial vessel operations, recreational vessel interests, training institutions, service agents, manufacturers, and government authorities. Membership is open to any interested person or organization and there is no fee for participation. New members are welcome, to join, send your name, organization (if any), email address, and telephone number (optional) to gmdss@comcast.net. Members who are unable to attend Task Force meetings are invited to participate by email.

3. **The summary record.** This record of the meeting is provided for information and will be posted on the Task Force portion of the Coast Guard web site: www.navcen.uscg.gov/?pageName=MaritimeTelecomms (click GMDSS, then GMDSS Task Force). The summary record is also distributed to all Task Force members to serve as a Newsletter summarizing GMDSS developments and other issues in marine telecommunications. The GMDSS Task Force met on 31 July 2014 at the Arlington, Virginia Headquarters of the Radio Technical Commission for Maritime Services (RTCM). The documents listed below were distributed and are available on request:

Task Force Petition to FCC and USCG for Small Passenger Vessels (on website)
Task Force Response to FCC WT Docket 14-36 (on website)
FCC Response to Task Force Petition: Public Notice 3006 of 17 July 2014
USCG Response to Task Force Petition: USCG-2014-0605 of 15 July 2014
CGHQ Policy Memo on GMDSS Requirements for F/V Operating off Alaska

4. **The Coast Guard Reports:** The following presentations were made by the persons indicated:

a. **The Case for Emergency Beacons for R/Vs Offshore.** Mr. Joe Carro of the Office of Boating Safety briefed the group on the status of the Task Force recommendation that the Coast Guard implement its new Congressional Authorization to require “emergency beacons” on recreational vessels more than 3 miles offshore. The recommendation has been endorsed by the National Boating Safety Advisory Council (NBSAC) which also suggested that a broad interpretation of “emergency beacons” could include several devices in addition to EPIRBs such as PLBs, SPOT, Inreach, and for vessels remaining within 20 miles of the coast, a VHF-DSC with integral or connected satellite positioning service (GNSS).

The Coast Guard's Office of Boating Safety is continuing its extensive cost/benefit analysis of Search and Rescue statistics as a preliminary step before deciding whether to commence regulatory action. For the period selected for analysis, over 20,000 SAR cases had to be sorted manually to identify 738 cases that were more than 3 miles offshore. Those cases generated over 7000 sorties by Coast Guard cutters and aircraft which cost the Coast Guard an average of \$63,000 per case. Aside from the obvious benefits of improving the timeliness of response and accuracy of position, the primary objective of the Task Force proposal is to save more lives.

Joe also reported that the Coast Guard's National Boating Safety Advisory Council (NBSAC) had been given a grant to promote safety features on recreational vessels. The safety features included in the scope of the grant include promoting the wearing of life jackets, restraining consumption of alcoholic beverages on board, promoting the value of taking boating safety courses, and promoting the use of Emergency Beacons on boats offshore. The Task Force has offered to assist the NBSAC effort, especially with respect to the Emergency Beacons. If it's within the scope of their grant, we will also seek their help in promoting the benefits of VHF-DSC radios including proper registration and connection to a GPS navigation receiver.

b. Developments in E-Navigation and AIS/ECDIS Regulations. Jorge Arroyo reported with the following highlights:

1.) NOAD and (AIS) Phase 2 Rulemaking: The Coast Guard "Vessel Requirements for Notices of Arrival and Departure (NOAD) and Automatic Identification System (AIS) (USCG-2005-21869)" Final Rule regarding expansion of NOAD and AIS carriage requirements (to all navigable waters) is currently under E.O. 12886 Regulatory Review at the Office of Information and Regulatory Affairs (OIRA). This is the final review hurdle prior to its publication, so it is hoped that this rule can be published prior to its current December 2014 forecast in the Semi-Annual Regulatory Agenda.

2.) Other Items of General Interest: Amendments to Inland Navigation Rules (33 CFR 83) became effective 1 August 2014 and a new Handbook of Navigation Rules (replacing the old Commandant Instruction 16672.2) will be posted on the NAVCEN website (no government printed version is currently planned, but, USCG is working with commercial purveyors to produce one). Electronic Aids to Navigation are now being deployed in selected areas. These currently include sea buoys (even a few where there is no actual sea buoy on station) and the center span of bridges along with the abutments on each side. We can anticipate more and more of them being deployed as USCG extends the reaches and functionality of its Nation-wide AIS network (NAIS).

c. Update on the Coast Guard's Rescue 21 Project to outfit all coasts except Alaska with full VHF-DSC coverage. Jack Fuechsel relayed the following updates from the Rescue 21 Project Office:

1.) Alaska; Alaska has seen considerable deployment of Remote Radio Console Systems (RRCS) and Digital Selective Calling (DSC) capability, and work has started on three remote sites to add towers and Rescue 21 capability to fill three critical communications gaps. Despite progress along the populated coasts, full coastal coverage in Alaska is not planned.

2.) Western Rivers. For the Western Rivers, system design has progressed, mockups of the system were created and users were able to evaluate and make recommendations to improve the design and human factors integration, and site surveys are in progress.

3.) Coastal Areas. Coastal activity is winding down, however some work is ongoing, including in the vicinity of Biscayne Bay to add capability to better support simultaneous operations by both Coast Guard Sectors in that area (Sector Miami and Sector Key West). The addition of direction finding capability to Remote Fixed Facility (RFF) Lewiston (Buffalo NY) to facilitate location of callers in the vicinity of Niagara Falls, work in Sector North Carolina at two RFFs, as well as work at several locations to add backup network connectivity to RFFs, and work in the island Sectors Honolulu, Guam, and Puerto Rico to improve island-based disaster recovery of the Rescue 21 system.

d. Coast Guard action in response to Task Force Petition recommending upgrades to safety radio equipment on small passenger vessels. Russ Levin noted that a response had been sent to the Task Force on 15 July 2014 and that the Petition was now being reviewed in his office. A public docket has been opened at www.regulations.gov which can be accessed by typing the docket number, USCG-2014-0605, into the keyword box on the main search page.

e. Report on the recent meeting of the IMO's Navigation, Communications, and Search and Rescue Subcommittee (NCSR) in London. Admiral Gilbert summarized the accomplishments of the meeting which are contained in the following highlights:

1.) Long Range Identification and Tracking (LRIT): This program was discussed at length due to several problems. The audits of national Data Exchanges have been falling behind the optimum schedule because many administrations do not want to pay for the audit. Relatively few administrations have ordered data from the International Data Exchange that results in revenue from data purchases falling well below forecasts. There have been suggestions that satellite based AIS could meet the requirements and also comments that more use of the data for Search and Rescue would be appropriate.

2.) Electronic Communications & Navigation. There was a lot of activity but little progress in deciding how to handle e-navigation issues in the future. A Correspondence Group was established, headed by Australia, to advance the work between sessions of the Subcommittee. Inmarsat announced the planned phase out of Inmarsat B, M, and Mini M system support at the end of 2016.

3.) Application of the Iridium Satellite System for GMDSS Status. The U.S. sponsored the Iridium application and it has been well received by most administrations. There were lengthy discussions about who would conduct the planned technical evaluation but the chair ruled that the Subcommittee did not have the authority to make that decision which was reserved for the parent Maritime Safety Committee (MSC). While the International Maritime Satellite Organization (IMSO) indicated that they were prepared to conduct the technical evaluation, MSC might choose another group and inputs are to be sought from the World Meteorological Organization (WMO) and the International Hydrographic Organization (IHO). Practical considerations of meeting schedules, work to be accomplished, and lead-time for bulky papers makes it doubtful that the NCSR Subcommittee will be able to make a review at its next meeting in March of 2015.

4.) GMDSS Modernization. The Technical Working Group spent a fair amount of time on GMDSS Modernization and made the following recommendations which were agreed by NCSR: More work is needed to define Sea Areas A3 and A4 since other satellite systems may be approved. Sea Areas A1 and A2 and 4 levels of priority were retained. The new definition of General Communications was accepted. A set of 10 functional requirements was agreed. The additional functional requirement stems from a clarification that Maritime Safety Information (MSI) is only disseminated by competent authorities and that ships should be capable of transmitting "safety related information." The Ship Security and Alerting System (SSAS) system should not be part of GMDSS. There was no compelling need for a GMDSS Code. The importance of consistent user interfaces and interoperability was agreed.

5. The FCC Reports: Tim Maguire reported for the FCC with the following highlights:

a. FCC action in response to Task Force Petition recommending upgrades to safety radio equipment on small passenger vessels. On 17 July 2014, the FCC issued a Public Notice (Report No. 3006, RM No. 11726) inviting interested persons to file statements opposing or supporting the petition for Rulemaking within 30 days.

b. Conditions under which the FCC will consider granting a waiver for a mandatory U.S. Non-SOLAS vessel to use non-Inmarsat satellite systems in lieu of MF-DSC in areas between 20 and 100 miles offshore. The FCC considers waiver requests on an individual basis and has not published any guidance as to what criteria should be met to be eligible for a waiver. Requests for waiver of the MF-DSC requirement have become more numerous since the Coast Guard discontinued shore watches on 2 MHz channels. Current Task Force recommendations suggest accepting satellite systems that cover the vessel's operating area and support the vessel with a 24x7

watch ashore, provided that the vessel has an active account with the service provider. The FCC was asked to provide examples of criteria required in recently approved waivers so that the Task Force could publish it for public guidance. The FCC reports that the Task Force recommended criteria is acceptable, but that they have also been requiring that an access phone number for one of the Coast Guard RCCs be entered in the satellite phone and posted at the operating station.

6. Reports and Issues: GMDSS Modernization Group.

a. Task Force Support for Input Paper to ITU Working Party 5B to Address Selected Issues. Joe Hersey volunteered to draft an input paper to ITU Working Party 5B to address certain issues regarding the ITU-RM.493 DSC standard that need resolution. The Task Force gave its approval to inclusion of the following issues:

1.) Standardized Human Interface for GMDSS Equipment. The DSC Standard has two Annexes, 3 and 4, which address a need for a standardized human interface in the equipment. This translates to a standard simplified software user interface so that operators find a common means of operating equipment made by different manufacturers. This simplifies training and helps avoid false alerts. Further support may be needed since some other governments oppose use of these Annexes.

2.) Man Overboard Devices using Open Loop All-ships Distress Calls. Again, some other governments are opposed to man overboard devices that use DSC Open Loop Distress calls and are proposing that such devices use Closed Loop Urgency using a newly defined individual and group alert function. If adopted, this would preclude new devices built to the standard from being interoperable with existing DSC radios, especially Class D, and would cause RTCM SC-119 MSLD devices to be not in compliance with the standard. Australia is also opposing the Closed Loop solution. Australia will draft a paper addressing this topic, which the U.S. is expected to co-sponsor.

3.) Position Request and Position Acknowledgement Functions in the Class D VHF-DSC Radios. Tables 4.1 through 4.10.2 added a “not allowed” category to the existing undefined category that had been considered “optional.” Unless this is countered, it would prohibit use of the “position request” and “position acknowledgement” functions required for GMDSS equipment and commonly provided on Class D equipment.

4.) Inputting Own-ship Maritime Mobile Service Identity (MMSI). The current “three strikes” rule most DSC radio manufacturers use to limit the number of tries before locking out entering own-ship MMSI has been a long-standing problem. Since the owner is responsible for inputting the proper own-ship MMSI whenever the boat or radio is transferred or sold, the Task Force believes manufacturers should facilitate allowing users to update the MMSI. The current version of ITU-R M.493-13, presently unmodified in the proposed draft recommendation, requires that “Once stored, it should not be possible for the user to change the MMSI without advice from the

manufacturer.” IEC 62238, the Class D DSC certification test standard, implements this requirement by stating “After the MMSI has been stored, it shall not be possible to change the identity using any combination of operator controls.” The Task Force recommended that a requirement be added for manufacturers to include a common means for updating own-ship MMSI radios.

b. Special Workshop to Review Effectiveness of GMDSS Functional Requirements. Joe Hersey chaired a Workshop on the afternoon of 31 July to review a table of effectiveness of the various GMDSS functional requirements with the objective of submitting it to the IMO Panel of Experts meeting in London in October. The table was edited in several respects based on comments by members. The likely submission will be as an Annex to the report of the Correspondence Group on GMDSS Modernization chaired by RTCM President Bob Markle. A copy of the Table of Effectiveness can be obtained on request to Jack Fuechsel.

c. Next steps to be taken by the GMDSS Modernization Correspondence Group headed by RTCM President, Bob Markle. As indicated in paragraph 4.c.4.) Above, the NCSR-1 meeting approved the High Level Review of Modernization submitted by the Correspondence Group and endorsed the Outline for the Detailed Review. The Correspondence Group was reestablished and will make a submission to the IMO/ITU Experts Group meeting in October. This submission will probably include preliminary text for a revision of Chapter IV of SOLAS.

7. Reports and Issues, Commercial Vessel Task Group. Jack Fuechsel reported for the Commercial Vessel Group with the following highlights:

a. Clarification of Requirements for U.S. Commercial Fishing Vessels Operating in Alaskan Waters. Jack Kemmerer of the Coast Guard Office supervising Fishing Vessel policy referred a draft Policy Letter on GMDSS carriage requirements for fishing vessels over 300 tons operating in Alaskan water, to the Task Force for comment. The Policy Letter is intended to show the basic requirements for A3 vessels and the modified requirements for vessels taking advantage of the waivers. The waivers were put in place prior to the availability of VHF-DSC and MF-DSC coastal watches (and anticipated eventual declaration of Sea Areas A1 and A2 in U.S. coastal waters). Since the Coast Guard no longer watches 2 MHz channels ashore and does not intend to declare Sea Area A2, Alaskan fishing vessels over 300 tons are considered A3 SOLAS vessels for GMDSS purposes. The Task Force concurred in most respects with the draft but recommended several changes that were referred back to the Coast Guard for consideration in amending to the Policy Letter.

The Task Force is appreciative that the Coast Guard sought our opinion on this Draft Policy Letter. Since the Draft is not final, copies will not be available until the final version is issued.

b. Changes to Carriage Requirements for Other Mandatory Non-SOLAS Vessels as a Result of the Coast Guard Discontinuing 2 MHz Watches Ashore. The

Task Force will be upgrading its earlier recommendations regarding Fishing Vessels, Towing Vessels and other mandatory commercial vessels needing to go farther than 20 miles offshore. The main upgrades recommended will be patterned after those in the Petition for Small Passenger Vessels and in most cases will probably be to eliminate any watches on 2 MHz channels and require watch on HF or satellite systems.

8. Reports and Issues, Service Agents and Manufacturers Task Group. Ralph Sponar reported for his group with the following highlights:

a. Standardized Inspection Checklists. The Group has worked with the Coast Guard, the FCC, and Classification Society inspectors to update checklists for mandatory inspections of selected vessel types. The three Inspection Checklists on the FCC website are linked to the Task Force website. Further review is being conducted on Checklists for Bridge-to-Bridge Radiotelephone and AIS Class A and B that appear to be agreeable to the Coast Guard. There is also a need for a checklist for the IMO mandated annual VDR inspection. The Fishing Vessel Checklist published in 2003 is being reviewed prior to posting on the web sites along with the other checklists. The checklist issue is complicated by the fact that neither the Coast Guard nor the FCC wants copies of completed inspection reports. This leaves the only option as retention of the latest inspection report on board with an entry in the log. In at least some cases, the interval between inspections needs to be reduced to provide realistic oversight of EPIRB battery replacement schedules. It is planned to have final copies of all Checklists available at the next meeting.

b. Continuing Issue – Should “3 Strikes Rule” be Rescinded? It is now clear that almost everyone agrees that the rule limiting to three the number of ‘tries’ to enter MMSI numbers in VHF-DSC radios is proving counter productive. Discussion at an earlier meeting suggested that a manufacturer furnished passcode that could be furnished to dealers and service agents would be a more convenient arrangement. The Coast Guard and FCC discussed the issue and had no objection to removing the “three strikes” rule. It appears that input papers proposed for ITU Working Party 5B, if accepted, may give us more flexibility to work around the “3 strikes” limitation.

c. New Issue – Is a a new Standard needed to warn users that use of an Antenna Splitter with VHF Radios and AIS Transceivers is NOT Advisable? The Task Force had been advised that at least one Race Committee had specified use of an antenna splitter so that the VHF Radio and the AIS Transceiver could share a single antenna. Discussion at the Task Force meeting revealed that this is a very poor practice, especially on sailing vessels with long transmission cables. The various losses result in greatly reduced radiated power. This is not a problem for receive-only AIS units but greatly reduces the likelihood that other vessels would receive AIS-B transmissions. The discussion concluded that a Recommended Installation Standard is needed and that NMEA would be the appropriate group to develop and promote it.

9. Reports and Issues: The Recreational Vessel Group Report. David Kennedy of Boat U.S. reported that BOAT US has now issued over 140,000 MMSIs. He reported for his group with the following highlights:

a. Ad hoc Group to Promote Proper Use of VHF-DSC Radios Including Registration for MMSI and Connection to GPS Receiver. The Task Force plans to assist the National Boating Safety Advisory Council (NBSAC) in using their new grant to promote boating safety issues. Voluntary use of Emergency Beacons is one of the issues and we believe the scope of the grant may be broad enough to include our long-standing issue promoting the proper use of VHF-DSC radios including registration of the MMSI and connection to a GPS receiver.

b. Other extracts from Boating Magazines of interest. The Task Force was given extracts from YACHTING Magazine dealing with the satellite system that supports 406 MHz Emergency Beacons and another on Electronic Survival Devices available for boat operators. Another extract from Boating Industry Canada reprinted the NMEA “Antenna Basics,” good advice on maintaining antennas and getting the best performance.

10. Reports and Issues: Training Task Group. Kurt Anderson, Head of the Training Group was unable to attend the meeting but he had previously laid out a number of issues recommended by his Group for improvement of GMDSS Training. There have been no new developments on these issues recently but the status at the last meeting is presented here in abbreviated form for information.

a. Make Changes to the Question Pool Format? There had been various suggestions that the ROC Question Pool be combined with the GOC Question Pool to constitute the first half of the combined Pool. This issue will be revisited in 2014 when further changes to the Question Pools will be considered.

b. Offer Joint ROC/GOC Classes with the ROC being the first part of the combined class? The Group’s opinion was against offering a combined class at this time. Further consideration of this proposal is deferred to gauge the impact of the still pending declaration of Sea Area A1.

c. Require Recertification of GMDSS License Holders? Five year GOC recertification is now recommended by the 2010 Manila STCW Convention to assure better qualified operators. There is already precedent in the U.S. that has long required recertification for Radar/ARPA. This issue is difficult because it would change what has been the U.S. approach for 15 years, but one the Task Force believes important to improve operator qualification and enhance marine safety. The Task Force plans to study this issue further.

d. Should the U.S. Have a Certified Path to Qualification as a GMDSS Maintainer? Although the STCW Convention deals extensively with GMDSS Maintainers, there is no course offered in the U.S. leading to such certification. The Task Force Service Agents Group has long advocated a meaningful certification of technicians capable of maintaining GMDSS equipment and felt that holding the FCC Maintainer License was not sufficient evidence of competence. With IMO Rules calling for a “qualified” technician in many cases, this remains an open issue.

e. Reinstate Training in the IAMSAR Manual? Recent discussions with staff at the National Maritime Center brought out that SAR training is included in other courses required for Deck Watch Officers and does not need to be included in GMDSS training programs.

11. The RTCM Report: RTCM President Bob Markle provided the following updates on the continuing work of the RTCM Special Committees. The following are highlights:

a. RTCM SC-101 on GPS in VHF-DSC Handhelds. The Committee has completed an edition of its standard on GPS in VHF-DSC handhelds. Prompt approval by the FCC is expected.

b. RTCM SC-104 on Differential Global Navigation Satellite Systems (GNSS). This Committee is working on incorporating new differential GNSS messages to accommodate new global and regional systems such as the Chinese BeiDou System (BDS) and the Japanese QZSS System into its standards that were originally developed for GPS. The group will meet in Tampa next month.

c. RTCM SC-109 on Electronic Charting Technology. The Committee is working on a new version of the standard and plans to include provisions for Voyage Data Recorder (VDR) functionality in Electronic Charting Systems. The Committee voted approval of the new standard and is adjudicating comments received.

d. RTCM SC-110 on Emergency Beacons. Current work is on beacons that will be optimized for the new Second Generation MEOSAR Satellite System. Existing beacons will also work with the new satellite system. A new PLB standard has been approved which includes integral GNSS. This is not expected to be a problem since virtually all PLBs on the market already include GNSS receivers.

e. RTCM SC-112 on Marine Radar Standards. This Committee is developing language for this and other standards to require the use of “NMEA Network” messages, worded in such a way that NMEA OneNet can be used when it is ready along with NMEA 2000 and NMEA 0183. The Committee vote is expected within a few weeks.

f. RTCM SC-119 on Maritime Survivor Locating Devices (MSLD). This Committee amended the man overboard standard to accept either closed or open loop

networks. The Committee voted approval prior to the RTCM Assembly and the amendment is now published.

g. RTCM SC-121 on Automatic Identification Systems (AIS) and Digital Messaging. This Committee has completed the standard that establishes the process for developing Application Specific Messages (ASM). Final approval awaits the completion of two appendices.

h. RTCM SC-123 on Digital Small Messaging Services on Maritime Frequencies. RTCM petitioned the FCC to adopt RTCM Standard 12301.1 for transmitting data on VHF channels. The Committee is expanding its work to include data messaging on MF and HF channels as well as Encrypted AIS (EAIS).

i. RTCM SC-127 on E-Loran. This Committee will meet next via Tele Conference to make further progress on the standard. Russia and South Korea are participating. It was announced separately that most of the U.S. Loran towers have been dropped and that only about 8 remain standing.

j. RTCM SC-128 on Satellite Emergency Notification Devices (SEND). This Committee was chartered at the request of the Coast Guard to develop performance standards for emergency notification systems using private satellite systems such as SPOT. The Committee has completed and approved a clarifying amendment to this standard. The FCC has been petitioned to include the revised standard in its Rules.

k. RTCM SC-129 on Portrayal of Nav-Related Information on Shipboard Displays. This Committee has completed a first draft of the portrayal standard.

l. RTCM SC-130 on Electro-Optical Imaging Systems (EOIS). The work of this Committee deals primarily with night vision systems but the Committee work has been suspended pending industry resources to support it.

m. RTCM SC-131 on Multi System Shipborne Navigation Receivers. This new Special Committee has been approved by the RTCM Board to develop a standard incorporating space based and terrestrial navigation systems, and to include inertial systems as well. The standard will include provisions for resistance to interference, spoofing, and jamming.

n. RTCM SC-132 on Visual Emergency Signaling Devices. This new Committee was chartered at the request of the Coast Guard to review devices that might be used to replace flares on vessels. The U.S. Coast Guard Research and Development Center is studying the most effective light characteristics for this purpose.

12. Other Business and the Next Meeting of the GMDSS Task Force: The next Task Force meeting will be held at 8:00 a.m. on Thursday morning 9 October 2014 at the Sanibel Harbor Resort in Fort Myers, Florida during the Annual Conference and Exhibition of the National Marine Electronics Association (NMEA).

Please refer questions and proposals to Captain Jack Fuechsel at 703-527-0484 or gmdss@comcast.net. If you have an Internet server with spam filters, please authorize receipt of messages from gmdss@comcast.net

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