

NATIONAL GMDSS TASK FORCE

Newsletter and Summary Record of 21 July 2016 Meeting

1. **The Task Force Meeting.** This Newsletter reports on the recent meeting of the Global Maritime Distress and Safety System (GMDSS) Task Force sponsored by the U.S. Coast Guard and 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 advocates voluntary use of radio safety equipment by all vessels and makes recommendations to government authorities to improve safety at sea regulations for vessels subject to those regulations.
2. **Task Force membership.** Membership is open to individuals associated with commercial vessel operations, recreational vessel interests, training institutions, service agents, manufacturers, government authorities and 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 and to connect with Task Force meetings by conference call. This Newsletter goes out to about 5000 members after each quarterly meeting. The Task Force maintains a website at: www.navcen.uscg.gov/?pageName=MaritimeTelecomms (click GMDSS/TF)
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. The GMDSS Task Force met on 21 July 2016 at the Arlington, Virginia headquarters of the Radio Technical Commission for Maritime Services (RTCM).
4. **Distribution of Information Papers:** The following Papers of interest were distributed:
 - IMO Interim Guidelines on Maritime Cyber Risk Management
 - FCC Enforcement Order re Icom Sale of Non-compliant Radios in U.S.
 - FCC Public Notice To Permit Class D vs Class A VHF-DSC on Non-SOLAS Vessels
5. **The FCC Reports:** Jim Shaffer reported with the following highlights:
 - a. **FCC Enforcement Order re Icom sale of non-compliant Radios in the U.S.** This Enforcement Order was distributed to alert manufacturers that the FCC was watching for violations of its orders restricting the type of radios permitted for sale in the U.S.
 - b. **Management of MMSI Numbers Being Assigned by Agents:** The FCC and the Coast Guard have entered into Memoranda of Understanding (MOU) with several private sector agencies to issue MMSIs to vessels not requiring a Station License. Those MOUs are being revised but the new format has still not been accepted by one or more of the designated agents. These assignment agents are also known as Licensed By Rule (LBR) agents.

c. Action on the Task Force Petition regarding Small Passenger Vessels. 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. Responses to the Notice were generally positive and the FCC has been in discussion with the Coast Guard to coordinate their positions. The FCC plans to integrate the Small Passenger Vessel changes with the larger RTCM Petition now being considered. The FCC has been granting waivers to non-SOLAS vessels to use satellite phone systems in lieu of MF-DSC provided they operate within the satellite coverage area, the satellite system is manned to respond 24x7 and an external antenna is used to assure connectivity.

d. Progress on the RTCM Petition to Update the FCC Rules. This very sizeable Petition would not only update the Rules but would reformat them in a more logical manner and incorporate all references to standards which have been approved. The Petition was put out for Public Comment that closed 31 May 2016. The public responses have been generally positive and Jim expects that it will get prompt attention at FCC headquarters.

e. Waiver Requests by non-SOLAS vessels to use Class D VHF/DSC Radios in lieu of Class A. Jim noted that the FCC had been in discussion with the Coast Guard on granting waivers to non-SOLAS mandatory vessels to use Class D VHF Radios in lieu of the Class A VHF Radios. They have handled close to 1000 such waiver requests and are now incorporating this change in the FCC Rules to avoid acting on numerous individual waiver requests.

f. Action on Task Force Petition to Permit use of VHF Handhelds Ashore. This petition is now several years old but is still working its way through FCC channels and is currently under consideration by the Commissioners.

6. The Coast Guard Reports: The following presentation summaries were made by the persons indicated:

a. Coast Guard Posture on Cyber Security and Suggestions for Task Force Cyber Security Program. Captain Glenn Hernandez, the Coast Guard's Chief Communicator, noted the immense scope of the program with guidelines coming from government authorities and industry groups. The Coast Guard is represented on the Defense Department's Cyber Security Organization and works with the Department of Homeland Security's in house program. In response to questions, Captain Hernandez suggested that the Task Force seek briefings from the Coast Guard's Cyber Security Command and formulate its internal program that might include at a minimum passing along the published guidelines from government and industry groups.

b. Review of the Joint IMO/ITU Panel of Experts Meeting in London July 2016: Bob Markle and Larry Solomon briefed the Task Force on the outcome of this meeting as follows:

1.) Bob Markle, Coordinator of the international Correspondence Group for GMDSS Modernization, noted that the meeting devoted a lot of time to the Modernization project and repeated again that recent IMO procedural changes would prevent full implementation of the modernization until 2024. The NCSR Subcommittee will need to complete work on changes to Chapter IV of SOLAS and if the U.S. wishes to see Radar SARTS phased out in favor of AIS

SARTs as part of GMDSS Modernization, we need to get appropriate papers in to NCSR-4 meeting. Russ Levin offered to try to get an operational evaluation started comparing AIS and Radar SARTs.

There were inevitably some issues which are still not resolved such as whether MSI broadcasting would be via all approved satellite systems with an attendant increase in cost to the governments providing the MSI information to be broadcast. NAVDAT (a high speed system proposed to replace NAVTEX) will likely be accepted as an approved system but implementation will be optional for Administrations; there is little operational experience so far but France will undertake a demonstration soon. While High Frequency will continue to be an approved system, there are not enough Coast Stations in operation to provide global coverage and the GMDSS Master Plan appears to include stations that are no longer on the air.

2.) Larry Solomon reported on Iridium's progress to be accepted as an approved GMDSS service provider. The IMO has cleared the way for Iridium to be approved as early as 2020 but the IMSO Expert Group identified numerous conditions that need to be satisfied. There were some discussions regarding the frequencies used by Iridium which have raised some concern from radio astronomers but which can likely be resolved with new spacecraft antennas planned for the latest satellite generation.

c. The Task Force Petition to Require Emergency Beacons on Recreational Vessels Offshore. Jeff Decker reported from the Coast Guard Office of Boating Safety as follows: "The Marine Safety and Security Council (MSSC) approved a regulatory project that will propose allowing certain emergency locator beacons to be carried in lieu of visual distress signals. Because it is now an active regulatory project, the USCG cannot talk about specifics because of ex-parte restrictions."

d. Status of the Task Force Petition to Upgrade Radio Safety Equipment on Small Passenger Vessels. Russ Levin reported on this joint petition to both the Coast Guard and the FCC. Both agencies have conducted internal reviews and have been in consultation and seem ready to proceed to regulatory action. The Coast Guard estimates that as many as 23,000 vessels may be impacted by the suggested changes and they are running the required cost benefit studies.

e. MMSI Problems and suggested solutions. At recent Task Force meetings, MMSI management issues have dominated the discussions. Joe Hersey's Table outlining MMSI problems and the FCC's recent Enforcement Advisory are good steps toward improving the situation. At this meeting the Power Squadrons asked that "checking the MMSI number" be added to the voluntary inspection Checklists they use which should lead to a discussion of proper MMSI management with the boat operator being inspected. Jim Shaffer and others suggested that a program be undertaken to add the MMSI number to State Registration Forms. This would be helpful since there is no MMSI database that can be accessed by the public. Russ Levin volunteered to take the lead in working with the National Association of State Boating Law Administrators (NASBLA) to see if we could get their help in advocating a standard way to add MMSI numbers to the State Boat Registration Forms.

f. Background and Future Prospects for Revival of e-Loran. Dana Goward, a retired senior Coast Guard official who also leads the Association for Rescue at Sea (AFRAS) and the Resilient Navigation and Timing Foundation, provided an excellent briefing on current status and future prospects of reviving the e-Loran system as a backup to GPS. The following are highlights:

1.) Current Status of Loran. In the U.S. Loran has been shut down since 2010 but 8 towers are still standing and Congress has directed to Coast Guard to refrain from further demolition pending a national decision on the need for a GPS backup. European Loran operations have also been suspended, except for a single station in the UK, but appear ready to resume operation if an International Plan is agreed. Systems in Russia, China, South Korea and Saudi Arabia continue to operate.

2.) Loran the Obvious Choice to Backup GPS and other GNSS. There have been numerous studies over the years that have concluded that GPS is vulnerable to interference and deliberate jamming. The high power terrestrial Loran system is the perfect complement to the low power, space based GPS system which has also become vitally important for the precise timing signals which Loran can also provide.

3.) Future Options for GPS Backup. The efficiency of a modern e-Loran system is such that both backup navigation and timing could be provided at a reasonable cost but a wireless digital Timing Only backup would only require 4 U.S. towers and could be activated sooner. A national decision is clearly needed but while multiple studies over the years have clearly advocated e-Loran back up, the policy decision remains elusive. Cost is also an issue but a minor one with many scenarios including some public-private funding schemes.

7. Reports and Issues, Recreational Vessel Group: David Kennedy moderated the discussion on Recreational Vessels with the following highlights:

a. New Coast Guard Smart Phone App Getting Good Reviews. The new Coast Guard App for Smart Phones was developed in recognition that about 65% of calls for assistance were originating from cell phones. The take up of smart phones by the public indicates that position information is available in about 80% of such calls. We hope to schedule a briefing on the origin and success of the smart phone app at a future meeting.

b. The ‘LBR’ Registration Agents are awaiting the new MOU that will govern their registration procedures. The registration agents are anxious to finalize the new MOU since it has a strong impact on their operations.

8. Reports and Issues of the Service Agents and Manufacturers Group: Jack Fuechsel moderated the discussion with the following highlights

a. NMEA “One Net” Standard nearly ready for release. Steve Spitzer reported at an earlier meeting that RTCM Special Committee 112 on Radar standards will use the new standard along with NMEA 0183 and NMEA 2000. International Agencies are also expected to take up the new “One Net” standard.

b. NMEA has strong Interest in building a Master Website for U.S. Issued MMSI Numbers: As reported in paragraph 5.d. above, the NMEA is quite interested in developing a master on-line database of all U.S. issued MMSI Numbers. If funding for the project is approved it could be operational as early as 2017. This would provide a source for MMSI numbers assigned by LBR agencies that are currently only available to Coast Guard personnel.

c. Potential Interference between Digital and Magnetron Radars. This issue originated with a report from Germany at the NCSR-2 IMO conference. The Coast Guard has contracted for a study but results are not expected for some time.

9. Reports and Issues of the Commercial Vessel Task Group. Jack Fuechsel moderated discussion of the following issues:

a. Cybersecurity is becoming a Major Issue in the Maritime Community. Captain Hernandez briefed the Task Force on the Coast Guard's Cyber Security Program as noted in paragraph 6.a. above. The IMO has recently published Interim Guidelines on Maritime Cyber Risk Management and the Task Force will arrange for further briefings on the subject.

b. Updating of Task Force Radio Carriage Proposals for Fishing and Towing Vessels. The Group is prepared to recommend updates to the earlier Task Force proposals on these vessel categories. The intent is to wait to see if the Coast Guard and the FCC fully accept the proposals for Small Passenger Vessels since any further recommendations would likely be similar to those proposed for small passenger vessels.

c. Modification of Vessel Inspection Check Lists to Include MMSI Compliance. In support of the broad effort to deal with MMSI problems, inspection check lists will be reviewed to include this item. SOLAS vessels are for the most part in compliance but more data is needed on the state of compliance on non-SOLAS commercial vessels subject to inspection. As noted in item 6.e. above, the most pressing need is compliance by R/Vs and adding MMSI compliance to the voluntary inspection check lists used by the Coast Guard Auxiliary and U.S. Power Squadrons will assist in this effort. If we can arrange through NASBLA to include MMSI Numbers on State Registration Forms, it will be a further resource for improved MMSI management.

d. Coast Guard Marine Inspectors are Requesting Clarification of GMDSS Rules Affecting Alaskan Fishing Vessels. Shortly before this Task Force meeting, a request was received seeking clarification of GMDSS Rules as applied to Alaska commercial F/V. This request originated from Coast Guard inspectors in Seattle where a large number of these F/V are inspected. Time constraints at the meeting did not permit a full discussion of the issues raised that are currently being addressed by Coast Guard and FCC representatives assisted by some Task Force members. It appears that there are some misunderstandings that need to be clarified and some problems with private sector inspectors that need to be addressed. The following are some of these:

1.) Private Sector Inspectors Need Current Information on GMDSS

Regulatory Requirements. Any holder of the FCC's GMDSS Maintainer License (issued for life) is eligible to make GMDSS inspections but this does not mean that they are necessarily competent unless they keep themselves current on regulatory requirements. Vessel owners needing an inspection should be careful to arrange that these inspections are conducted by competent individuals.

2.) VHF-DSC Blanket Waivers are no longer in place. All mandatory non-SOLAS vessels were given an exemption from the requirement to have DSC capability on VHF before the Rescue 21 Program was completed to provide full VHF-DSC coastal watch on the continental U.S. This waiver extended until a year after the Coast Guard declared Sea Area A1 implemented. The waiver and the one year extension have both expired. There may still be a case to grant individual DSC waivers to mandatory, but non SOLAS F/V which remain in Alaska since Sea Area A1 has not been declared in Alaska but transiting F/V clearly require VHF-DSC.

Separately, the Coast Guard requested that the FCC issue a blanket waiver allowing these non-SOLAS craft, (vessels over 300 tons or subpart S small passenger vessels), to fit Class D VHF DSC radios rather than Class A/B. The FCC put the request out for public review and received favorable comments, but has not yet issued that blanket waiver.

3.) Commercial F/V over 300 Tons Require Full SOLAS GMDSS Outfits.

The FCC has determined that F/V over 300 tons are treated as cargo vessels and the SOLAS treaty requires that all sea going vessels over 300 tons on international voyages be fully GMDSS equipped. Waivers of GMDSS equipment based on area of operations are seldom granted to SOLAS vessels since the safety watch that SOLAS vessels provide is an important component of the mutual safety provisions of the GMDSS.

10. Reports and Issues of the Training Task Group. Kurt Anderson's Training Group is proceeding with plans to review the Question Pools for GMDSS Operator exams and they welcome input by all GMDSS Training Personnel. Kurt has personally recommended many of the FCC Rules revisions contained in the RTCM Petition to the FCC mentioned above.

11. GMDSS Modernization. Bob Markle, Chairman of the International GMDSS Modernization Correspondence Group and Larry Solomon of Iridium, both delegates to the Joint IMO/ITU Experts Group and the IMO NCSR Subcommittee provided the report in paragraph 6.b. above that outlines current progress on GMDSS Modernization.

12. The RTCM Report: RTCM President Kate Duffy provided the following updates on the continuing work of the RTCM Special Committees.

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. Incorporation in the FCC regulations is awaited.

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 committee met in Tampa in September 2015 and considered the Coast Guard's notice regarding closure of some of the Nationwide Differential GPS system. RTCM subsequently filed comments in opposition to the closure of the stations, especially those that serve maritime navigation. The May 2016 meeting was in London, England, which emphasized the committee's commitment to include all operating GNSS systems. The Special Committee posted a draft of guidelines on the RTCM member website for manufactures for the use of SBAS in GNSS receivers, but no current standards exist. Additionally, the next version of BDS-SIS-ICD is expected to be released in 2016 with guidelines on how BDS Navigation data identifies BDS navigation data sets in the framework of RTCM messages. GAL I/NAV Version 3.3, RTCM 2.4 and RSIM 1.3 are expecting updates for the September SC104 meeting in Portland, Oregon.

c. RTCM SC-109 on Electronic Charting Technology. The committee has completed and published a new version of the standard (RTCM 10900.6), including provisions for Voyage Data Recorder (VDR) functionality in Electronic Charting Systems. SC-109 will meet again at RTCM Headquarters the 18th of August 2016 at 9:30 am.

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 standard is being developed to allow homing on both 121.5 MHz and AIS in the same EPIRB. 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. The Committee will meet again at RTCM Headquarters on 15 August 2016 beginning at 1:30 pm.

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 met again during the 2016 RTCM Assembly and a revised standard is expected to be out for vote soon.

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 2015 RTCM Assembly and the amendment is now published. The group was advised that Australia has accepted the RTCM MSLD Standard.

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). The new standard is expected to be out for Committee vote soon.

h. RTCM SC-123 on Digital Small Messaging Services on Maritime Frequencies. In response to an RTCM petition, the FCC has proposed to adopt RTCM Standard 12301.1 for transmitting data on VHF channels. The Committee may expand 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 is developing an eLoran standard in connection with the eLoran demonstration project that took place in the United Kingdom under the General Lighthouse Authorities. The RTCM and the GMDSS Task Force commented on the DOT Notice seeking comments on e-Loran as a back up for GPS that closed on 22 May 2015. SC-127 met again during the 2016 RTCM Assembly. The latest version of SC-127 MPS V2.09 will be sent out to RTCM members for a 60 days review and vote.

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 initially declined to include the revised standard in its Rules, but RTCM has asked for reconsideration.

k. RTCM SC-129 on Portrayal of Nav-Related Information on Shipboard Displays. This Committee has completed a first draft of the portrayal standard but the issues are very complex. Additional input will likely be required from SC-112. SC-129 met again during the 2016 RTCM Assembly.

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 possibly include inertial systems as well. The standard will include provisions for resistance to interference, spoofing, and jamming. In cooperation with IALA, RTCM has been developing an IMO performance standard and will begin work on an IEC technical standard. The SC-131 met during the 2016 RTCM Assembly and posted on the member website for review, draft guidelines for manufacturers for the implementation of SBAS in Shipborne receivers.

n. RTCM SC-132 on Electronic Visual Distress 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. In addition to safety factors, it has been reported that in 87% of reported flare sightings, no distressed vessel was found. The U.S. Coast Guard Research and Development Center has reported on the most effective light characteristics for this purpose. The draft standard is now out for vote. Note the proposed regulatory initiative outlined in paragraph 6.c. above that result in accepting emergency beacons as a substitute for flares.

o. RTCM SC-133 on Data Exchange for Navigation-Related Applications for Mobile Devices. SC-133 met at RTCM 11 February and there was a presentation on their new standard during the 2016 RTCM Assembly. That standard is presently out for vote.

14. Next Meeting of the GMDSS Task Force: The next Task Force meeting will be held on Wednesday morning 21 September 2016 at the Naples Grande Beach Resort in Naples, Florida

during the Annual Meeting of the National Marine Electronics Association (NMEA). The follow-on meeting will be held on Thursday 5 January 2017 at the RTCM headquarters in Arlington, Virginia.

Presentation of RTCM's Chuck Husick Memorial Award to Ralph Sponar Jr. The RTCM had made this award to Ralph Sponar but it had not been presented since Ralph had been unable to attend the 2016 RTCM Assembly in Florida. Since Ralph was attending this Task Force meeting, it was a pleasure to present him with the Award that had been earned largely by his long association with the Task Force as the Group Leader for Manufacturers and Service Agents.

GMDSS TASK FORCE CONTINUING WORK LIST

21 July 2016

1. Monitor FCC continuing action to update GMDSS Rules (TF)
2. Recommend actions to reduce false alerts in GMDSS systems (TF)
3. Monitor Coast Guard Port State GMDSS inspection program (TF)
4. Monitor MSI broadcasting programs for compliance with GMDSS Standards (TF)
5. Review GMDSS Internet Web Sites and update Task Force portion of USCG site (TF)
6. Support SOLAS Working Group planning for IMO NAVCOMSAR meetings (TF)
7. Advocate Canadian coordination to extend GMDSS services to the Great Lakes (TF)
8. Advocate voluntary carriage of VHF and EPIRB/PLBs by all vessels offshore (TF)
9. Advocate overhaul of FCC policy and practice on MMSI assignments (TF)
10. Monitor non-GMDSS systems: AIS, LRIT, SSAS, VDR, VMS, & E-Navigation (TF)
11. Recommend updates for Coast Guard NVIC on GMDSS Requirements (TF)
12. Recommend means to facilitate Distress Alerts by Cell Phone & Internet (TF)
13. Advocate GNSS for U.S. EPIRB and PLB Standards (TF)
14. Advocate mandatory Distress Beacons on R/V more than 3 miles offshore (TF)
15. Advocate use of the Alaska AIS Monitor Network for VHF Distress Guard (TF)
16. Monitor Developments in Cybersecurity and advise membership (TF)
17. Review GMDSS concepts and make modernization recommendations (MOD)
18. Advocate intership calling on HF GMDSS channels (CV)
19. Recommend Safety Radio and VMS Requirements for Small Fishing Vessels (CV)
20. Recommend Safety Radio & Navigation Requirements for Towing Vessels (CV)
21. Recommend Safety Radio & Nav. Outfit for Small Passenger Vessels (CV)
22. Advocate applications for new MF/HF Digital Communications Service (CV)
23. Advocate voluntary training programs for users of GMDSS systems (RV)
24. Encourage GMDSS handbooks and Internet and video training aids (RV)
25. Encourage users of VHF-DSC to Register for MMSI and connect GPS (RV)
26. Advocate FCC let R/Vs retain existing MMSI when applying for Station Lic. (RV)
27. Encourage Mfgs. to upgrade GMDSS explanations in equipment manuals (SA)
28. Recommend proper interconnection of GPS receivers with DSC Radios (SA)
29. Advocate better FCC & USCG management of annual GMDSS inspections (SA)
30. Maintain Inspection Guidelines and Check Lists for selected vessel types (SA)
31. Recommend Certification Path For GMDSS Maintainer (SA) and (TR)

- 32. Maintain GMDSS Question Pools for FCC and Coast Guard Examinations (TR)
- 33. Advocate 5 Year USCG Recertification Training of GMDSS Operators (TR)

Key to cognizant groups:

- (TF) Task Force
- (CV) Commercial Vessel Task Group
- (RV) Recreational Vessel Task Group
- (SA) Service Agents and Manufacturers Task Group
- (TR) Training Task Group
- (MOD) Modernization Task Group

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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