

GMDSS TASK FORCE

Newsletter and Summary Record of 13 October 2022 Meeting

- The Task Force Meeting.** This Newsletter reports on the recent virtual 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.
- 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 gmdsstf@gmail.com. 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 over 6000 members after each meeting. The Task Force also maintains a website at: <https://www.navcen.uscg.gov/task-force-background>
- 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 held a virtual meeting on 13 October 2022. The meeting was hosted on Microsoft Teams.
- Distribution of Information Papers:** The following Papers of interest were displayed and are available to all on the website: <https://www.joecel.com/GMDSSTaskForce>

USCG Safety Alert 01-22 on Alerting Devices
MSC 1-Circ 1645 – Guidance for Reception of MSI and SAR Alerts
MSC 1-Circ 803-Rev1 – Participation of Non-SOLAS Vessels in the GMDSS
ITU R-Rec-M.585-9-202205- I!!PDF-E.pdf – on MMSIs
USCG 2021 Cyber Trends and Insights
14 new Resolutions Approved by MSC 105
Final Report of NCSR-9
FCC Authorization for Space X to Provide Service to Mobile Units
Sirius XM Fish Mapping for AXIOM Chart Plotters could be used to deliver MSI
IEC Man Overboard Standard 63239 Adopted
NTSB Renews call for F/V crewmen to wear PLBs
MARAD issues MCSI Advisory on GPS Interference and AIS Spoofing
COSPAS/SARSAT Paper on EPIRB Coding Issues
FCC DA-22-1065A! – Assignment of MMSIs to Handheld Radios

5. **The Coast Guard Reports:** Jerry Ulcek and others reported with the following highlights:

a. Report of the NCSR-9 Conference: Pat Gallagher reported that the International Maritime Organization (IMO) sub-committee for Navigation, Communications, and Search & Rescue (NCSR-9) met in June 2022. The U.S. report on electromagnetic interference effects of light emitting diodes (LED) and the impact on maritime safety was submitted for discussion. Revision of Resolution A.1001 had been on the GMDSS Modernization work plan for some time, but was deferred until NCSR-9. The revised resolution will provide more broadly for GMDSS mobile satellite systems of all types, rather than just geostationary systems such as Inmarsat. (See also para. 12.a below) MSI is not being sent by all providers to Iridium for broadcast despite urging by NCSR and incentives from Iridium. Beidou was recommended to MSC-106 for recognition as a GMDSS Provider. ITU coordination is pending. NCSR-10 is scheduled to meet 9-18 May 2023. This issue will remain on the Task Force agenda.

b. Reliability of VHF in Alaska: Pat Gallagher reported that 17 of 18 microwave links and almost all generators have been replaced recently. Since management of VHF coverage is doing its best under the circumstances, this agenda item will be discontinued.

c. MSI Dissemination – NAVDAT vs Satellite: Jerry Ulcek reported that build out of a NAVDAT Network in the U.S. is still the official plan despite the uncertainty of funding and that NAVTEX is probably on the way out. Methods for implementing NAVDAT with shorter towers have been proposed with tradeoffs under evaluation. Ed Thiedeman reported that the study group will address MSI dissemination including satellite options that may become available. Kyle Hurst reported that Iridium could provide such broadcasts and that Australia had decided to use satellite broadcasting rather than outfit their extensive coastline for either NAVTEX or NAVDAT.

d. Planning for IMO/ITU Experts Group-18: Ed Thiedeman reported that there was a virtual meeting of the Working Group 21-30 June 2022 leading up to the 18th session scheduled for 5-9 December 2022. The Group will review pertinent output from the 106th session of the Maritime Safety Committee in November and the ICAO session in October. Principal topics for the Experts Group include the following:

- 1.) Coding of MMSIs in EPIRBs (not used by the U.S.), see Cospas/Sarsat Paper
- 2.) Class D VHF Radios used ashore
- 3.) Improved Promulgation of Marine Safety Information
- 4.) Non-SOLAS Ships in Polar Waters and their associated rafts

e. LED Lighting – Report from SC-137: Joe Hersey, the Chair of RTCM SC-137, gave an update on progress toward developing a standard to deal with LED lighting interference to VHF maritime radios and Automatic Identification Systems (AIS). The Special Committee has completed the voluntary standard that has been released as MSIB 03-22. The next step would have been to update IEC Standard 60945 but the CIRM would prefer to update Standard 60533, EMC on Ships. This item will be retained on the Agenda pending finalization by International Groups.

f. SC-101 Action on Class D DSC Radios: Joe Hersey, the chairman of SC-101 reported that they were meeting regularly to produce recommended changes to the IEC Class D DSC Standard IEC 62238 to deal with operational problems such as Distress Alerts received with no position and no MMSI number. DSC Alarming, MMSI Reset, Four Channel Numbering and use of class D radios as Coast Stations are under review. The SC-101 recommendations will be submitted to IEC TC80 to complete the revisions. SC-101 has announced virtual meetings for October 26, 27, and 28, 2022. This item will be retained on the Agenda.

g. Report of MMSI Management ad hoc group: Joe Hersey reported that this ad hoc Group has not been active recently but he planned to resume meetings in the near future and invited others to join the Group. The FCC has recently issued DA-22-1065A authorizing assignment of MMSIs to handheld radios. Joe also acknowledged that the explanation of MMSIs on the NAVCEN Website needs to be updated. Since no means previously existed in the US for issuing MMSIs to VHF handhelds the FCC had agreed to an interim solution which allowed the primary agents for assignment to vessels licensed by rule, BOATUS and the U.S. Power Squadrons, to assign ship station MMSIs to handhelds. Shine Micro has also been assigning MMSIs and the NMEA is considering becoming an MMSI Assignment Agency. U.S. Power Squadron raised concerns that MMSIs issued for domestic could be assigned to dive boats that pass through International waters. FCC confirmed that vessels leaving U.S. waters need an FCC station license. This also applies to sailing vessels participating in races in Mexican waters. This item will be retained on the Agenda.

h. Update on Four Digit Numbering of VHF Channels: Joe Hersey reported that we now have a new date for implementation since SOLAS ships must be able to use four-digit numbering by the first survey after 01/01/2024. Actions remaining to implement this change include a revised GMDSS Circular for SOLAS ships, amending the IEC standard for class D radios, incorporating the change in FCC Regulations once the IEC standard is updated, and educating the public. The Task Force plans to query Manufacturers to ascertain their plans to implement the change in their equipment. This item is repeated from the May 2022 Summary Record and will be retained on the Agenda.

6. **The FCC Reports:** Ghassan Khalek reported with the following highlights:

a. Falsified Inspection Documentation reported on some vessels: In the past a few reports have been received of apparently falsified inspection documents being found on vessels inspected by third parties. This was referred to the FCC's Enforcement Bureau who responded that they would follow up but needed reports on each suspected incident. This item will be dropped from the Agenda.

b. FCC Enforcement on Unauthorized AIS Devices: a suggested solution to legitimize use of AIS to mark fishing nets has been proposed and consensus has been reached with authorities managing use of the proposed AMRD channel 2006 (160.9 MHz), currently used by railroads in the US. This item will be continued on the Agenda until completed.

c. Rules change to enable new International EPIRB Specs to take effect in U.S.:

The Coast Guard petitioned the FCC to change their Rules to Require EPIRBs Sold in U.S. to Have Integral GNSS. The FCC will grant waivers for this until the necessary change to the Rules have been made. This item will be continued on the Agenda until completed.

d. Small Passenger Vessel Inspection Checklist Needs Updating to include Iridium:

The Task Force prepared checklist has already been updated. This checklist has been updated on the FCC's Wireless Bureaus website. This item will be dropped from the Agenda.

e. Waiver of Rules to allow use of IEC Standard for MOB in the U.S: Ghassan indicated that after discussions with the Coast Guard, the FCC agrees that the quickest way to allow use of the new International Standard IEC 63269 in the U.S. would be through a waiver of the Rules. The Coast Guard is recommending that RTCM SC-119 be reactivated to complete action and SC-119 is scheduled to meet 12 January 2023 to address this issue. This item will be continued on the agenda until completed.

f. FCC Authorization for Space X to provide service to Mobile Units: There were several comments on this development suggesting that StarLink is already gaining favor in the R/V community and that it sometimes takes time to set up a call. This new broadband capability will be monitored by the R/V Group since they appear to be the primary users at this time. Some areas in Canada have reported spotty coverage.

g. DA-22-1065A on Assignment of MMSIs to Handheld Radios: This Order issued on 5 October 2022 allows MMSIs to be issued for handheld radios with DSC and integral GNSS. The MMSIs can be issued by the FCC or for those applicants not requiring a Station License, may be issued by the authorized assignment agencies such as Boat U.S. and the Power Squadrons.

7. Reports from other Governmental Agencies:

a. Update from NOAA's National Weather Service: Wayne Presnell reported that he will share responsibility for the UNCLOG Meetings with Pat Gallagher of the Coast Guard. He also indicated that a review and update of SafetyNET services was planned for 2023. Darren Wright has taken a new position with NOAA's Ocean Service. NWS is interested to know if VOBRA is still being used by the mariners.

b. Update from NOAA's National Hurricane Center: Dr. Chris Landsea announced a major expansion of the Forecast Zones to provide a much finer position definition. Charts showing the new high definition zones were displayed and the text only data can be extracted via the internet. The expanded zone definition includes the Eastern Pacific Sector

c. COSPAS/SARSAT Update: Ed Thiedeman made a partial report since the NOAA representatives were attending a Cospas/Sarsat meeting. With respect to the pending authorization for U.S. users of Galileo EPIRBs and PLBs to utilize that system's Return Link Service (RLS), NOAA reported earlier that the RLS could be implemented on EPIRBs and PLBs but that implementation on aeronautical ELTs was more problematic. The RTCA has not taken a

position on ELTs. RLS on maritime beacons is being recommended as an optional feature. SC-110 is expected to take on this issue in the near future. As referenced in para. 5.d.1. above, there is currently a major disconnect between the ITU Regulations and Cospas/Sarsat beacon coding that prompted Cospas/Sarsat to issue the Beacon Coding paper listed in the documents. ICAO to introduce 2nd Gen ELTs with spreadspectrum features on 01 Jan 2023 with anticipated implementation on 01 Jan 2024.

d. Canadian Maritime Issues: Alexandre Lavoie reported that Canada was experiencing the same MMSI management issues reported in the U.S. and that they were still looking for the best way to disengage from the Great Lakes Agreement since they feel that it is no longer needed.

8. Reports and Issues, Recreational Vessel Group: Gene Danko reported that he had taken over leadership of the R/V Group at the request of George Hallenbeck who has been diagnosed with a very serious medical condition and is unable to continue. Gene's Report included the following highlights:

a. Captain John Miller of U.S. Sailing's Safety At Sea Program: Captain John had been invited to provide some background on his work as a representative of U.S. Sailing and in particular its Safety At Sea Program. The principal effort is training and the focus is on safety the level ranges from the Olympic Sailing Races to locally organized races of all types. During the past year some 5000 persons took training classes including ½ day coastal, 1 day Offshore and International Offshore. In addition to sail training, U.S. Sailing also offers powerboat training. The Task Force is pleased to have Capt. John as a valued member.

b. Modify Voluntary Inspection Check List to Invite Discussion on MMSI Registration and Connection of GPS. Because the failure to properly register for an MMSI number is greatest among recreational vessels, the Task Force had been working with the Coast Guard Office of Boating Safety to hopefully modify the latter's checklist for voluntary safety inspections. The intent has been to open a dialog between the inspector and boat operators on the importance of registering for an MMSI number and the need to connect GPS receivers to VHF radios to provide often-missing position. There are also other issues such as Four Digit Channel numbers (see 5.h. above), LED lighting interference (see 5.e. above) and MMSI Management generally (see 5.g. above) that suggest mounting a more formal Public Education Program. This Agenda item will be carried over until resolved.

c. Some Foreign Flag Commercial Vessels have registered for MMSIs from the USPS Number Block: This violation was apparently done by foreign applicants seeking to obtain MMSI identity at no cost and is still under investigation. This is a suggested topic for the next Coast Guard/FCC meeting. This item will be transferred to the FCC section and continued on the Agenda until resolved.

d. Should Task Force reopen Beacon Proposal for R/Vs Operating Offshore? Jack Fuechsel noted that the original proposal was dated 2006 and the Coast Guard sent it to NBSAC for review and Recommendation. In 2012 the NBSAC made a very positive recommendation to proceed with regulatory action. The results of a 2018 survey identified a sizeable number of

R/Vs that acknowledge going more than 20 miles offshore, of these only about half were fitted with an appropriate beacon system. The members were undecided as to reopening the proposal without further justification.

Subsequent to the Task Force meeting it was learned that the NBSAC passed a further Resolution at its meeting 28-30 March 2022 reaffirming its earlier support. The Task Force will follow this renewed NBSAC Resolution and consider what further action might be taken. In a related action, the NTSB has renewed its earlier call for all F/V crewmen to wear PLBs and the same PLB recommendation was made for crewmen in the SEACOR POWER capsizing. This item will be carried forward on the Agenda.

e. Resolution of Duplicate MMSIs Issued by Sea Tow: This item has been on the Agenda for some time without a definitive plan of action. The MOU is not yet signed, however the Power Squadron tested and successfully accessed the Sea Tow data. There are believed to be about 3900 duplicate assignments and the logical way to resolve them is to contact the assignment holders and arrange for one of them to be reregistered. This would be best undertaken by one of the government agencies rather than the Power Squadrons that inherited the Sea Tow MMSI customers when the latter discontinued assigning MMSIs. This item will be carried forward on the Agenda until resolved.

f. New Program for Relaying MSI Alerts to Cell Phones That Register for the Voluntary Service: This service was previously referred to as “Aqua Alert” after a bill in Congress proposing an expansion of methods to disseminate MSI to interested users. The Coast Guard Districts would maintain a list of voluntary local subscribers who desired that broadcast MSI alerts be additionally sent by text to their cell phones. Although we don’t know the outcome of the bill in Congress it has apparently already been implemented in one or more Districts. This item will be continued on the Agenda pending further developments.

g. Report of Recent Meeting of National Safe Boating Advisory Committee: The minutes of the most recent NBSAC meeting are not yet available but the minutes of the previous meeting held 28-30 March 2022 adopted a Resolution reaffirming its earlier support for the Task Force beacon proposal (see para. 8.d. above). This item will be continued on the Agenda.

9. Report and Issues of the Commercial Vessel Task Group. Johnny Lindstrom reported with the following highlights:

a. Requirements for MF/DSC on Small Passenger Vessels: This item is repeated from the Summary Record of the May meeting that noted that there are few MF only radios in operation and that most mandatory vessels use a combined MF/HF radio. Russ Levin had explained that the requirement had been retained to provide small passenger vessels cruising more than 20 miles offshore with an alternate means of transmitting an alert that would be heard by SOLAS class vessels even though a shore watch on MF/DSC is no longer maintained by the Coast Guard. The MF/DSC requirement also constitutes a secondary means of alerting after the EPIRB. This item will be dropped from the Agenda.

b. Update on Iridium Implementation of GMDSS Services: Kyle Hurst reported that Maritime Safety Information (MSI) is an important part of the Iridium GMDSS service with SafetyCast fully operational and global in coverage. There are still several MSI providers who have not yet started sending broadcast content to Iridium despite IMO having made it clear that this is a requirement. Iridium is continuing to provide SSAS service and LRIT service. This item will be continued on the Agenda along with periodic updates from the Inmarsat system.

c. MSIB 02-22k on CyberSecurity Trends and Insights: MSIB 02-22 was published as an update and is self explanatory, See document in para. 4 above. This item will be dropped until new information is available.

d. Task Force Efforts to Get More Ships to Report Environmental Observations: This is a modest program at present but has the potential to greatly assist high seas weather forecasting in the future. The Task Force should consider ways it might assist this program such as encouraging participating AMVER vessels to join the program. This agenda item also advocates collection and reporting of the extensive water quality observations desired by the oceanographic community. We should also encourage sending these environmental observations by AIS for collection by satellite. This issue is also a work item for the IMEA. Greg Johnson has been working with USACE and the Coast Guard to transmit this data via AIS. This Agenda item will be carried forward.

10. Reports and Issues of the Service Agents and Manufacturers Group: John Barry reported with the following highlights:

a. Update on NMEA Activities: The NMEA is exploring an MOU with the Power Squadrons on voluntary training. Hopefully this will include the salient points of radio safety that the Task Group on Recreation Vessels has been trying to incorporate in the Coast Guard Boating Safety Guidelines for voluntary inspections. This agenda item will be carried forward as a standard for each meeting.

b. NMEA a Candidate to Assign MMSI Numbers: The NMEA has been studying the issue of whether to join the other Assignment Agents in view of their membership of both Manufacturers and Service Agents. At the present time the outlook is favorable but there is still the matter of the unresolved MOU between the Coast Guard and the FCC and the Assignment Agencies. This item will be continued on the Agenda until resolved.

c. Garmin 700 provides Distress Alerting and Texting but Subscription is needed: There was limited discussion of this item but several members indicated that they did not think it appropriate to charge for distress services citing the Inmarsat and Iridium precedents of offering Distress services free to the user as prescribed by the IMO. On the other hand, there is no reason to object to providing an alternative alerting path as long as it is not promoted as primarily a "Distress" system. This item will be dropped from the Agenda pending further developments.

11. Reports and Issues of the Training Task Group. Kurt Anderson reported with the following highlights:

a. New Issue - Training Group will review FCC Elements 3, 8 and 9 Relating to GMDSS Maintainers: Most of the work of maintaining the question pool for Operator Licenses is based on FCC Element 7 but the other Elements contain guidance appropriate to Maintainer Licenses. This item will be carried on the Agenda until the review has been completed.

b. Do New STCW Regulations affect GMDSS Licenses? This question was raised as a result of recent changes in the STCW Regulations. At this date a review of the new Regulations did not produce any needed change in the Task Force program. This item will be dropped from the Agenda pending further developments.

c. Need to expand carriage requirements so that trainees can be trained on all equipment appropriate for Sea Areas A1, A2, A3 and A4. This issue had been raised by the former leader of the Service Agents Group but was just transferred to the Training Group as a better 'fit'. The Task Force will develop a Petition recommending special equipment requirements for Schools and Training Vessels to enable students to train on all GMDSS equipment they may find on ships operating in all Sea Areas. This item has become very timely with the addition of Iridium as a GMDSS service provider. There is also a new reason to expedite this issue since MARAD has recently announced the acquisition of five new research vessels for state maritime training schools in California, Maine, Massachusetts, New York and Texas A&M. This Agenda item will be carried forward.

d. Iridium and STCW Lab Proficiencies: Kyle Hurst of Iridium has been working with the Training Group to develop appropriate Lab Proficiencies as Iridium enters full GMDSS Service and the Question Pools for Operator Licenses need to be adjusted accordingly. This item will be retained on the Agenda pending further developments.

e. Task Force Information Bulletin on Iridium Services: It had been intended to develop a new GMDSS Information Bulletin to provide additional information to prospective users as Iridium takes up full GMDSS service. This also presents an opportunity to answer often asked questions. The proposed new Bulletin is not yet ready for review, however, so this item will be continued on the Agenda until complete.

f. F/V Exemptions, Waivers & Tonnage Issues: It is clear that the many exemptions and waivers issued and the sometimes confusing tonnage rules complicate the training of new operators and this item was intended as a discussion of these issues. Since time available did not enable a full discussion, this item will be carried over on the Agenda.

g. GMDSS Operator Requirements, Checks During Inspections: This new item was intended to open a full discussion of the knowledge a GMDSS Maintainer should possess in order to function as an inspector of GMDSS equipped ships including an evaluation of the adequacy of the training of those ships GMDSS Operators. Although allowed by the Regulations, the Task Force is on record as considering the mere holding a Maintainer License inadequate preparation for an inspector. Since time available did not enable a full discussion, this item will be carried over on the Agenda.

h. Iridium Operator Competencies: Kyle Hurst has been working with Kurt Anderson to develop a summary of the competencies a GMDSS Operator should possess in order to be considered fully qualified. This document was presented at the meeting for approval but the time available did not enable a full discussion. The Task Force gave tentative approval subject to suggestions that may be received later. This item will be carried over on the Agenda for one more session. Anyone needing a copy of the Competencies should contact Kurt Anderson or Jack Fuechsel.

12. GMDSS Modernization: Bob Markle reported with the following highlights:

a. Revision of IMO Resolution A.1001: The revisions to SOLAS Chapter IV and the supporting resolutions (except for Resolution A.1001) are complete and set to come into force on 1 January 2024. Resolution A.1001 deals with the recognition of mobile satellite systems for the GMDSS. A correspondence group led by France is preparing the revision based on an IMSO submission that includes most of the provisions of the existing resolution, but includes more detail on monitoring the continuing performance of GMDSS mobile satellite systems. The correspondence group will submit its work to the December IMO/ITU Experts Group meeting for consideration by NCSR 10 in May and eventual publication as a new MSC Resolution.

b. Revision of IEC Standards: The last loose end of Modernization is the revision of the IEC testing standards which need to be updated to account for new provisions in the IMO resolutions that come into force on 1 January 2024. IEC TC80 does not yet have these projects on its work program, which means the work will not be completed for several more years.

13. Review Summary Record of 11 May 2022 and Continuing Work List. The summary record of that meeting is posted on the Task Force website and only minor corrections have been made. The Continuing Work Program is appended to each agenda and updated as needed.

14. Next Meetings of the GMDSS Task Force: The Task Force tentatively planned a hybrid meeting the week of 12 June 2023 during the RTCM Annual Assembly being planned for the greater Washington DC area.

GMDSS TASK FORCE CONTINUING WORK LIST

13 October 2022

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 programs that broadcast MSI for GMDSS Standards conformance (TF)
5. Review GMDSS Internet Web Sites and update Task Force portion of NAVCEN site (TF)
6. Support SOLAS Working Group planning for IMO NCSR and Joint Experts meetings (TF)
7. Advocate replacement or update of current Great Lakes Agreement with an MOU or equivalent document. (TF)
8. Advocate voluntary carriage of VHF and EPIRB/PLBs by all vessels offshore (TF)
9. Monitor FCC policy and practice on MMSI assignments (TF)
10. Monitor non-GMDSS systems: AIS, LRIT, SSAS, VDES, VMS, & E-Navigation (TF)
11. Recommend means to improve Distress Alerts by Cell Phone & Internet (TF)
12. Advocate mandatory Distress Beacons on R/V more than 3 miles offshore (TF)
13. Advocate use of the Alaska AIS Monitor Network for VHF Distress Guard (TF)
14. Monitor Developments in Cybersecurity and educate membership (TF)
15. Review GMDSS concepts and make modernization recommendations (MOD)
16. Monitor automatic response from USCG HF Commstas to test calls for validation of HF-DSC performance (CV)
17. Recommend Safety Radio and VMS Requirements for Small Fishing Vessels (CV)
18. Recommend Safety Radio & Navigation Requirements for Towing Vessels (CV)
19. Recommend Safety Radio & Navigation Outfit for Small Passenger Vessels (CV)
20. Advocate better FCC & USCG management of annual GMDSS inspections (CV)
21. Maintain Inspection Guidelines and Check Lists for selected vessel types (CV)
22. Advocate voluntary training programs for users of GMDSS systems (RV)
23. Encourage GMDSS handbooks and Internet and video training aids (RV)
24. Encourage users of VHF-DSC to Register for MMSI and connect GPS (RV)
25. Encourage Mfgs. to upgrade readability of GMDSS items in equipment manuals (SA)
26. Recommend proper interconnection of GPS receivers with DSC Radios (SA)
27. Coordinate with USCG-NMC and FCC on training uniformity (TR)
28. Maintain GMDSS Question Pools for FCC and Coast Guard Examinations (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) GMDSS Modernization Task Group

File: TFSR-106.doc