

NATIONAL GMDSS IMPLEMENTATION TASK FORCE MEETING ANNOUNCEMENT

DATE/TIME: 10:00 AM – 12:30 PM EDT Wednesday, 9 Sep 2026
LOCATION: Virtual
CONVENOR: Bill Cairns
CALL IN CONF. No. [+1 804-469-0625](tel:+18044690625), [292628426](tel:+1292628426)# Phone conference ID: 292 628 426#
(*6 to Mute/Unmute after joining)
JOIN ONLINE: <https://teams.microsoft.com/meet/291040896687759?p=GagwN5qBzQHQypy7WU>
Meeting ID: 291 040 896 687 759 Passcode: RV6gk7xq
FOR INFO: Bill Cairns through the RTCM office at (703)527-2000 or e-mail:
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WEBSITE: <https://www.navcen.uscg.gov/task-force-background>

AGENDA

1. Documents and web access citations: See <https://joecel.com/GMDSSTaskForce>
2. FCC Updates – Katie Knox/Kathleen Curameng
3. Reports from Other Government & International Agencies:
 - a. NOAA/NWS Update – Melinda Bailey/Chris Landsea/Darin Figurskey
 - b. CMTS – Ashley Chappell
 - c. National Geospatial-Intelligence Agency (NGA) – Don Meyer
 - d. NTSB – Marcel Muisse
 - e. Canadian Maritime Issues – Glenn Coady/Mickael Belfiore
4. Training Task Group – Kurt Anderson
 - a. Review Elements 3, 8 & 9 Relating to GMDSS Maintainers
 - b. Iridium and STCW Lab Proficiencies and Operator Competencies
 - c. Task Force Information Bulletin on Iridium Services
 - d. F/V Exemptions, Waivers & Tonnage issues
 - e. GMDSS Operator Requirements, checks during Inspections
 - f. IMO review of STCW (Regs IV/1 and IV/2; A-IV and B-IV of Code): **SEE ADDENDUM TO THIS AGENDA**
5. Coast Guard Reports
 - a. NCSR/MSC updates – Patrick Gallagher
 - b. ITU/IMO Joint Experts Group – Patrick Gallagher
 - c. ICAO/IMO Joint Working Group – Dave Edwards
 - d. NAVTEX outages – Patrick Gallagher
 - e. ITU-R WP5B Update – Johnny Schultz
 - f. Four Digit Numbering on VHF Channels – Joe Hersey
 - g. VHF-FM voice blocking AIS – Joe Hersey
 - h. Status of Class D DSC – Joe Hersey
 - i. Radar SART Performance and detection – Joe Hersey
 - j. AIS Mobile AtoN – Joe Hersey
 - k. Interpretation of USCG fishing vessel carriage requirements
 - l. SARSAT Program – Layne Carter/Palestine Fox
 - m. Recommendation to IMO MSC that all mariners carry personal PLBs – Ed Thiedeman
 - n. MSLDs - Ed Thiedeman

- o. Aqua Alert Bill in Congress – Ed Thiedeman
- 6. MMSI WG and related issues – Joe Hersey
 - a. MMSI Management
 - b. MMSI reset
 - c. Registering MMSIs used by autonomous vessels
 - d. AIS display issues (duplicate MMSIs and SAR aircraft)
- 7. Satellite Systems
 - a. COSPAS/SARSAT
 - b. Iridium
 - c. Inmarsat
 - d. Orbcomm, Starlink, others
- 8. Recreational Vessel Group – Gene Danko
 - a. National Safe Boating Advisory Committee – Brian Moore
- 9. Commercial Vessel Task Group – Johnny Lindstrom/Eric Weber/Bill Haynes/Eric Verdin
- 10. Service Agents & Manufacturers Task Group – John Barry/Abel Jarque
- 11. Review Summary Record of 6 May 2026 and Task Force Continuing Work List
- 12. Other Business: Confirm next meeting date.

GMDSS TASK FORCE CONTINUING WORK LIST

4 Aug 2026

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 voluntary carriage of VHF and EPIRB/PLBs by all vessels offshore (TF)
8. Monitor USCG and FCC policy & practice on MMSI assignments (TF)
9. Monitor non-GMDSS systems: AIS, LRIT, SSAS, VDES, VMS, and E-Navigation (TF)
10. Recommend means to improve Distress Alerts by Cell Phone & Internet (TF)
11. Advocate use of the Alaska AIS Monitor Network for VHF Distress Guard (TF)
12. Monitor Developments in Cybersecurity and advise membership (TF)
13. Review GMDSS concepts and make modernization recommendations (MOD)
14. Monitor response from USCG HF Commstas to test calls on HF-DSC performance (CV)
15. Recommend Safety Radio and VMS Requirements for Small Fishing Vessels (CV)
16. Recommend Safety Radio & Navigation Requirements for Towing Vessels (CV)
17. Recommend Safety Radio & Nav. Outfit for Small Passenger Vessels (CV)
18. Advocate better FCC & USCG management of annual GMDSS inspections (CV)
19. Maintain Inspection Guidelines and Check Lists for selected vessel types (CV)
20. Advocate voluntary training programs for users of GMDSS systems (RV)
21. Encourage GMDSS handbooks and Internet and video training aids (RV)
22. Encourage users of VHF-DSC to Register for MMSI and connect GPS (RV)
23. Encourage Mfrs. to upgrade readability of GMDSS items in equipment manuals (SA)
24. Recommend proper interconnection of GPS receivers with DSC Radios (SA)
25. Coordinate with USCG-NMC on training uniformity (TR)
26. 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) Modernization Task Group

File: Tfac-117

ADDENDUM TO GMDSS TASK FORCE AGENDA TF-117

As you may be aware, the IMO is in the midst of a periodic review of the STCW to identify and consider possible amendments to the STCW Convention and Code. At sessions in February 2027, they will consider amendments to chapter 4 concerning GMDSS. The USCG is beginning to prepare proposed amendments to be submitted by the United States.

Are there any suggested amendments that are needed to Regulations IV/1 and IV/2 of the Convention and Sections A-IV and B-IV of the Code?

A Word version of the relevant parts of the STCW is provided on following pages. It would be very helpful if the TF can provide suggested edits using “track changes” and add a comment explaining the need for the amendment.

ANNEX 4

CONSOLIDATED TEXT OF CHAPTER IV, PART A OF THE STCW CODE

CHAPTER IV Standards regarding radio operators

Section A-IV/1

Application

(No provisions)

Section A-IV/2

Mandatory minimum requirements for certification of GMDSS radio operators

Standard of competence

1 The minimum knowledge, understanding and proficiency required for certification of GMDSS radio operators shall be sufficient for radio operators to carry out their radio duties. The knowledge required for obtaining each type of certificate defined in the Radio Regulations shall be in accordance with those regulations. In addition, every candidate for certification of competency shall be required to demonstrate ability to undertake the tasks, duties and responsibilities listed in column 1 of table A-IV/2.

2 The knowledge, understanding and proficiency for endorsement under the Convention of certificates issued under the provisions of the Radio Regulations are listed in column 2 of table A-IV/2.

3 The level of knowledge of the subjects listed in column 2 of table A-IV/2 shall be sufficient for the candidate to carry out his duties.

4 Every candidate shall provide evidence of having achieved the required standard of competence through:

- .1 demonstration of competence to perform the tasks and duties and to assume responsibilities listed in column 1 of table A-IV/2, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of that table; and
- .2 examination or continuous assessment as part of an approved course of training based on the material set out in column 2 of table A-IV/2.

Table A-IV/2
Specification of minimum standard of competence for GMDSS radio operators

Function: **Radiocommunications at the operational level**

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Transmit and receive information using GMDSS sub-systems and equipment and fulfilling the functional requirements of GMDSS	In addition to the requirements of the Radio Regulations, a knowledge of: .1 search and rescue radiocommunications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual .2 the means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts .3 ship reporting systems .4 radio medical services .5 use of the International Code of Signals and the IMO Standard Marine Communication Phrases .6 the English language, both written and spoken, for the communication of information relevant to safety of life at sea <i>Note:</i> This requirement may be reduced in the case of the Restricted Radio Operator's Certificate	Examination and assessment of evidence obtained from practical demonstration of operational procedures, using: .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 radiocommunication laboratory equipment	Transmission and reception of communications comply with international regulations and procedures and are carried out efficiently and effectively English language messages relevant to the safety of the ship, security and persons on board and protection of the marine environment are correctly handled

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Provide radio services in emergencies	The provision of radio services in emergencies such as: .1 abandon ship .2 fire on board ship .3 partial or full breakdown of radio installations Preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical and non-ionizing radiation hazards	Examination and assessment of evidence obtained from practical demonstration of operational procedures, using: .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 radiocommunication laboratory equipment	Response is carried out efficiently and effectively

ANNEX 5

ANNEX 6

CONSOLIDATED TEXT OF CHAPTER IV, PART B OF THE STCW CODE

CHAPTER IV

Guidance regarding radiocommunication and radio operators

Section B-IV/1

Guidance regarding the application of chapter IV

(No provisions)

Section B-IV/2

Guidance regarding training and certification of GMDSS radio operators

TRAINING RELATED TO THE FIRST-CLASS RADIOELECTRONIC CERTIFICATE

General

- 1 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.
- 2 The training should be relevant to the provisions of the STCW Convention, the provisions of the Radio Regulations annexed to the International Telecommunication Convention (Radio Regulations) and the provisions of the International Convention for the Safety of Life at Sea (SOLAS Convention) currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 3 to 14 hereunder.

Theory

- 3 Knowledge of the general principles and basic factors necessary for safe and efficient use of all sub-systems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 13.
- 4 Knowledge of the use, operation and service areas of GMDSS sub-systems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.
- 5 Knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the provisions given in paragraphs 6 to 10 below.
- 6 Theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraphy and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radio beacons (EPIRBs), marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of the principles of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service.
- 7 Knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.

- 8 Knowledge of microprocessors and fault diagnosis in systems using microprocessors.
- 9 Knowledge of control systems in the GMDSS radio equipment, including testing and analysis.
- 10 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting faults caused by loss of software control of the equipment.

Regulations and documentation

- 11 Knowledge of:
 - .1 the SOLAS Convention and the Radio Regulations, with particular emphasis on:
 - 1.1 distress, urgency and safety radiocommunications;
 - 1.2 avoiding harmful interference, particularly with distress and safety traffic; and
 - 1.3 prevention of unauthorized transmissions;
 - .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and
 - .3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

- 12 Knowledge of and training in:
 - .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems;
 - .2 procedures for using propagation-prediction information to establish optimum frequencies for communications;
 - .3 radiocommunication watchkeeping relevant to all GMDSS sub-systems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
 - .4 use of the international phonetic alphabet;
 - .5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;
 - .6 ship reporting systems and procedures;
 - .7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
 - .8 radio medical systems and procedures; and
 - .9 causes of false distress alerts and means to avoid them.

Practical

- 13 Practical training, supported by appropriate laboratory work, should be given in:
- .1 correct and efficient operation of all GMDSS sub-systems and equipment under normal propagation conditions and under typical interference conditions;
 - .2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;
 - .3 adequate and accurate keyboard skills for the satisfactory exchange of communications;
 - .4 operational techniques for:
 - 4.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;
 - 4.2 antenna adjustment and realignment, as appropriate;
 - 4.3 use of radio life-saving appliances; and
 - 4.4 use of emergency position-indicating radio beacons (EPIRBs);
 - .5 antenna rigging, repair and maintenance, as appropriate;
 - .6 reading and understanding pictorial, logic and circuit diagrams;
 - .7 use and care of those tools and test instruments necessary to carry out at-sea electronic maintenance;
 - .8 manual soldering and desoldering techniques, including those involving semi-conductor devices and modern circuits, and the ability to distinguish whether the circuit is suitable to be manually soldered or desoldered;
 - .9 tracing and repair of faults to component level, where practicable, and to board/module level in other cases;
 - .10 recognition and correction of conditions contributing to the fault occurring;
 - .11 maintenance procedures, both preventive and corrective, for all GMDSS communication equipment and radionavigation equipment; and
 - .12 methods of alleviating electrical and electromagnetic interference such as bonding, shielding and bypassing.

Miscellaneous

- 14 Knowledge of and/or training in:
- .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
 - .2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;
 - .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;
 - .4 fire prevention and fire fighting, with particular reference to the radio installation;
 - .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;
 - .6 first aid, including heart-respiration revival techniques; and
 - .7 coordinated universal time (UTC), global time zones and the international date line.

TRAINING RELATED TO THE SECOND-CLASS RADIOELECTRONIC CERTIFICATE

General

- 15 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.
- 16 The training should be relevant to the provisions of the STCW Convention and the SOLAS Convention currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 17 to 28 hereunder.

Theory

- 17 Knowledge of the general principles and basic factors necessary for safe and efficient use of all sub-systems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 27 below.
- 18 Knowledge of the use, operation and service areas of GMDSS sub-systems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.
- 19 Knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the provisions given in paragraphs 20 to 24 below.
- 20 General theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraphy and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radio beacons

(EPIRBs), marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service.

- 21 General knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.
- 22 General knowledge of microprocessors and fault diagnosis in systems using microprocessors.
- 23 General knowledge of control systems in the GMDSS radio equipment, including testing and analysis.
- 24 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting faults caused by loss of software control of the equipment.

Regulations and documentation

- 25 Knowledge of:
 - .1 the SOLAS Convention and the Radio Regulations, with particular emphasis on:
 - 1.1 distress, urgency and safety radiocommunications;
 - 1.2 avoiding harmful interference, particularly with distress and safety traffic; and
 - 1.3 the prevention of unauthorized transmissions;
 - .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and
 - .3 the use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

- 26 Training should be given in:
 - .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems;
 - .2 procedures for using propagation-prediction information to establish optimum frequencies for communications;
 - .3 radiocommunication watchkeeping relevant to all GMDSS sub-systems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
 - .4 use of the international phonetic alphabet;
 - .5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;

- .6 ship reporting systems and procedures;
- .7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
- .8 radio medical systems and procedures; and
- .9 causes of false distress alerts and means to avoid them.

Practical

27 Practical training, supported by appropriate laboratory work, should be given in:

- .1 correct and efficient operation of all GMDSS sub-systems and equipment under normal propagation conditions and under typical interference conditions;
- .2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;
- .3 adequate and accurate keyboard skills for the satisfactory exchange of communications;
- .4 operational techniques for:
 - 4.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;
 - 4.2 antenna adjustment and realignment, as appropriate;
 - 4.3 use of radio life-saving appliances; and
 - 4.4 use of emergency position-indicating radio beacons (EPIRBs);
- .5 antenna rigging, repair and maintenance, as appropriate;
- .6 reading and understanding pictorial, logic and module interconnection diagrams;
- .7 use and care of those tools and test instruments necessary to carry out at-sea electronic maintenance at the level of replacement of a unit or module;
- .8 basic manual soldering and desoldering techniques and their limitations;
- .9 tracing and repair of faults to board/module level;
- .10 recognition and correction of conditions contributing to the fault occurring;
- .11 basic maintenance procedures, both preventive and corrective, for all the GMDSS communication equipment and radionavigation equipment; and
- .12 methods of alleviating electrical and electromagnetic interference, such as bonding, shielding and bypassing.

Miscellaneous

- 28 Knowledge of, and/or training in:
- .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
 - .2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;
 - .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;
 - .4 fire prevention and fire fighting, with particular reference to the radio installation;
 - .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;
 - .6 first aid, including heart-respiration revival techniques; and
 - .7 coordinated universal time (UTC), global time zones and the international date line.

TRAINING RELATED TO THE GENERAL OPERATOR'S CERTIFICATE

General

- 29 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.
- 30 The training should be relevant to the provisions of the STCW Convention, the Radio Regulations and the SOLAS Convention currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 31 to 36 hereunder.

Theory

- 31 Knowledge of the general principles and basic factors necessary for safe and efficient use of all sub-systems and equipment required in the GMDSS sufficient to support the practical training provisions given in paragraph 35 below.
- 32 Knowledge of the use, operation and service areas of GMDSS sub-systems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

Regulations and documentation

- 33 Knowledge of:
- .1 the SOLAS Convention and the Radio Regulations, with particular emphasis on:

- 1.1 distress, urgency and safety radiocommunications;
- 1.2 avoiding harmful interference, particularly with distress and safety traffic; and
- 1.3 prevention of unauthorized transmissions;
- .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and
- .3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

34 Training should be given in:

- .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems;
- .2 procedures for using propagation-prediction information to establish optimum frequencies for communications;
- .3 radiocommunication watchkeeping relevant to all GMDSS sub-systems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
- .4 use of the international phonetic alphabet;
- .5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;
- .6 ship reporting systems and procedures;
- .7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
- .8 radio medical systems and procedures; and
- .9 causes of false distress alerts and means to avoid them.

Practical

35 Practical training should be given in:

- .1 correct and efficient operation of all GMDSS sub-systems and equipment under normal propagation conditions and under typical interference conditions;
- .2 safe operation of all the GMDSS communications equipment and ancillary devices, including safety precautions;

- .3 accurate and adequate keyboard skills for the satisfactory exchange of communications; and
- .4 operational techniques for:
 - 4.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;
 - 4.2 antenna adjustment and realignment as appropriate;
 - 4.3 use of radio life-saving appliances; and
 - 4.4 use of emergency position-indicating radio beacons (EPIRBs).

Miscellaneous

- 36 Knowledge of, and/or training in:
 - .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
 - .2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;
 - .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;
 - .4 fire prevention and fire-fighting, with particular reference to the radio installation;
 - .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;
 - .6 first aid, including heart-respiration revival techniques; and
 - .7 coordinated universal time (UTC), global time zones and the international date line.

TRAINING RELATED TO THE RESTRICTED OPERATOR'S CERTIFICATE

General

- 37 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.
- 38 The training should be relevant to the provisions of the STCW Convention, the Radio Regulations and the SOLAS Convention currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training guidance, account should be taken of at least the knowledge and training given in paragraphs 39 to 44 hereunder.

Theory

- 39 Knowledge of the general principles and basic factors, including VHF range limitation and antenna height effect necessary for safe and efficient use of all sub-systems and equipment required in GMDSS in sea area A1, sufficient to support the training given in paragraph 43 below.
- 40 Knowledge of the use, operation and service areas of GMDSS sea area A1 sub-systems, e.g. navigational and meteorological warning systems and the appropriate communication circuits.

Regulations and documentation

- 41 Knowledge of:
- .1 those parts of the SOLAS Convention and the Radio Regulations relevant to sea area A1, with particular emphasis on:
 - 1.1 distress, urgency and safety radiocommunications;
 - 1.2 avoiding harmful interference, particularly with distress and safety traffic; and
 - 1.3 prevention of unauthorized transmissions;
 - .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings and weather broadcasts in the Maritime Mobile Service in sea area A1; and
 - .3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

- 42 Training should be given in:
- .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems used in sea area A1;
 - .2 VHF communication procedures for:
 - 2.1 radiocommunication watchkeeping, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
 - 2.2 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency; and
 - 2.3 the digital selective calling system;
 - .3 use of the international phonetic alphabet;
 - .4 ship reporting systems and procedures;

- .5 VHF radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
- .6 radio medical systems and procedures; and
- .7 causes of false distress alerts and means to avoid them.

Practical

43 Practical training should be given in:

- .1 correct and efficient operation of the GMDSS sub-systems and equipment prescribed for ships operating in sea area A1 under normal propagation conditions and under typical interference conditions;
- .2 safe operation of relevant GMDSS communication equipment and ancillary devices, including safety precautions; and
- .3 operational techniques for use of:
 - 3.1 VHF, including channel, squelch, and mode adjustment, as appropriate;
 - 3.2 radio life-saving appliances;
 - 3.3 emergency position-indicating radio beacons (EPIRBs); and
 - 3.4 NAVTEX receivers.

Miscellaneous

44 Knowledge of, and/or training in:

- .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
- .2 services of rescue coordination centres (RCCs) and related communication routes;
- .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;
- .4 fire prevention and fire fighting, with particular reference to the radio installation;
- .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards; and
- .6 first aid, including heart-respiration revival techniques.

TRAINING RELATED TO MAINTENANCE OF GMDSS INSTALLATIONS ON BOARD SHIPS

General

- 45 Reference is made to the maintenance requirements of SOLAS Convention regulation IV/15, and to IMO resolution A.702(17) on Radio maintenance guidelines for the GMDSS related to sea areas A3 and A4, which includes in its annex the following provision:

"4.2 The person designated to perform functions for at-sea electronic maintenance should either hold an appropriate certificate as specified by the Radio Regulations, as required, or have equivalent at-sea electronic maintenance qualifications, as may be approved by the Administration, taking into account the recommendations of the Organization on the training of such personnel."

- 46 The following guidance on equivalent electronic maintenance qualifications is provided for use by Administrations as appropriate.
- 47 Training as recommended below does not qualify any person to be an operator of GMDSS radio equipment who does not hold an appropriate Radio Operator's Certificate.

Maintenance training equivalent to the First-Class Radioelectronic Certificate

- 48 In determining training equivalent to the elements of the listed First-Class Radioelectronic Certificate:
- .1 the theory content should cover at least the subjects given in paragraphs 3 to 10;
 - .2 the practical content should cover at least the subjects given in paragraph 13; and
 - .3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 14.

Maintenance training equivalent to the Second-Class Radioelectronic Certificate

- 49 In determining training equivalent to the maintenance elements of the Second-Class Radioelectronic Certificate:
- .1 the theory content should cover at least the subjects given in paragraphs 17 to 24;
 - .2 the practical content should cover at least the subjects given in paragraph 27; and

- .3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 28.
