

Recommendation T/R 31-03 E (revised Bonn 1994)**HARMONIZED EXAMINATION PROCEDURES
FOR THE GENERAL OPERATOR'S CERTIFICATE (GOC)
AND THE RESTRICTED OPERATOR'S CERTIFICATE (ROC)**

Recommendation proposed by the Working Group "Radio Regulatory" (RR)

Text of the Recommendation adopted by the "European Radiocommunications Committee" (ERC):

INTRODUCTION

The start of the Global Maritime Distress and Safety System (GMDSS) in February 1992 has made it necessary to harmonise the examination requirements for certificates of maritime radio operators. Also good experience has been gained by the introduction of harmonised examinations for the radio amateurs.

This Recommendation describes the examination procedures for maritime radio personnel operating in the GMDSS and the procedures for conversion of non-GMDSS certificates to GMDSS certificates.¹

“The European Conference of Postal and Telecommunications Administrations,

considering

- a) That the Maritime Mobile Service and the Maritime Mobile-Satellite Service are services according to ITU Radio Regulations (article 1) and governed by the ITU Radio Regulations and national regulations,
- b) that provisions closely related to the Maritime Mobile Service and the Maritime Mobile-Satellite Service are also given in the International Convention for the Safety of Life at Sea (SOLAS) and other IMO conventions and resolutions,
- c) that it is desirable to establish common standards of competence for the personnel of stations of the Maritime Mobile Service and the Maritime Mobile-Satellite Service operating in accordance with the Global Maritime Distress and Safety System (GMDSS),
- d) that the GMDSS entered into force on 1 February 1992,
- e) that administrations are responsible, in accordance with article 56 of the ITU Radio Regulations, to ensure that the personnel of ship stations and ship earth stations operating in accordance with the GMDSS are adequately qualified to enable efficient operation of the station,
- f) that article 55 of the ITU Radio Regulations specifies the conditions governing the issue of GMDSS certificates for personnel of ship stations and ship earth stations and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) regulates the conditions for the issue of the GMDSS certificates,
- g) that IMO resolution A.703(17) recommends the training for maritime radio personnel operating in the GMDSS,
- h) that the basic requirements for the format of certificates are set down in Radio Regulations 3869 through to 3876,

¹ The procedures for conversion were of an interim nature and are no longer valid.

recommends

- a) that Administrations issue General Operator's Certificates (GOC) for candidates passing the examination described in Annex 1,
- b) that Administrations issue Restricted Operator's Certificates (ROC) for candidates passing the examination described in Annex 2,
- c) that until 1 February 1997, Administrations may follow the procedure described in Annex 3 for holders of certificates issued in accordance with Chapter IX of the Radio Regulations wishing to have a GOC or ROC certificate,²
- d) that developments in IMO should be monitored and this Recommendation should be modified accordingly,
- e) that Administrations mutually recognise each other's certificates when these are issued in accordance with Recommends a, b, and c,
- f) that GOC and ROC certificates issued in accordance with this Recommendation should bear a reference to the Radio Regulations and this Recommendation."

² The procedures for conversion were of an interim nature and are no longer valid.

Annex 1

EXAMINATION SYLLABUS FOR GENERAL OPERATOR'S CERTIFICATE (GOC) FOR THE MARITIME MOBILE SERVICE AND THE MARITIME MOBILE-SATELLITE SERVICE

The examination should consist of theoretical and practical tests and should include at least:

- A. KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE AND THE MARITIME MOBILE-SATELLITE SERVICE**
 - A1. The general principles and basic features of the maritime mobile service
 - A2. The general principles and basic features of the maritime mobile-satellite service

- B. DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION**
 - B1. Use in practice the basic equipment of a ship station.
 - B2. Digital Selective Calling (DSC).
 - B3. General principles of Narrow Band Direct Printing (NBDP) and Telex Over Radio (TOR) systems. Ability to use maritime NBDP and TOR equipment in practice
 - B4. Knowledge of the usage of Inmarsat systems. Ability to use Inmarsat equipment or simulator in practice.
 - B5. Fault locating.

- C. OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF GMDSS SYSTEM AND SUBSYSTEMS**
 - C1. Global Maritime Distress and Safety System (GMDSS)
 - C2. INMARSAT
 - C3. NAVTEX
 - C4. Emergency Position Indicating Radio Beacons (EPIRBs)
 - C5. Search and Rescue Radar Transponder (SART)
 - C6. Distress, urgency and safety communication procedures in the GMDSS
 - C7. Search and rescue operation (SAR)

- D. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS**
 - D1. Ability to use English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea
 - D2. Obligatory procedures and practices
 - D3. Practical and theoretical knowledge of general communication procedures

EXAMINATION SYLLABUS GUIDELINES FOR GOC CERTIFICATE

A. KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE AND THE MARITIME MOBILE-SATELLITE SERVICE

A1. The general principles and basic features of the maritime mobile service

- 1.1 Types of communication in the maritime mobile service
 - Distress, urgency and safety communications
 - Public correspondence
 - Port operations service
 - Ship movement service
 - Intership communication
 - On-board communications
- 1.2 Types of station in the maritime mobile service
 - Ship stations
 - Coast stations
 - Pilot stations, port stations etc
 - Aircraft stations
 - Rescue coordination centre RCC
- 1.3 Elementary knowledge of frequencies and frequency bands
 - The concept of frequency
 - The equivalence between frequency and wavelength
 - The unit of frequency. Hz, kHz, MHz, GHz.
 - The subdivision of the most significant part of the radio spectrum: MF, HF, VHF, UHF, SHF
- 1.4 Characteristics of frequencies
 - Different propagation mechanisms: propagation in free space, ground wave, ionospheric propagation
 - Propagation of MF frequencies
 - Propagation of different HF frequency bands
 - Propagation of VHF and UHF frequencies
- 1.5 Knowledge of the role of the various modes of communication
 - DSC
 - Radio telephony
 - NBDP
 - Facsimile
 - Data
 - Morse telegraphy
- 1.6 Elementary knowledge of different types of modulation and classes of emission
 - Classes of emission
 - Carrier frequency and assigned frequency
 - Bandwidth of different emissions
 - Official designations of emission (e.g. F1B, J3E, A3E, A1A, etc)
 - Unofficial designations of emissions (e.g. TLX, SSB, AM, CW etc)
- 1.7 Frequencies allocated to the maritime mobile service
 - The usage of MF, HF, VHF, UHF and SHF frequencies in the maritime mobile service
 - The concept of radio channel. Simplex, semi-duplex and duplex. Paired and unpaired frequencies.
 - Frequency plans and channelling systems
 - HF telephony (Relevant appendix of the Radio Regulations)
 - VHF telephony (Relevant appendix of the Radio Regulations)
 - HF NBDP (Relevant appendices of the Radio Regulations)
 - MF telephony and NBDP for Region 1 (Geneva 85 plan)
 - GMDSS distress and safety frequencies
 - Distress and safety frequencies of the pre-GMDSS system
 - Calling frequencies

A2. The general principles and basic features of the maritime mobile-satellite service

- 2.1 Basic knowledge of satellite communications
 - Inmarsat space segment
 - Modes of communication
 - Telex services
 - Telephone services
 - Data and facsimile communications
 - Store and forward operation
 - Distress communications
 - Inmarsat-A communications services
 - Inmarsat-C communications services
 - Inmarsat Enhanced Group Call (EGC) system
- 2.2 Types of station in the maritime mobile-satellite service
 - Coast Earth Stations (CES)
 - Network Co-ordination Station (NCS)
 - Ship Earth Stations (SES)

B. DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

B1. Knowledge of, and ability to use in practice the basic equipment of a ship station

- 1.1 Watchkeeping Receivers
 - The controls and usage of 2182 kHz watch receiver
 - The controls and usage of VHF DSC watch receiver
 - The controls and usage MF DSC watch receiver and MF/HF DSC watch receiver
- 1.2 VHF radio installation
 - Channels
 - Controls
 - Usage
 - DSC
- 1.3 MF/HF radio installation
 - Frequencies
 - Typical controls and usage, e.g.
 - connecting the power
 - selecting RX frequency
 - selecting TX frequency
 - selecting ITU channel number
 - tuning the transmitter
 - selecting the class of emission
 - using volume control and squelch
 - using clarifier or RX fine tuning
 - controlling RF gain
 - using automatic gain control
 - using the 2182 kHz instant selector
 - testing the alarm generator
 - using the alarm generator
- 1.4 Antennas
 - Isolators
 - VHF whip antennas
 - MF/HF whip antennas
 - MF/HF wire antennas
 - Construction of an MF emergency antenna
- 1.5 Batteries
 - Different kinds of batteries and their characteristics
 - Charging
 - Maintenance of batteries
- 1.6 Survival craft radio equipment
 - Portable two-way VHF radiotelephone apparatus
 - SART
 - EPIRB

B2. Digital Selective Calling (DSC)

- 2.1 Call format specifier
 - distress call
 - all ships call
 - call to individual station
 - geographic area call
 - group call
 - automatic/semi-automatic service
- 2.2 Call address selection with the MMSI number system
 - the nationality identification
 - group calling numbers
 - coast station numbers
 - MMSI number with three trailing zeros
- 2.3 Call categorisation
 - distress
 - urgency
 - safety
 - ship business
 - routine
- 2.4 Call telecommand and traffic information
 - distress alerts
 - other calls
 - working frequency information

B3. Knowledge of the general principles of NBDP and TOR systems. Ability to use maritime NBDP and TOR equipment in practice.

- 3.1 NBDP systems
 - Automatic systems
 - Semi-automatic systems
 - Manual systems
 - ARQ mode
 - FEC mode
 - ISS/IRS arrangement
 - Master and slave
 - Radio telex number
 - Answerback
 - Numbering of the SSFC selective calling system (SSFC = Sequential Single-Frequency Code System)
- 3.2 TOR equipment (Telex Over Radio)
 - Controls and indicators
 - Keyboard operation

B4. Knowledge of the usage of Inmarsat systems. Ability to use Inmarsat equipment or simulator in practice.

- 4.1 Inmarsat-A Ship Earth Station
 - Satellite acquisition
 - Telex services
 - Telephone services
 - Data and facsimile communications
- 4.2 Inmarsat EGC Receiver
 - Pre-programming an SES for EGC message reception
 - Selecting operating mode for EGC reception
- 4.3 Inmarsat-C Ship Earth Station
 - Components of an Inmarsat-C terminal
 - Entering/updating position
 - Usage of an Inmarsat-C Ship Earth Station
 - Sending and receiving test messages

B5. Fault locating

- Proficiency in elementary fault localisation by means of built-in measuring instruments or software in accordance with the equipment manuals. Elementary fault repair such as replacement of fuses, indicator lamps and the like

C. OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF GMDSS SYSTEM AND SUBSYSTEMS

C1. Global Maritime Distress and Safety System (GMDSS)

- 1.1 Sea Areas and GMDSS master plan
- 1.2 Watchkeeping on distress frequencies
- 1.3 Functional requirements of ship stations
- 1.4 Carriage requirements of ship stations
- 1.5 Sources of energy of ship stations
- 1.6 Means of ensuring availability of ship station equipment
- 1.7 Licences, radio safety certificates, inspections and surveys

C2. Inmarsat Usage in the GMDSS

- 2.1 Inmarsat-A Ship Earth Station
 - Distress communications and services
 - Use of the distress facility
 - Satellite acquisition
 - Telex and telephony distress calls
 - Procedures for distress calls
 - Rescue Co-ordination Centres associated with the Coast Earth Stations
- 2.2 Inmarsat-C ship earth station
 - Distress communications and services
 - Sending a distress alert
 - Sending a distress priority message
 - The Inmarsat-C safety services
 - 2-digit code safety services
- 2.3 Inmarsat EGC
 - Purpose of EGC system
 - All-ships messages and Inmarsat system messages
 - Classes of Inmarsat-C SES and their EGC reception

C3. NAVTEX

- 3.1 The NAVTEX system
 - Purpose of NAVTEX
 - NAVTEX frequencies
 - Reception range
 - Message format (transmitter ID, message type, message number)
- 3.2 NAVTEX receiver
 - Selection of transmitters
 - Selection of message type
 - Message which cannot be rejected
 - Use of subsidiary controls and changing paper

C4. Emergency Position Indicating Radio Beacons (EPIRBs)

- 4.1 Satellite EPIRBs
 - Basic characteristics of operation on 406 MHz
 - Basic characteristics of operation on 1.6 GHz
 - 121.5 MHz including homing functions
 - Information contents of a distress alert
 - Manual usage
 - Float-free function
 - Routine maintenance
 - Testing
 - Checking battery expiry date
 - Cleaning of the float-free release mechanism

- 4.2 VHF-DSC-EPIRB
 - The main technical characteristics
 - Information contents of a distress alert
 - Manual operation
 - Float-free function
 - Routine maintenance
 - Testing
 - Checking battery expiry date
 - Cleaning of the float-free release mechanism

C5. Search and Rescue Radar Transponder (SART)

- 5.1 Search and Rescue Radar Transponder SART
 - The main technical characteristics
 - Operation
 - Range of a SART transmitter
 - Routine maintenance of a SART
 - Checking battery expiry date

C6. Distress, urgency and safety communication procedures in the GMDSS

- 6.1 Distress communications
 - DSC distress alert
 - The definition of a distress alert
 - Transmission of a distress alert
 - Transmission of a shore-to-ship distress alert relay
 - Transmission of a distress alert by a station not itself in distress
 - Receipt and acknowledgement of DSC distress alert
 - Acknowledgement procedure by radiotelephony
 - Acknowledgement procedure by NBDP
 - Receipt and acknowledgement by a coast station
 - Receipt and acknowledgement by a ship station
 - Handling of distress alerts
 - Preparations for handling of distress traffic
 - Distress traffic terminology
 - Testing DSC distress and safety calls
 - On-scene communications
 - SAR operation
- 6.2 Urgency and Safety communications
 - The meaning of urgency and safety communications
 - Procedures for DSC urgency and safety calls
 - Urgency communications
 - Medical transports
 - Safety communications
- 6.3 Communication by radiotelephony with stations of the old distress and safety system
 - Radiotelephone alarm signal
 - Distress signal
 - Distress call
 - Distress message
 - Acknowledgement of a distress message
 - Distress traffic terminology
 - Transmission of a distress message by a station not itself in distress
 - Medical advice
- 6.4 Reception of maritime safety information (MSI)
 - Reception by NAVTEX
 - Reception by Inmarsat EGC
 - Reception by HF NBDP
 - The navigational warning signal of the old distress and safety system
 - The navigational warnings transmitted by radio telephony
- 6.5 Protection of distress frequencies
 - Guard bands
 - Tests on distress frequencies
 - Transmissions during distress traffic
 - Avoiding harmful interference
 - Prevention of unauthorised transmissions

C7. Search and rescue operation (SAR)

- 7.1 The role of RCCs
- 7.2 Merchant Ship Search and Rescue Manual MERSAR
- 7.3 Maritime rescue organisations
- 7.4 Ship reporting systems

D. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS

D1. Ability to use English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea

- 1.1 Use of the International Code of Signals and the IMO Standard Marine Navigational Vocabulary/Seaspeak
- 1.2 Recognised standard abbreviations and commonly used service codes
- 1.3 Use of international phonetic alphabet

D2. Obligatory procedures and practices

- 2.1 Effective use of obligatory documents and publications
- 2.2 Radio record keeping
- 2.3 Knowledge of the regulations and agreements governing the maritime mobile service and the maritime mobile-satellite service

D3. Practical and theoretical knowledge of general communication procedures

- 3.1 Selection of appropriate communication methods in different situations
- 3.2 Traffic lists
- 3.3 Radio telephone call
 - Method of calling a coast station by radiotelephony
 - Ordering for a manually switched link call
 - Ending the call
 - Special facilities of calls
 - Method of calling a coast station by DSC
 - Selecting an automatic radiotelephone call
- 3.4 Radio telegram
 - The parts of a radio telegram
 - preamble
 - service instructions and indications
 - address
 - text
 - signature
 - Addresses
 - full address
 - registered address
 - telephonic address
 - telex address
 - Counting of words
 - Transmission of a telegram by radiotelephony
 - Transmission of a telegram by radiotelex
- 3.5 Traffic charges
 - International charging system
 - Inmarsat communication charging system
 - AAIC code
 - The meaning of land line charge (LL), coast charge (CC) and ship charge (SS)
 - Currencies used in international charging
- 3.6 Practical traffic routines
- 3.7 World geography, especially the principal shipping routes and related communication routes

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Annex 2

EXAMINATION SYLLABUS FOR RESTRICTED OPERATOR'S CERTIFICATE (ROC) FOR THE MARITIME MOBILE SERVICE AND THE MARITIME MOBILE-SATELLITE SERVICE

The examination should consist of theoretical and practical tests and should include at least:

- A. KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE**
- B. DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION**
 - B1. Use in practice the basic equipment of a ship station.
 - B2. Digital Selective Calling (DSC).
- C. OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF GMDSS SYSTEM AND SUBSYSTEMS**
 - C1. Global Maritime Distress and Safety System (GMDSS)
 - C2. INMARSAT
 - C3. NAVTEX
 - C4. Emergency Position Indicating Radio Beacons (EPIRBs)
 - C5. Search and Rescue Radar Transponder (SART)
 - C6. Distress, urgency and safety communication procedures in the GMDSS
 - C7. Search and rescue operation (SAR)
- D. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS**
 - D1. Ability to use English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea
 - D2. Obligatory procedures and practices
 - D3. Practical and theoretical knowledge of general communication procedures

EXAMINATION SYLLABUS GUIDELINES FOR ROC CERTIFICATE

A. KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE

- 1.1 Types of communication in the maritime mobile service
 - Distress, urgency and safety communications
 - Public correspondence
 - Port operations service
 - Ship movement service
 - Intership communication
 - On-board communications
- 1.2 Types of station in the maritime mobile service
 - Ship stations
 - Coast stations
 - Pilot stations, port stations etc
 - Aircraft stations
 - Rescue coordination centre RCC
- 1.3 Elementary knowledge of frequencies and frequency bands
 - The concept of frequency
- 1.4 Characteristics of frequencies
 - Propagation of VHF and UHF frequencies
- 1.5 Frequencies allocated to the maritime mobile service
 - The usage of VHF and UHF frequencies in the maritime mobile service
 - The concept of radio channel. Simplex, semi-duplex and duplex. Paired and unpaired frequencies.
 - Frequency plan for VHF telephony (Relevant appendix of the Radio Regulations)
 - GMDSS distress and safety frequencies
 - Calling frequencies

B. DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

B1. Knowledge of, and ability to use in practice the basic equipment of a ship station

- 1.1 VHF radio installation
 - Channels
 - Controls
 - Usage
 - DSC
- 1.2 Antennas
 - VHF whip antennas
 - Antenna for the NAVTEX system
- 1.3 Batteries
 - Different kinds of batteries and their characteristics
 - Charging
 - Maintenance of batteries
- 1.4 Survival craft radio equipment
 - Portable two-way VHF radiotelephone apparatus
 - SART
 - EPIRB

B2. Digital Selective Calling (DSC)

- 2.1 Call format specifier
 - distress call
 - all ships call
 - call to individual station
 - geographic area call
 - group call
 - automatic/semi-automatic service
- 2.2 Call address selection with the MMSI number system
 - the nationality identification
 - group calling numbers
 - coast station numbers
 - MMSI number with three trailing zeros
- 2.3 Call categorisation
 - distress
 - urgency
 - safety
 - ship business
 - routine
- 2.4 Call telecommand and traffic information
 - distress alerts
 - other calls
 - working frequency information
- 2.5 Usage of VHF channel 70

C. OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF GMDSS SYSTEM AND SUBSYSTEMS

C1. Global Maritime Distress and Safety System (GMDSS)

- 1.1 Sea Areas and GMDSS master plan
- 1.2 Watchkeeping on VHF distress frequencies
- 1.3 Functional requirements of ship stations sailing within the limits of sea area A1
- 1.4 Carriage requirements of ship stations sailing within the limits of sea area A1
- 1.5 Sources of energy of ship stations
- 1.6 Means of ensuring availability of ship station equipment
- 1.7 Licences, radio safety certificates, inspections and surveys

C2. NAVTEX

- 2.1 The NAVTEX system
 - Purpose of NAVTEX
 - NAVTEX frequencies
 - Reception range
 - Message format (transmitter ID, message type, message number)
- 2.2 NAVTEX receiver
 - Selection of transmitters
 - Selection of message type
 - Message which cannot be rejected
 - Use of subsidiary controls and changing paper

C3. Emergency Position Indicating Radio Beacons (EPIRBs)

- 3.1 Satellite EPIRBs
 - Basic characteristics of operation on 406 MHz
 - Basic characteristics of operation on 1.6 GHz
 - 121.5 MHz including homing functions
 - Information contents of a distress alert
 - Manual usage
 - Float-free function
 - Routine maintenance
 - Testing
 - Checking battery expiry date
 - Cleaning of the float-free release mechanism
- 3.2 VHF-DSC-EPIRB
 - The main technical characteristics
 - Information contents of a distress alert
 - Manual operation
 - Float-free function
 - Routine maintenance
 - Testing
 - Checking battery expiry date
 - Cleaning of the float-free release mechanism

C4. Search and Rescue Radar Transponder (SART)

- 4.1 Search and Rescue Radar Transponder SART
 - The main technical characteristics
 - Operation
 - Range of a SART transmitter
 - Routine maintenance of a SART
 - Checking battery expiry date

C5. Distress, urgency and safety communication procedures in the GMDSS

- 5.1 Distress communications
 - DSC distress alert
 - The definition of a distress alert
 - Transmission of a distress alert
 - Transmission of a shore-to-ship distress alert relay
 - Transmission of a distress alert by a station not itself in distress
 - Receipt and acknowledgement of DSC distress alert
 - Acknowledgement procedure by radiotelephony
 - Receipt and acknowledgement by a coast station
 - Receipt and acknowledgement by a ship station
 - Handling of distress alerts
 - Preparations for handling of distress traffic
 - Distress traffic terminology
 - Testing DSC distress and safety calls
 - On—scene communications
 - SAR operation
- 5.2 Urgency and Safety communications
 - The meaning of urgency and safety communications
 - Procedures for DSC urgency and safety calls
 - Urgency communications
 - Medical transports
 - Safety communications
- 5.3 Communication by radiotelephony with stations of the old distress and safety system
 - Distress signal
 - Distress call
 - Distress message
 - Acknowledgement of a distress message
 - Distress traffic terminology
 - Transmission of a distress message by a station not itself in distress
 - Medical advice

- 5.4 Reception of maritime safety information (MSI)
 - Reception by NAVTEX
 - The navigational warnings transmitted by radio telephony
- 5.5 Protection of distress frequencies
 - Guard bands
 - Tests on distress frequencies
 - Transmissions during distress traffic
 - Avoiding harmful interference
 - Prevention of unauthorized transmissions

C6. Search and rescue operation (SAR)

- 6.1 The role of RCCs
- 6.2 Merchant Ship Search and Rescue Manual MERSAR
- 6.3 Maritime rescue organizations
- 6.4 Ship reporting systems

D. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS

D1. Ability to use English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea

- 1.1 Use of the International Code of Signals and the IMO Standard Marine Navigational Vocabulary/Seaspeak
- 1.2 Recognized standard abbreviations and commonly used service codes
- 1.3 Use of international phonetic alphabet

D2. Obligatory procedures and practices

- 2.1 Effective use of obligatory documents and publications
- 2.2 Radio record keeping
- 2.3 Knowledge of the regulations and agreements governing the maritime mobile service

D3. Practical and theoretical knowledge of general communication procedures

- 3.1 Traffic lists
- 3.2 Radio telephone call
 - Method of calling a coast station by radiotelephony
 - Ordering for a manually switched link call
 - Ending the call
 - Special facilities of calls
 - Method of calling a coast station by DSC
 - Selecting an automatic radiotelephone call
- 3.3 Traffic charges
 - International charging system
 - AAIC code
 - Currencies used in international charging
 - The meaning of land line charge (LL), coast charge (CC) and ship charge (SS)
- 3.4 Practical traffic routines
- 3.5 World geography, especially the principal shipping routes and related communication routes appropriate for ships sailing within the limits of sea area A1

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Annex 3 (revised Bonn 1994)³

PROCEDURES AND ARRANGEMENTS FOR ISSUING GMDSS OPERATOR CERTIFICATES TO HOLDERS OF NON-GMDSS OPERATOR CERTIFICATES

Introduction

GMDSS operator certificates should only be issued to candidates who have passed an appropriate examination verifying that the candidate possesses the knowledge and skills necessary for correct operation of all relevant types of GMDSS equipment. This requirement also applies to candidates who hold a non-GMDSS operator certificate.

However, Administrations may make arrangements, as described in the following paragraphs, to permit certain holders of non-GMDSS certificates to obtain a GMDSS certificate after passing a "limited GMDSS examination".

Arrangements for "limited GMDSS examinations" should cease on 1st February 1997. After this date all candidates should be required to pass the full GMDSS examination.

Requirements for candidates holding non-GMDSS certificates

Candidates wishing to obtain a GOC-certificate after a "limited GMDSS examination" should hold a valid certificate of one of the following types, issued in accordance with Chapter IX of the Radio Regulations:

- Radiocommunication Operator's General Certificate for the Maritime Mobile Service (MRGC) (RR3897-3907);
- First or Second Class Radiotelegraph Operator's Certificate (RR3908-3927);
- Radiotelephone Operator's General Certificate (RR3936-3940).

Candidates for a ROC-certificate should hold a valid certificate of one of the types listed above, or a Restricted Radiotelephone Operator's Certificate.

Requirements to candidates regarding practical experience and training in use of GMDSS equipment

A "limited GMDSS examination" should only be offered to candidates who have practical experience or familiarity with relevant GMDSS equipment, and procedures appropriate for a ship engaged on voyages in all sea areas.

Candidates for a ROC should have experience or familiarity with equipment and procedures appropriate for a ship engaged on voyages exclusively in sea area A1.

Each candidate should have had at least 6 months operational experience with GMDSS equipment, preferably on board ships, since 1 February 1992, and should be able to provide proof of such experience.

The candidate should receive supplementary training in the use of, and operational procedures for, all equipment with which he has no experience or familiarity. The candidate is required to provide proof of such training.

Arrangements for "limited GMDSS examinations"

Each Administration may decide the practical arrangements to use for "limited GMDSS examinations" (i.e. whether to use a "traditional classroom type examination" or to accept different arrangements), provided that the following requirements are fulfilled in all cases:

1. The examination should verify - with a high degree of certainty - whether or not the candidate possesses the knowledge and skills needed for correct operation of all relevant types of GMDSS equipment.
2. As a minimum, the content of each "limited GMDSS examination" should be such as to check that the candidate has knowledge and skills as follows:
 1. Candidates for a GOC: Appendix 1
 2. Candidates for a ROC: Appendix 2
3. Precautions should be taken to prevent candidates being given the opportunity of receiving or using any kind of unauthorized written or verbal assistance during examinations.
4. The evaluation of whether or not the candidate has demonstrated the necessary knowledge and skills during the limited examination should always be done by a person authorised by the Administration

³ The procedures for conversion were of an interim nature and are no longer valid.

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Appendix 1 to Annex 3

EXAMINATION SYLLABUS APPLICABLE TO LIMITED GMDSS EXAMINATIONS FOR THE GENERAL OPERATOR'S CERTIFICATE

- 1 **Global Maritime Distress and Safety System (GMDSS)**
 - 1.1 Sea area concept and the GMDSS master plan
 - 1.2 Functions of the GMDSS
 - Alerting
 - Search & Rescue (SAR) co-ordinating communications
 - On-scene communications
 - Locating and homing signal
 - Dissemination of Maritime Safety Information (MSI)
 - General radiocommunications
 - Bridge-to-bridge communications
 - 1.3 Means of ensuring availability of ship station equipment
 - Equipment maintenance strategies
 - 1.4 Sources of energy of ship stations
 - 1.5 GMDSS frequencies
 - 1.6 Protection of distress frequencies
 - Guard bands
 - Tests on distress frequencies
 - Transmissions during distress traffic
 - Avoiding harmful interference
 - Prevention of unauthorised transmissions
 - 1.7 Watchkeeping on GMDSS frequencies
 - 1.8 Carriage requirements of ship stations
 - 1.9 Licences, radio safety certificates, inspections and surveys
 - 1 10 Radio record keeping
- 2 **SAR operations in the GMDSS**
 - 2.1 The role of RCCs
 - 2.2 Merchant Ship Search and Rescue Manual MERSAR
 - 2.3 Maritime rescue organisations
 - 2.4 Ship reporting systems
- 3 **Distress and safety communication procedures in the GMDSS**
 - 3 1 Distress communications via a ship station
 - DSC distress alert
 - The definition of a distress alert
 - Transmission of a distress alert
 - Transmission of a shore-to-ship distress alert relay
 - Transmission of a distress alert by a station not itself in distress
 - Receipt and acknowledgement of DSC distress alert
 - Acknowledgement procedure by radiotelephony
 - Acknowledgement procedure by NBDP
 - Receipt and acknowledgement by a coast station
 - Receipt and acknowledgement by a ship station

- Handling of distress alerts
 - Preparations for handling of distress traffic
 - Distress traffic terminology
- Testing DSC distress rued safety calls
- On-scene communications
- SAR operation

3.2 Urgency and Safety communications

- The meaning of urgency and safety communications
- Procedures for DSC urgency and safety calls
- Urgency communications
- Medical transports
- Safety communications

3.3 Testing DSC equipment

3.4 Distress communications via a Ship Earth Station

- Distress and safety using Inmarsat-A
 - Use of the distress facility
 - Satellite acquisition
 - Telex and telephony distress calls
 - Procedures for distress calls
 - Rescue Co-ordination Centres associated with the Coast Earth Stations
- Inmarsat-C
 - Store and forward operation
 - Entering/updating position
 - Sending a distress alert
 - Sending a distress priority message
 - The Inmarsat-C safety services
 - 2-digit code safety services

4 **GMDSS Subsystems**

4.1 Alerting and Locating Signals

- Purpose and definition
- Emergency Position Indicating Radio Beacons (EPIRBs)
 - The COSPAS/SARSAT 406 MHz EPIRB
 - The Inmarsat-E 1.6 GHz EPIRB
 - The VHF-DSC-EPIRB
- The Search and Rescue Radar Transponder (SART)

4.2 Maritime Safety Information (MSI)

- Reception by NAVTEX
- Reception by INMARSAT EGC
- Reception by HE NBDP
- Dissemination of meteorological and navigational warnings

Appendix 2 to Annex 3

EXAMINATION SYLLABUS APPLICABLE TO LIMITED GMDSS EXAMINATIONS FOR THE RESTRICTED OPERATOR'S CERTIFICATE

- 1 **Global Maritime Distress and Safety System (GMDSS)**
 - 1.1 Sea area concept and the GMDSS master plan
 - 1.2 Functions of the GMDSS
 - Alerting
 - Search & Rescue (SAR) co-ordinating communications
 - On-scene communications
 - Locating and homing signals
 - Dissemination of Maritime Safety Information (MSI)
 - General radiocommunications
 - Bridge-to-bridge communications
 - 1.3 Means of ensuring availability of ship equipment
 - Equipment maintenance strategies
 - 1.4 Sources of energy of ship stations
 - 1.5 GMDSS frequencies
 - 1.6 Protection of distress frequencies
 - Guard bands
 - Tests on distress frequencies
 - Transmissions during distress traffic
 - Avoiding harmful interference
 - Prevention of unauthorised transmissions
 - 1.7 Watchkeeping on GMDSS frequencies
 - 1.8 Carriage requirements of ship stations
 - 1.9 Licences, radio safety certificates, inspections and surveys
 - 1.10 Radio record keeping
- 2 **SAR operations in the GMDSS**
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